

T.R.
ISTANBUL SABAHATTIN ZAIM UNIVERSITY
GRADUATE EDUCATION INSTITUTE
DEPARTMENT OF ISLAMIC ECONOMICS AND FINANCE

**DECISION MAKING UNDER UNCERTAINTY:
AN EMPIRICALLY GROUNDED AND LLM-ASSISTED
THEORETICAL FRAMEWORK OF
RELIGIO-MORAL AGENCY**

PhD DISSERTATION

Fatih AL

Istanbul

July-2025

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Fatih AL

Supervisor
Prof. Dr. Monzer KAHF

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This study has been submitted in partial fulfillment of the requirements for the PhD degree in Islamic Economics and Finance, and has been approved by the university.

Supervisor Prof. Dr. Monzer KAHF

Member of Jury Assoc. Prof. Dr. Zeyneb Hafsa ORHAN

Member of Jury Asst. Prof. Dr. Abdelkader CHACHI

Member of Jury Asst. Prof. Dr. Fahrettin ÇAKIR

Member of Jury Asst. Prof. Dr. Ozan MARAŞLI


Approved by

Prof. Dr. Erhan İÇENER

Director, Graduate Education Institute

DECLARATION OF SCIENTIFIC ETHICS AND ORIGINALITY

This is to certify that the PhD dissertation titled “Decision Making Under Uncertainty: An Empirically Grounded and LLM-Assisted Theoretical Framework of Religio-Moral Agency” is my own original work, and that I have conducted it in accordance with scientific ethics and academic regulations. All information and data have been collected and used in line with the ethical guidelines and thesis writing standards of Istanbul Sabahattin Zaim University. I have fully cited all sources used in this work, both direct and indirect, in the text and in the bibliography.



Fatih AL

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Fatih AL
July, 2025

ABSTRACT

DECISION MAKING UNDER UNCERTAINTY: AN EMPIRICALLY GROUNDED AND LLM-ASSISTED THEORETICAL FRAMEWORK OF RELIGIO-MORAL AGENCY

Fatih AL

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In an era of increasing uncertainty and pervasive *unsustainability*, this dissertation investigates how Muslim agents, specifically executives in faith-based charitable organizations, relate their faith to their moral world in decision-making. The primary research question explores this faith-morality nexus under contemporary pressures. A multi-stage methodology was employed, commencing with a qualitative Grounded Theory-informed analysis of interviews with 21 Muslim executives from GCC and UK contexts. These empirical findings were initially structured within a researcher-developed theoretical framework, and then further refined through an LLM-assisted, multi-lens (religious, sociological, and psychological) analysis, culminating in an Integrated Theoretical Framework (ITF).

The study proposes the ‘Dynamic Faith-Based Moral Navigation’ framework as its central theoretical contribution. This model depicts a process wherein uncertainty triggers a faith-uncertainty dialectic, activating a multi-level faith-informed moral agency. This agency, underpinned by a systemic sustainability ethic derived from Islamic principles like stewardship (*khalifah*), guides individuals in navigating competing imperatives, often by seeking balance. Key operational mechanisms include a dual-process moral response (critique and construction), robust transgenerational ethics (*nasl*), the implementation of values through institutional and educational vectors, and an affective bridge where emotion sustains moral commitment. To exemplify how elements of this individual agency might translate to collective phenomena, a foundational Agent-Based Model (ABM) was also conceptualized; this barebones model explored how *tawakkul*-based resilience and

distinct influence strategies could shape collective awareness diffusion regarding sustainability, serving as an illustration of empirically-grounded simulation rather than for predictive claims.

This research offers a nuanced model of contemporary Muslim moral agency, providing insights for faith-based organizations and policymakers, and contributing to intercultural understanding of ethical decision-making concerning sustainability in complex, uncertain contexts.

Keywords: moral agency, ethical decision-making, LLM-assisted qualitative analysis, grounded theory, agent-based modeling



ÖZET

BELİRSİZLİK ALTINDA KARAR ALMA: DİNÎ-AHLAKİ FAİLLİĞE İLİŞKİN GÖMÜLÜ VE BÜYÜK DİL MODELİ DESTEKLİ KURAMSAL BİR ÇERÇEVE

Fatih AL

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Bu tez, belirsizlik, sürdürülemezlik ve muhtelif krizlerin şekillendirdiği zamanımızda Müslüman aktörlerin, özellikle belirtmek gerekirse hayır kurumlarındaki karar alıcıların, ilgili karar süreçlerinde dini inançları ile ahlak anlayışlarını nasıl ilişkilendirdiğini incelemektedir. Bu amaçla çok aşamalı bir metodolojiyle, Körfez Arap Ülkeleri İşbirliği Konseyi (KİK) ülkeleri ve Birleşik Krallık'tan 21 Müslüman yöneticiyle yapılan görüşmelerin Gömülü Kuram temelli nitel analizi yapılmış, bu ampirik bulgularla bir kuram inşa edilmiş, ardından bu kuram Büyük Dil Modeli destekli disiplinler arası (psikolojik, sosyolojik ve dini) bir analizle zenginleştirilerek yeni bütünlük bir kuramsal çerçeve geliştirilmiştir.

Çalışmanın temel kuramsal katkısı 'Dinamik İnanç Temelli Ahlaki Yönlendirme' (Dynamic Faith-Based Moral Navigation) modelidir. Bu model, karar vermeyi etkileyen belirsizliğin bir din-belirsizlik diyalektiğine dönüştüğü, çok katmanlı ve kaynağını dinden alan bir ahlaki faillik sürecini ortaya koymaktadır. Yeryüzünün halifesi gibi İslami ilkelere dayanan sistemik bir sürdürülebilirlik etiği ile desteklenen bu faillik, bireylere birbirleriyle çelişen tercihler arasında seçim yaparken genellikle denge arayışı ile rehberlik etmektedir. Modelin operasyonel mekanizmaları şu şekildedir; etik senaryolara eleştiri ve/veya çözüm üretme odaklı iki yönlü ahlaki tepki, kapsamı neslin korunması ilkesine dayanarak gelecek nesilleri de kapsayacak şekilde genişletme, kararı kurumsal ya da eğitsel uygulamalarla hayata geçirme ve nihayetinde bu karara ahlaken bağlılığı duygusal olarak canlı tutma. Ayrıca, bu bireysel faillik dair unsurların kolektif olgulara nasıl yansıtılabileceğini göstermek amacıyla, araştırmanın temel bulgularından 'tevekkül esaslı dayanıklılık' mekanizmasını basit

bir toplumsal yayılım senaryosu içinde inceleyen, öngörü ya da tahmin amacı gütmekten ziyade ampirik temelli bir simülasyon örneği sergilemeyi amaçlayan bir Etmen Tabanlı Model (ABM) geliştirilmiştir.

Bu araştırma, çağdaş Müslümanın ahlaki failliğine dair kapsamlı ve ayrıntılı bir model sunarak, sivil toplum kuruluşlarına, politika yapıcılara ve belirsizliğin hakim olduğu etik karar alma süreçlerinin yönetimine önemli katkılar sağlamaktadır.

Anahtar Kelimeler: ahlaki faillik, etik karar verme, yapay zekâ destekli nitel analiz, gömülü kuram, etmen tabanlı modelleme.



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LIST OF ABBREVIATIONS

ABM	Agent-Based Model(ing)
AI	Artificial Intelligence
CAQDAS	Computer-Assisted Qualitative Data Analysis Software
CBDT	Case-Based Decision Theory
CGT	Constructivist Grounded Theory
CNT	Conviction Narrative Theory
CPT	Cumulative Prospect Theory
CRED	Credibility-Enhancing Display
DPM	Dual-Process Model
EDM	Ethical Decision-Making
EUT	Expected Utility Theory
FBO	Faith-Based Organization
FC	Focused Coding
GCC	Gulf Cooperation Countries
GT	Grounded Theory
IBM	Individual-Based Model
IPCC	Intergovernmental Panel on Climate Change
ITF	Integrated Theoretical Framework (Author)
IWE	Islamic Work Ethics
LLM	Large Language Model
LAF	LLM-Assisted Framework (Author)
MFT	Moral Foundations Theory
NDM	Naturalistic Decision Making
ODD	Overview, Design Concepts, and Details
RDF	Researcher-Developed Framework (Author)

RDM	Robust Decision-Making
RPD	Recognition-Primed Decision
RRT	Relationship Regulation Theory
RSP	Religio-Socio-Psychological (Author)
SDG	Sustainable Development Goal
SIM	Social Intuitionist Model
UNFCCC	United Nations Framework Convention on Climate Change



CHAPTER I

INTRODUCTION

1.1 Background and Motivation

Given the prevalence of dual crises worldwide, one equated to a crisis of capitalism and the other associated with modernity, moral foundations are claimed, as far as this study is concerned, to contain the source of both much ill and good in any socioeconomic system. Having attributed such centrality to it and given the subjectivity and complexity it entails, I embark on investigating how morality and various surrounding issues are conceived and made sense of by individuals, particularly under the pressurizing and complicating factors of the present.

Despite a global crisis and a near financial meltdown in 2008, financialization and global indebtedness continue to grow unchecked. Declarations of trade wars in a supposedly free trade-based global system, a recent pandemic still with many unknowns behind and fore, inexorable environmental pollution with much of the Earth's biodiversity already damaged or lost, inquiries into a new world order with major shifts in the international political landscape, regional armed conflicts involving major powers with an alarming potential of drifting many more, and genocides roaming freely behind a veil of ignorance, intensify the uncertainty on the globe and justify the use of word 'crisis'.

This politico-economic depiction is also accompanied by a socio-psychological account. Longing for a good and just society is ubiquitous, while ruthless individualism is repeatedly cited as a root cause obstructing the formation of more egalitarian societies worldwide, simultaneously dragging a meaning or disenchantment crisis along. In the words of Vervaeke (2017), the void of meaning in a collapsing worldview, attempts at replacing religion with post-modern myths in a culture of excess, spreading loneliness and social isolation, and disillusionment and conflict with almost all public institutions, are crisis signals of modernity, consequently producing a culture of selfishness and distrust. To tone up, "the world is steeped in licentious luxury, cynicism, and hubris, in an age of radical doubt, widespread suffering, and evil" (Akhtar, 2020). According to Del Noce (2014, pp. 126–128) in this age of *Homo progressivus* man is completely reduced to a task within an organism whose purpose he cannot share, with his individuality dissolved he has

become subject to reification, a ‘universal principle’, which ultimately leads to complete falsification of language and systematically organized mendacity, argues Del Noce, hence all-time highs for hollow rhetoric about altruism and universal love. Even an objectively good outcome, such as the disappearance of poverty in certain welfare states, when questioned from a subjective perspective for the nature of this progress, it is argued, hints at the justification of the radical egocentric rationale that poverty is disgusting and must be pushed out of sight, and people must be shielded from depressing feelings of charity and compassion.

In this selfish and rather pessimistic portrayal of the present, the following questions, inevitably, arise: How does the unselfish, charitable, benevolent, and moral mind manifest itself in this crisis-woven, increasingly unsustainable, and uncertain world? How do people who care about people make sense of the ongoing complexities in their environment and cope with the challenges they pose? What motivates them? Is it their personal traits, such as resilience and self-efficacy, or some cognitive factors, such as belief in a goal or a purpose? Since the current crisis is also depicted as a crisis in meaning, a particular kind of person, those who hold on to an idea or belief with supposedly all meaning-making and challenge-coping institutions, including perhaps a purpose in life, are of special interest. Among those who fit this definition, it is a common supposition that those who follow an organized religion, the faithful, are generally considered persevering, communal, and hopeful. After all, they are the ones who were told *la taqnatu min rahmatillah* (Quran 39:53), “do not despair of God’s mercy”, or *spe salvi facti sumus* (Romans 8:24), “in hope we were saved”. If they take these messages to heart and reflect on the way they think, decide, and act, then this mindset is worth investigating to develop a narrative that might suggest how to effectively tackle the moral crises of the modern world. Or maybe, although their souls are saved, the faithful in general are not much different than the rest when it comes to struggling with such challenges.

1.2 Aims, Objectives, and Research Questions

Turning the lens on the followers of a religion that constitutes a quarter of the world's population, Muslims, I set out to study their perception of the interplay between their faith and what they deem moral in cases pressured by the ongoing issues of uncertainty and unsustainability that characterize our times.

Within the monotheistic lineage of Judaism, Christianity, and Islam, the last is claimed to have a great repertoire of moral order and the most developed institutions of charity. To show the centrality and weight of morality in Islam, it is argued that no major system of ethics was born in Muslim lands outside the Islamic setting, while there were several within the Christian world accredited to various originators, some even with little or no regard for Christian values (Akhtar, 2008). Then, how do Muslim agents, followers of a religion seemingly well-rooted in moral foundations, construct their ethical decision-making framework? More precisely, how do they relate their faith to their moral world, especially when making decisions under increasing levels of uncertainty and unsustainability? Any prevalent attitude or pattern that is owed to religious belief and discovered in the answering of this question on the individual level would also bear the promise to be developed and modeled after to allow the exploration of collective decision-making scenarios, enabling a closer, albeit hypothetical, investigation of the relationship between morality and faith on the communal level.

Since the worldwide Muslim community is rich in colors, cultures, customs, sects, and all kinds of sub-norms, the focus of the investigation was narrowed down to Muslim decision-makers who presumably would have certain altruistic sentiments such as charity, benevolence, compassion, or solidarity, frequently primed or aroused, in other words, are fairly anticipated to be among the people who care about people. Therefore, the research focus was set on the key decision-making agents operating at faith-based, in this case Islamic, charitable organizations, who were expected to have higher exposure to moral issues. They are the ones who directly or indirectly interact with individuals, families, and communities in need, more often than not, from diverse socio-economic, cultural, ethnic, and religious backgrounds, who have to decide how to allocate the limited resources, whom to prioritize and select, and do it in a limited amount of time with incomplete information, not to mention that they have to carry out all of this under the religious principles and organizational guidelines of a faith-based charity. As such, decision-making cases involving moral dilemmas and uncertainties are to be expected. In order to manage the influence of culture, a single geographical region was selected for primary data collection, along with a distinct one as a means of comparison to highlight potential disparities.

Considering the relatively high level of financialization and the growing economic diversification efforts, the Arabian peninsula, the heritage land of Islam, was assumed

to suggest a fertile starting ground to study the pressing effects of capitalism and modernity, if any, on the moral mindset of a historically traditional and religious population, in particular of those who work at the forefront of civil society. However, observing a critical comment received with respect to the possibility of ‘multiple modernities’ (Eisenstadt, 2000) that what in a Western context might be referred to as a crisis of capitalism or modernity would not necessarily demand a similar interpretation in a Muslim-majority country in Arabia, as the respective societies might be witnessing different temporal trajectories, the initial sample from dataset was decided to be geographically and culturally contrasted with the Muslim decision-makers at Islamic charities operating in the UK. Britain is a country with a substantial Muslim population of about 3 million, and, needless to say, home to numerous leading names in the formation of Western modernity, from the historical Enlightenment figures such as Locke, Newton, Hume, Smith, or Mill, to the prominent personalities of the 20th century, as Russell, Keynes, Turing, Orwell, and many more. The UK-based interviewees, some of whom were of European descent but converted to Islam during their adulthood, with the rest coming originally from immigrant families but themselves raised in the UK, comprised one-third of all research participants. The majority, two-thirds of the interviewees, were indigenous to Arabia, alternatively dubbed the GCC (Gulf Cooperation Council) region, which included Saudi Arabia, Kuwait, Qatar, UAE, Oman, and Bahrain, with the exception of Yemen.

The entire research was designed to be conducted in two major qualitative assessment phases and a minor experimental follow-up; (i) constituting a theoretical framework that explains how the faith of Muslim individuals interplays with their moral values in making decisions under the influence of factors that induce uncertainty, (ii) enhancing and enriching this framework with a user-designed and artificial intelligence supported qualitative assessment to capture nuances, granularities, and most important of all, complex interrelatedness that can be recognized by large language models (LLM) trained in human expressions, and finally (iii) simulating a multi-agent decision-making scenario employing elements and mechanisms discovered in the qualitative assessment to illustrate how they are operationalized and explore the collective dimension. As a result of two major qualitative phases, a theoretical framework of Muslim moral agency under uncertainty along with its key assertions, the main relational propositions entailed in the theory, a diagram of interrelated core categories

including a decision-making process flow mapped within, interim findings tracing back to focused and initial (open) codes, down to verbatim quotes in transcripts by the interview participants, all effectively establishing an audit trail from theory to raw field data, were produced and documented. Given the dynamic and applied nature of an actual decision-making process, a third, albeit exploratory rather than conclusive, step was the agent-based modeling (ABM) and simulation of collective cases by the Muslim moral agents with their attributes and behavior drawn upon findings from the qualitative assessment. Data was collected and initially coded according to a grounded theory-informed approach, where Muslim actors involved in decision-making at Islamic charitable organizations were interviewed to identify their perception of related terms and understand how they construct meaning and make sense of various interrelated concepts. These interviews served as the main source of data for this research.

1.3 Challenges, Limitations, and Prospects

A particular challenge during the study was to implement, or rather script, a multidimensional element such as uncertainty, particularly when combining the two parts of the research, namely the early empirical study to discover the moral world of the individual and the later part investigating the collective outcome. The first part, consisting of interviews, required, so to speak, the notion of uncertainty to be recognized as explicitly as possible by the participants. Given the fact that the interviewees were not necessarily social science experts with an in-depth grasp of the respective terminology, probing through questions of the sort “Do you think there is a social or epistemic uncertainty prevalent in your environment?” were not preferred because of their lack of clearance and excess of technicality in favor of providing the participants with a convenient context where uncertainty was already embedded in, just to be uncovered in the discourse. In this study, it was ‘(un)sustainability’.

Many who witnessed and survived the recent pandemic may think that, along with all the uncertainties and moral dilemmas entailed, it is behind them now. But there are other forms of uncertainty that have been afflicting many more on the global scale, the ones brought about because of worsening economic conditions, supply chain disruptions, geopolitical risks, armed conflicts, displaced populations, and environmental degradation, to name a few. In many ways, uncertainty goes hand in

hand with unsustainability. There is a bidirectional relationship between the two. Unaddressed uncertainties can potentially lead to unsustainable outcomes, such as exceeding planetary boundaries, which remain uncertain due to human lack of knowledge about exact thresholds (Rockström et al., 2009). And vice versa, unsustainable practices would result in increased uncertainty, as in the unsustainable lending practices that contributed to the 2008 global financial crisis (Mayer, 2011). This very state of being unusual, extraordinary, or crisis-like also has a certain quality that allows the setting of a more realistic scene when compared to what is staged by the normal. “If you want to get an idea of a friend's temperament, ethics, and personal elegance, you need to look at him under the tests of severe circumstances” (Taleb, 2007, p. xxiv). While admittedly interviewing people online as they are sitting in their relatively comfortable offices is nowhere near to the description of such a severe circumstance, conversations were nonetheless tailored according to sustainability-related and urgency-invoking leads such as climate crisis, humanitarian relief, praying for nature, future of children, and also including direct references to how participants felt about the existing level of uncertainty in their professional and private lives or whether they happened to witness cases of moral uncertainty more or less frequently, or at all. Hence, employing the sustainability framework to mediate helped to illustrate the otherwise abstract subject of uncertainty, it provided a context that allowed issues of the climate crisis, social inequalities, societal vulnerabilities, and economic development, all of which entail various forms of uncertainty, addressed along with ethico-religious topics such as charity, morality, faith–nature and faith–morality relationships, and generational responsibility, including prospects to investigate their interrelatedness.

A certain limitation was the inability to follow ‘theoretical sampling’, a key component of grounded theory (GT), where analysis and data collection proceed hand-in-hand within consecutive periods, allowing the researcher, as per early emerging patterns and themes, to take new directions and even update the research questions on the go. Instead, it was substituted by ‘purposeful sampling’, hence the term ‘a grounded theory-informed approach’, details of which are provided in the Methodology chapter. A resort that was mainly due to time constraints in finding, contacting, and securing potential participants at suitable organizations in the target geographical area, which could easily mean waiting for many months before a single correspondence could be

turned, if at all, into an appointment for an interview. Parallel processes of sampling had to be initiated, thus limiting the otherwise dynamic and flexible nature of on-the-go adaptation to a few updates to some of the open-ended interview questions. While this may have restrained the emergent nature of the research, it emphasized the frequency or commonality aspects of codes and categories. Given the number of twenty-one interviews, using similarly formulated open-ended questions to guide the investigation of themes and concepts from one interview to another allowed higher overlap and comparability across responses from participants.

The study also contains a promise of further expansion by including separate modules, or samples, from different organizations in different geographical regions operating in the third sector. This includes Muslim as well as non-Muslim decision-makers. Should the study be continued with further modules, then the existing data, the meticulous procedures that have been established, tested, and improved for LLM-supported qualitative assessment along with the resulting framework findings, may be utilized to serve as the foundation for a rather more sophisticated and potentially evolving new research direction.

1.4 Research Gap and Significant Contribution

The contribution of this research to the relevant academic literature can be evaluated twofold: to the moral decision-making literature, on a minuscule scale, and to the field of study this dissertation is penned within, that is, Islamic Economics, again, in humble means. A third area of potential contribution can be considered to the research methodology, where established qualitative assessment techniques based on GT were enriched by the in-depth analysis capabilities of LLMs.

1.4.1 Added Value of the Research Methodology

The publicly and commercially available LLM-based AI platforms were relatively new to public and academic use as of the time this research was conducted. The use of LLM as a tool for secondary analysis in support of the author's findings and inference allowed rapid deployment of different perspectives in the re-coding of data, that is, to provide thorough handling of the complex subject matter of religious moral agency, three different 'lenses', i.e., religious, sociological, and psychological, were adopted and maintained until the end of the re-coding and theory-building process at which

point their results were used to enrich researcher-developed findings into an all-encompassing narrative. In a one-man undertaking such as this dissertation, applying multiple disciplinary lenses to large data would have been practically impossible without such support. As such, another key aspect of this research, therefore, is that it is strongly multidisciplinary, both in the sense of tools and techniques it makes use of and the disciplinary perspectives and terminologies it employs.

Finally, the theoretical findings and assertions from GT-informed qualitative analysis were translated into a social simulation via ABM, another relatively niche methodology, which effectively rendered the whole process from interviews to simulation a full course of ‘empirical agent-based modeling’.

1.4.2 Contribution to the Decision-Making Literature

This research contributes to bridging a gap in the decision-making literature, namely, providing a ‘personal’ perspective on moral decision-making under realistic conditions, that is, non-probabilistic uncertainty. Since any form of aggregation model, where the ethical outcome is calculated as a whole, will eventually have to disregard individual agents, and also most of the complexities an ethical decision-making process entails, an ABM approach, details of which as a scientific method can be found in Chapter 3, with each such agent given some autonomy in her moral decisions, albeit simplified, and then simulated to interact with other agents, offers a distinctive viewpoint. This allows a dynamic (numerous and continuous interactions), emergent (new patterns resulting from predefined attributes), evolutionary (allows room for learning, adapting, imitating, etc.), and heterogeneous (as many different ethical calculi as required for separate agents) environment for moral decision-making. Furthermore, incorporating an important component of this study, uncertainty, can be achieved in several ways and relatively easily by ABM; it can be embedded in the individual behavior or the emerging context, dynamically updated, and experimentally tested. One thing to note is that moral decision-making theories mentioned in the next chapter and their principal decision rules, such as expected utility maximization or maximin, and ABM as a technique, are not mutually exclusive; any utilitarian or non-utilitarian decision-making model can be transformed into a piece of code, which the output from ABM ultimately, though somehow oversimplified, translates to. Except for works on cooperation, studies that utilize ABM in the exploration or investigation

of moral/ethical behavior are limited, so this research should be expected to provide new insights into the field of collective ethical decision-making as well.

1.4.3 Contribution to Islamic Economics

Regarding the contribution of this research to Islamic economics, a quick but critical look at the relatively young—compared to the ages-old neoclassical economics—discipline is helpful.

Muhammad Akram Khan, in his book *What is Wrong with Islamic Economics*, citing several eminent contributors from within the field, points to the lack of empirical research as a general weakness (2013). Khan reiterates that Islamic Economics as a heavily normative discipline has no underlying macro or microeconomic theories, hence, often ignores the behavior of the economic agents (Chapra, 2001, pp. 48–49), even for an ideally envisioned model of Islamic economy it asserts no empirically testable propositions of individual and collective behavior (Mirakhor, 2007, pp. 8–9), lacks empirical evidence to support the more general type of claims such as that Muslims would behave ethically (Siddiqi, 2008), and despite the claim the literature on its subdiscipline, Islamic finance, is neither empirical nor interdisciplinary (Warde, 2000, p. 11). Naqvi, in *Islam, Economics, and Society*, also argues for scientific and empirically verifiable Islamic economics (2013, p. xxiv), where ethics-based-on-religion is an integral part of its unified analytical framework (Naqvi, 2013, p. 14), and beliefs such as in God, divine presence, hereafter, or behaviors designating everyday routineness of Muslims along with Muslims themselves as they are (Naqvi, 2013, pp. 15–23) represent the factual stock of the field. This is an important statement with a relevant implication for this dissertation, in which the Islamic perspective is established through the lens of modern-day Muslims. It is akin to giving the question of “What is Islam?” the answer “It is what Muslims are”, reminiscent of the concept of ‘Con-Text’ by Shahab Ahmed (2016, pp. 356–366), which is the historical output of Muslims “produced in the course of the human and historical hermeneutical engagement with Revelation, and which are thus already present as Islam”, as opposed to Pre-Text (the unseen and uncommunicated divine truth) and the Text (the seen and communicated truth through Quran and *Sunnah*). While the ideal and the normative almost always differentiate from the real and the descriptive, they should not be seen as completely independent either. After all, despite all differences in sects, schools of

thought, cultures, and personal perceptions, and what followers of the Islamic faith as societies or communities have been through the ages, there has been an umbrella of Islam for more than fourteen centuries, not to mention a broader and much older Abrahamic lineage, which it can be considered part of. As such, rather than a static blueprint, Islam should be seen as an evolving discursive tradition (Asad, 2009). In summary, without claiming any finality, nor putting ‘is’ in place of ‘ought’, this research should be seen as a study of actual Muslim sense- and decision-making, with a promise of contributing to the empirical social science side of Islamic economics, which, according to the assessments above, would not count among the strengths of the discipline.

1.5 Overview of the Research

In summary, this research makes the following contributions:

- To Moral Decision-Making: It develops a theoretical framework for the ‘personal’ religio-moral agency that entails the Muslim individuals' sense and decision-making under realistic conditions induced by uncertainty and unsustainability. Then it explores the ‘collective’ faith-informed moral agency through simulated behavioral interactions between agents modeled after the personal religio-moral agency.
- To Islamic Economics: It strengthens and contributes to the empirical and data-driven social science aspects of the field.
- To Methodology: It employs a research method, where GT-informed qualitative analysis of original data conducted by the author is supplemented by an LLM-assisted concurrent three-disciplinary assessment. It also serves as an example of empirical ABM.

The remainder of the manuscript is organized as follows. Chapter 2 reviews the literature to provide a broad theoretical framework for morality by highlighting the descriptive side, moral psychology, and decision-making, including rational choice and behavioral theories, along with the notion of uncertainty and ways to navigate it. Chapter 3 is for the targeted review of the relevant literature on ethical decision making, religiosity, and the Islamic moral framework. The relationship of environmental sustainability with ethics, faith, and faith-based efforts in a broader sustainability framework, including environmental and social dimensions, is also

visited in Chapter 3. Chapter 4 explains the qualitative methodology of GT along with interview data employed for the first part of the study, detailed procedures for the LLM-assisted analysis, and the exploratory ABM carried out in the second part, while Chapter 5 exhibits the results and findings from the analyses. Chapter 6 is authored to accommodate discussions on the harmonization of researcher-developed and LLM-assisted frameworks and locate the resulting structure in the respective literature. The illustrative ABM for collective dynamics is also included in this chapter. Finally, the Conclusion summarizes inferences derived from the study along with its contribution, implications, and limitations.



CHAPTER II

THEORETICAL FRAMEWORK

There are three main subject areas that this research primarily relates to: morality, decision-making, and uncertainty. An additional fourth one, sustainability, or to put it in the right parlance, ‘unsustainability’, was established during the efforts to embody and exemplify the otherwise ambiguous term of uncertainty. Since sustainability encompasses various types of uncertainty, from epistemic to social, and bears substantial complexity and multidimensionality, including a central place for crisis, it served as a fertile and common ground to concurrently delve into issues of morals, faith, and making decisions under uncertainty. An overview of relevant theoretical literature for each is provided below, with targeted empirical studies related to the research context reserved for the next chapter. One important point to mention before proceeding further is that the review of the literature both in this and the next chapter should be seen, in line with the constructivist or Charmazian GT (CGT), as an introductory review of the subject matter, so that the researcher can show he is “current about the experience or situation that [he] will be studying” (Charmaz, 2014), but not necessarily that he has gone through all the existing theories in the subject area and now ready to choose and apply (or test) one on the data. Thus, ‘theoretical sensitivity’, in this inductive approach, is prioritized over a comprehensive coverage of the literature. Finally, where the theoretical framework resulting from this research fits in the existing academic literature is discussed in Chapter 7.

2.1 Morality and Moral Psychology

Morality, or ethics, which has been used interchangeably in this manuscript, is far too broad and old a subject that has been handled literally for ages in numerous disciplines, such as philosophy, religion, politics, psychology, anthropology, business studies, health care, and medicine, to name a few. According to the Oxford Dictionary of Philosophy, even though both morality and ethics refer to the same thing in the modern context, there is an inclination towards relating morality to Kantian notions such as duty, obligation, and principles of conduct, while preferring to associate ethics with the Aristotelian approach to practical reasoning based on virtue (Blackburn, 2016). In delineating their distinction, ethics is also called the study of morality, where the latter

refers to fundamental systems of rules, principles, and values, and the former the judgments and choices based on these (Baer, 2005, p. 479). “In one form or another, ethics has been a central issue in history since the earliest human beings began living together in communities” (Roth, 2005, p. ix).

Cambridge Dictionary of Philosophy defines morality as an informal public system applying to all rational persons, governing behavior that affects others, with the main goal of lessening evil or harm. It is argued that, in contrast to law or religion, no authority can settle all the moral questions, and each society or religion can therefore adopt its own position in matters of morality, hinting at its subjective dimension. Yet, a certain form of universality is always presumed, both in collective and individual morality, where differences in opinion can exist but are relatively few in numbers and only in some controversial cases, when compared to the vast majority of issues with converging opinions on certain actions, such as killing or deceiving (Gert, 2015). Roth (2005, p. ix) states that people have always wondered whether they would be held accountable for their actions by a higher power, and additionally needed to know what others expect from them, and also the limits of their freedom of action.

Potential questions related to semantic nuances or cultural untranslatability between words from different languages and cultures aside, the relationship between morality and faith is multifaceted. To illustrate an example, the Arabic word closest in meaning (though not a complete equivalent) to modern English words of morality or ethics is *akhlaq*, plural of *khulq*, denoting disposition, nature, or temperament, and is used, mostly in *hadith*, to express good and bad habits, virtues, and behaviors. According to the TDV Encyclopedia of Islam, the words of *khulq* or *akhlaq* were hardly present in the pre-Islamic Arabic literature, instead, the virtuous character of the person was described, in addition to being good or bad, by other notions such as bravery, generosity, or loyalty, claimed to be more of a worldly and tribal nature rather than resembling a universal understanding as to be observed during times of Islam (Çağrı, 2023). Majid Fakhry, alternatively, argues that the contribution of Muslim authors to ethical discussions has been rather scant both during the classical and post-classical periods when compared to their massive contribution to literary, linguistic, philosophical, historical, theological, and scientific subjects. Fakhry’s survey can be read as covering four broad strands of Islamic morality that have existed in history, namely the scriptural, which is based on the Quran and the *hadith*; the philosophical,

which is affiliated with Greek ethics; the theological, conditioned partly by philosophical concepts; and the religious morality, which comparatively depends much less on philosophy (Fakhry, 1994, p. xi). This is to illustrate the complexity and multidimensionality of the subject matter, even within a religious domain that can be fairly assumed to closely relate to morals. In addition to the vast normative literature, morality is also dealt with in numerous empirical and descriptive fields, from behavioral economics to sociobiology, work ethics to neuropsychology. In line with the empirical and descriptive methodology adopted in this research, the established theories in the moral psychology literature are discussed below.

The empirical study of morality quite often refers to the distinction between ‘right’ and ‘wrong’ ways to behave. It is one of the most rapidly expanding areas in contemporary social psychology. A recent review indicated a steep increase in research on the psychology of morality since 2005, outpacing the overall increase in social psychology publications (Ellemers et al., 2019). Social psychologist Jonathan Haidt even proposed that the 21st century will be the “century of moral psychology” because humanity's greatest challenges are no longer purely technical problems but are instead complex social and moral issues (Haidt, 2013, 2023), or ‘wicked problems’ (Rittel & Webber, 1973), where scientific progress is desperately needed. From navigating global pandemics, with vaccine adoption becoming a moral issue, to designing ethical artificial intelligence, understanding the psychological underpinnings of morality is of utmost importance to society (Haidt, 2023).

Haidt (2023) explains that historically, nearly every major school of psychology attempted to explain how morality gets adopted by a child, who was largely seen as a blank slate, and, quoting the 20th-century psychologist William McDougall, driven by non-moral and egoistic tendencies. Early accounts came from psychoanalysis, which proposed that control or morality was ‘internalized’ through the resolution of psychosexual conflicts, giving rise to the Freudian ‘superego’ and from behaviorism, which argued that morality is simply a set of behaviors that a society happens to either reward or punish (Skinner, 1971).

By the late 20th century, these views were largely substituted by the ‘cognitive revolution’. This new paradigm rejected the passive receiver view of the child and instead focused on cognitive development, that is, the process by which children actively construct their understanding of the social world. This approach, championed

by figures like Jean Piaget and Lawrence Kohlberg, positioned deliberate reasoning, particularly about justice, at the center of moral life. For decades, moral psychology was primarily a subfield of developmental psychology focused on investigating the stages of this rational process (Haidt, 2023).

Starting in the 1990s, a ‘new synthesis’ began to emerge, integrating insights from several related disciplines (Haidt, 2007). Evolutionary biology and primatology addressed the deep origins of moral tendencies, suggesting that many building blocks of morality, such as shame, anger, or sympathy, are visible in other primates (de Waal, 1996). This invited neuroscience into the discourse. Lesion-based work (Damasio, 1994) linked affective systems to decision-making; subsequent fMRI studies demonstrated differential engagement of emotion-related and control-related regions of the brain during moral judgment (Greene et al., 2001). Concurrently, cultural psychology demonstrated that moral domains often extend beyond the Western focus on harm and fairness to include ethics of community and divinity (Shweder et al., 1987). This convergence toward multidisciplinary has reshaped the field, moving it away from a purely rationalist approach to more integrated frameworks that involve both emotion and intuition. The chronological order of this evolution is presented below.

2.1.1 Rationalist Foundations

The modern study of moral psychology was predominantly characterized by the cognitive revolution, which shifted focus away from external reinforcements toward the internal cognitive structures that individuals construct and use to make sense of their world. This rationalist tradition, which posits that moral judgments are reached primarily through a process of reasoning and reflection, was pioneered by the work of Jean Piaget and later expanded into the most influential theory of the 20th century by Lawrence Kohlberg (Haidt, 2023).

2.1.1.1 Piaget's Two-Stage Theory

Jean Piaget (1932/1965) argued that moral development is intrinsically linked to cognitive development. Through observing children playing games and questioning them about rules and transgressions, Piaget, in his seminal work, *The Moral Judgment of the Child*, proposed that children's moral understanding progresses through distinct

stages. He showed that a child's grasp of moral concepts is not innate or passively absorbed but is actively constructed as they interact with their social environment. This cognitive-developmental approach was a radical departure from the psychoanalytic and behaviorist views that preceded it, and established reasoning as the core mechanism of moral life (Haidt, 2023).

2.1.1.2 Kohlberg's Stages of Moral Reasoning

Building directly on Piaget's work, Lawrence Kohlberg developed a comprehensive and highly influential stage theory of moral development that would dominate the field for decades. Kohlberg's cognitive moral development theory proposed that individuals progress through a sequence of six stages, organized into three hierarchical levels, in their thinking about moral issues (Haidt, 2023).

Kohlberg (1981, 1984) argued that people progress in a fixed order through six stages of moral reasoning, though not all reach the highest stages. They are grouped into three distinct levels: Preconventional Morality (Level 1), Conventional Morality (Level 2), and Postconventional Morality (Level 3). The first is a form of morality that is generally found in childhood, which starts with Obedience and Punishment Orientation (Stage 1), where 'good' is simply what avoids punishment. In the next stage, Instrumental Purpose and Self-Interest Orientation (Stage 2), 'good' is what satisfies one's own needs, accompanied by a transactional reciprocity toward others, as in "you help me, I help you" attitude. At Level 2, morality is to a great extent shaped by social conformity and social order maintenance. In Good Boy/Nice Girl Orientation (Stage 3), the person, typically during adolescence and adulthood, tries to live up to the expectations of social roles and gain approval from others. With Stage 4, Law and Order Orientation, the scope broadens to include society as a whole, obeying laws and social rules to maintain social order. Level 3, Postconventional Morality, is the highest level of moral reasoning, where morality is based on abstract principles and values that transcend the laws of a society. In Stage 5, Social Contract Orientation, agents uphold and prioritize a notion of the greater good and fundamental human rights, which, if not properly addressed by laws, necessitate the respective laws to be changed instead. The last stage is that of Stage 6, Universal Ethical Principle Orientation, moral judgment and action are determined according to self-chosen universal ethical principles of conscience, such as justice, equality, or dignity.

Heinz Dilemma

The theory's methodology relied on artificial and hypothetically constructed dilemmas such as the famous Heinz dilemma (Kohlberg, 1981, p. 12). To reiterate the famous scenario, Heinz is the husband of a terminally ill woman. She desperately needs a drug that might cure her disease, which is very expensive to make, and the only druggist in town who can make it is charging ten times the cost to produce the drug. Heinz, having tried his best to put together the money for the drug but could only collect half of it, approaches the druggist and asks if he would accept half the price or if Heinz could pay him the other half later, since his wife is on her deathbed. The druggist says no and tells Heinz that since he discovered the drug, he is going to make money from it. So, the question is, should the desperate husband, Heinz, break into the druggist's store and steal the drug for his wife? And most importantly, why or why not? The reasoning, or the rationale provided for what Heinz should do, would show the moral development the agent is operating in. To quickly illustrate all respective stages within Kohlberg's moral development theory, "Heinz should not steal because he would get in jail" conveys a Stage 1, avoiding punishment, reasoning. "He should steal because in the end that would make him feel a contented and happy man for having saved his wife even at the cost of some jail time", would imply a focus on what best serves Heinz's own needs, a Stage 2 response. A Stage 3 answer looks like "He should steal it because his wife expects it and he wants to be a good husband", drawing attention to Heinz's social role expectations and gaining approval from the others. "He should not steal because the law is law, and if everyone breaks it, there will be chaos" is an example of reasoning that upholds law and social order as duty in line with Stage 4. The highest level, Level 3, replies imply post-conventional and transcendental motives. "He should steal the drug because everyone has a right to life, and this overrides the druggist's right to property. The law should be interpreted to serve the greater good" conveys the Stage 5 reasoning, focusing on fundamental rights and the idea that laws are there foremost as part of a social contract to serve people. The final stage, Stage 6, of Kohlberg's moral development hierarchy is about abstract, self-chosen universal ethical principles, resembling Kantian categorical imperative, as exemplified in "He should steal the drug because the principle of saving a human life is a higher, more universal, moral obligation than the principle of respecting property rights. A just society must be structured to value life above all else".

2.1.2 Critiques of the Rationalist Theory

While Kohlberg's model was immensely influential, its narrow focus on justice-based reasoning and its claims to universality drew significant criticism. These critiques were instrumental in broadening the conception of what constitutes the moral domain, opening the door for perspectives that valued emotion, relationships, and culture.

2.1.2.1 Ethic of Care

One of the most prominent critiques came from Carol Gilligan (1982), who argued that Kohlberg's framework privileged a stereotypically masculine focus on justice, rights, and abstract principles, while overlooking a stereotypically feminine 'ethic of care'. Gilligan proposed that for many people, particularly women, moral reasoning is not primarily concerned with abstract justice but with care, compassion, and the responsibility to maintain relationships. This different voice did not represent a lower stage of moral development but a different, equally valid orientation. While the empirical evidence for stark gender differences in moral orientation has been debated, Gilligan's work was very influential in highlighting that justice is not the only principle at play in moral life and opened the field to considering relational and care-based aspects of morality.

2.1.2.2 Social Domain Theory

Elliot Turiel's (1983) Social Domain Theory, challenging unitary stage models and providing a bridge to contemporary pluralist accounts of morality, argues that social knowledge is organized into distinct domains of moral (welfare, justice, rights), social-conventional (arbitrary norms that coordinate social life), and personal. Moral transgressions are judged as serious, authority-independent, and generalizable because they involve harm, fairness, or rights. Conventional violations depend on context and are authority-contingent. Studies show the moral-conventional distinction emerges early and is observed across cultures, even as societies differ in which issues they classify as moral versus conventional (Nucci & Turiel, 1978; Turiel, 1983, 1989).

2.1.2.3 The Cultural Turn

Another major challenge to the universalist claims of Kohlberg's model came from cultural psychology. Anthropologist Richard Shweder and colleagues (1987), in a

study conducted in India, showed that participants often evaluated behavior in terms of duties, social roles, and spiritual concerns rather than in terms of harm and justice alone. Complementing this, Haidt, Koller, and Dias (1993) presented participants in both the United States and Brazil with stories of harmless taboo violations, actions that were offensive but did not cause direct harm to another person, such as a family eating their already-dead pet dog. Their results demonstrated that only highly educated Western participants tended to limit morality to issues of harm, rights, and justice, whereas many Brazilians and working-class Americans moralized such taboo violations. Building on these studies, Shweder, Much, Mahapatra, and Park (1997) proposed that the moral domain is organized around at least three distinct ethics: an Ethic of Autonomy (focused on individual harm, rights, and justice, aligning with Kohlberg), an Ethic of Community (focused on duty, hierarchy, and interdependence), and an Ethic of Divinity (focused on purity, sanctity, and suppression of base desires). This framework was pivotal in demonstrating that culture fundamentally shapes what counts as a moral issue and in introducing concepts like community and sacredness, also central to many faith-based moralities, into psychological research.

2.1.3 Emotion, Intuition, and Sociality

The critiques of the rationalist tradition opened the door for a major shift in moral psychology. Catalyzed by the affective revolution in psychology, that is, an increased focus on emotion that followed the cognitive revolution, a ‘new synthesis’ began to form in the 1990s and 2000s. This new approach, integrating principles from social psychology, neuroscience, and evolutionary theory, questioned the primacy of conscious reasoning. Instead, it proposed that moral judgments are often driven by quick, affect-laden intuitions, and that the primary role of reasoning is not to find the truth, but to justify those initial gut feelings to others (Haidt, 2007).

2.1.3.1 Social Intuitionist Model

The most direct challenge to the rationalist school of thought was Jonathan Haidt's (2001) Social Intuitionist Model (SIM). The model's central claim is that moral judgment is caused by quick and automatic moral intuitions, while moral reasoning is typically an *ex post facto* construction, generated only after a judgment has already

been made. Haidt (2001, p. 818) draws a sharp distinction between two types of cognition, moral intuition and moral reasoning, and defines moral intuition as:

The sudden appearance in consciousness of a moral judgment, including an affective valence (good-bad, like-dislike), without any conscious awareness of having gone through steps of searching, weighing evidence, or inferring a conclusion.

This process is fast, automatic, and effortless. It is more akin to perception than to problem-solving. Moral reasoning is a conscious, controlled, and cooler (less affective) process of transforming information to reach a moral decision. It is slow, effortful, and intentional. The relationship between these two processes is captured by Haidt's famous metaphor: moral reasoning is the 'tail' wagged by the 'emotional dog'. The immediate, intuitive feelings (the dog) determine people's judgments, and the reasoning faculty (the tail) is then employed to justify that feeling, primarily for social purposes. Evidence for this intuitive primacy comes from studies showing that people have nearly instant implicit reactions to moral violations and can be 'morally dumbfounded', that is, knowing intuitively that something is wrong even when they cannot find a single reason to explain why (Haidt, 2001).

This does not mean reasoning is irrelevant. The SIM is a social model that proposes reasoning's main function is interpersonal. Reasoning is not used as if by a scientist seeking truth, but as a lawyer or politician trying to build a case for an initial intuitive reaction. The model outlines two key interpersonal pathways: the reasoned persuasion link, where one person's reasoning triggers a new intuition in another; and the social persuasion link, where people are directly influenced by the judgments of their friends and allies, often conforming without any exchange of reasons at all (Haidt, 2001). Thus, thinking, in this view, is not for finding truth, but for 'social doing', navigating social worlds that uphold reputation (Haidt, 2007).

2.1.3.2 Moral Foundations Theory

If moral judgments are driven by intuitions, what are these intuitions about? Moral Foundations Theory (MFT) was developed to answer this question by identifying the primary domains of human morality (Haidt, 2007; Graham et al., 2013). It is a pluralist theory, arguing that morality is not reducible to a single principle like justice (Kohlberg, 1971) or harm (Gray et al., 2014), but is instead built upon multiple

‘irreducible basic elements’ (Graham et al., 2013). To note, the monism-pluralism duality has been an important debate in moral psychology, with the former suggesting that every moral judgment can be reduced to an occurrence through a single mental process, such as avoidance of harm or avoidance of suffering, which sufficiently explains the moral behavior. Pluralist approaches, on the other hand, claim that there are numerous codes or motives explaining moral actions, and they cannot be reduced to simple principles.

MFT proposes that the human mind comes with a ‘first draft’ that is organized in advance of experience by evolution. This first draft consists of at least five innate foundations, which function like the taste receptors of the moral mind. Just as the world's diverse cuisines are all built upon the same taste receptors (sweet, sour, salty, etc.), the world's diverse moral systems are built upon a small, finite set of psychological foundations. Culture then acts as a chef, editing and elaborating upon the first draft during development to create unique, locally endorsed moralities (Graham et al., 2013).

The five best-supported foundations, along with their original evolutionary triggers and the virtues they support, are: ‘Care/harm’, evolved in response to the adaptive challenge of caring for vulnerable children, triggered by signs of suffering and distress, and underlies virtues of kindness and compassion; ‘Fairness/cheating’, evolved to reap the benefits of two-way partnerships and is based on the evolutionary process of reciprocal altruism, is triggered by cheating and cooperation, and supports virtues like justice and trustworthiness; ‘Loyalty/betrayal’, evolved from humans’ long history of tribal living and intergroup competition, it is triggered by threats or challenges to the in-group, and underlies virtues of patriotism, self-sacrifice, and loyalty; ‘Authority/subversion’, rooted in the primate history of hierarchical social interactions, triggered by signs of rank and status, and supports virtues of leadership, obedience, and deference; and finally ‘Sanctity/degradation’, evolved from the omnivore's dilemma and the need to avoid communicable diseases, originating in the emotion of disgust, which served as a ‘behavioral immune system’ (Schaller & Park, 2011), i.e., disgust/contamination avoidance, it is triggered by waste products, diseased people, and a variety of symbolic contaminants, it supports the virtues of temperance, chastity, and piety.

A key finding of MFT is that these foundations help explain the culture war between liberals and conservatives (Graham et al., 2013). Across numerous studies, liberals tend to build their moralities primarily on the ‘Care’ and ‘Fairness’ foundations, whereas conservatives build their moralities more evenly across all five. This difference means that the two sides are not just disagreeing on the issues; they are often proceeding from different fundamental moral intuitions, making it feel as though the other side is not just wrong but also immoral (Graham et al., 2013).

2.1.3.3 Dual-Process Model

While the SIM places emotion and intuition at the center of moral judgment, the Dual-Process Model (DPM), proposed by Joshua Greene and colleagues (2001), offers a slightly different model that reconciles automatic, emotional processes with more controlled, cognitive ones.

This framework was developed to explain a classic puzzle in moral philosophy, the ‘trolley problem’. In the standard trolley dilemma, a runaway trolley is about to hit and kill five people. The decision-maker can save them by pushing a switch that diverts the trolley to another track, but there is also one person on that track who will be killed. Most people say it is morally acceptable to push the switch. However, in the ‘footbridge dilemma’, the only way to save the five people is to push a large stranger off a footbridge and into the trolley's path, killing him but stopping the trolley. Here, most people say this is not acceptable (Greene et al., 2001). Philosophers have struggled to find a consistent moral principle that explains this intuitive difference.

Greene and colleagues proposed that the difference is not one of logic, but of psychology. The crucial distinction is whether the harm is ‘personal’ (as in the footbridge case, which involves direct, physical force) or ‘impersonal’ (as in the trolley case). The hypothesis is that up close and personal violations, like pushing a man to his death, trigger a powerful, automatic, negative emotional response that makes the action feel wrong. Impersonal violations do not trigger this same alarm-bell emotion, leaving more deliberative, cognitive systems free to make a utilitarian calculation, that is, saving five lives at the cost of one is a net gain (Greene et al., 2001).

Using functional magnetic resonance imaging (fMRI), they provided neuroscientific evidence for this model and found that contemplating moral-personal dilemmas (like the footbridge) preferentially activated brain regions associated with emotion. In

contrast, brain areas associated with abstract reasoning and working memory showed greater activity during impersonal dilemmas. Furthermore, the few people who did approve of the personal harm in the footbridge dilemma took longer to respond, suggesting they had to override an initial negative emotional impulse (Greene et al., 2001).

The Dual-Process Model provides an integration of the rationalist and intuitionist traditions. It suggests that both systems are present in the brain, a fast, automatic, emotional system that can drive moral judgment, and a slower, more controlled cognitive system capable of utilitarian reasoning. The nature of the moral problem itself often determines which system takes the lead.

2.1.3.4 Relationship Regulation Theory

As an alternative to MFT, Rai and Fiske's (2011) Relationship Regulation Theory (RRT) offers another influential pluralistic framework that redefines the fundamental purpose of morality. Its central claim is that the core of human moral psychology consists of motives that function to generate, sustain, and govern social relationships. This approach explicitly critiques theories that separate moral judgments from their social-relational context, arguing instead that any given action's moral status can only be determined by understanding the specific relational context in which the action occurs (Rai & Fiske, 2011).

The theory is grounded in Alan Page Fiske's (1991, 1992) Relational Models Theory, which identifies four basic psychological models that people use to coordinate nearly all social interactions. From these four models, Rai and Fiske (2011) developed four fundamental and distinct moral motives: 'Unity', derived from the Communal Sharing model, this is the motive to care for and support the integrity of the in-group, it involves providing aid based on need, protecting the group from threats of contamination, and fostering a sense of common fate, with RRT positing that this single motive for group cohesion underlies what MFT treats as separate foundations for Loyalty and Sanctity; 'Hierarchy', derived from the Authority Ranking model, is the motive to respect rank and maintain linear social hierarchies, dictating that superiors are entitled to deference and respect, but also have a responsibility to lead and protect their subordinates; 'Equality', derived from the Equality Matching model, is the motive to maintain balanced, in-kind reciprocity, equal treatment, and equal opportunity. It provides the

psychological basis for both turn-taking and ‘eye-for-an-eye’ forms of revenge; ‘Proportionality’, derived from the Market Pricing model, is the motive to ensure that rewards and punishments are proportionate to merit, contributions, or guilt. This motive underlies utilitarian calculations of costs and benefits and equity-based forms of justice (Rai & Fiske, 2011).

The most significant implication of RRT is its prediction that any action, including violence, unequal treatment, or acts seen as impure, can be perceived as morally correct and even virtuous, depending on the moral motive being used and how the relevant social relationship is construed. For example, violence may be seen as a moral necessity when motivated by ‘Hierarchy’ (e.g., a superior punishing a subordinate) or ‘Equality’ (e.g., tit-for-tat). This framework is particularly useful at explaining deep moral disagreements, which it frames not as errors in judgment, but as conflicts that arise from different parties applying different, yet from their own perspectives equally valid, relational models to the same situation (Rai & Fiske, 2011).

2.1.4 Integrated Views of Moral Agency

The intellectual journey of moral psychology, from its classic rationalist foundations to the new synthesis, reveals a field that has progressively broadened its scope to create a more holistic and integrated understanding of human morality. The early developmental models of Piaget and Kohlberg, which posited that moral maturity was the product of conscious, justice-based reasoning, were pivotal in establishing the field. However, critiques from care ethics and cultural psychology revealed the limitations of a purely rationalist and Western-centric view, highlighting the importance of relationships, compassion, and culturally specific ethics of community and divinity (Haidt, 2023).

The modern, integrated view, supported by insights from neuroscience and social psychology, has further refined the field. The Social Intuitionist Model (Haidt, 2001), Moral Foundations Theory (Graham et al., 2013), the Dual-Process Model (Greene et al., 2001), and Relationship Regulation Theory (Rai & Fiske, 2011) collectively demonstrate that moral judgments are often driven by rapid, affect-laden intuitions that are shaped by social relationships and cultural context. Conscious reasoning, rather than being the impartial or neutral judge, frequently acts as a *post-hoc* advocate, constructing justifications for these initial gut feelings (Haidt, 2001). This new

synthesis does not dismiss reason but reframes and redefines its role, acknowledging that both intuitive and deliberative systems are essential components of the human moral system.

This richer, more complex understanding of morality sets the stage for two concepts, Moral Identity and Moral Agency. If moral judgments are not just cognitive outputs but are deeply tied to emotion, culture, and social relationships, then it follows that for many, morality becomes a core part of the self-concept (Ellemers et al., 2019).

2.1.4.1 Moral Identity

‘Moral identity’ can be defined as a self-conception organized around a set of moral traits (Aquino & Reed, 2002). For a person with a strong moral identity, being caring, compassionate, fair, and honest are not just some desirable behaviors but are fundamental to their sense of self. This identity has two dimensions that are an internal, private aspect, which is the degree to which moral traits are central to one's self-concept, called ‘internalization’, and a public, symbolic aspect, which is the degree to which one's actions demonstrate those commitments, called ‘symbolization’ (Aquino & Reed, 2002, p. 1427). The degree to which moral identity is important to a person's sense of self is a powerful motivator, prompting the person to maintain consistency between their moral self-conception and their actions (Aquino & Reed, 2002).

2.1.4.2 Moral Agency

This leads to the concept of ‘moral agency’, which is the capacity of an individual to act in line with their moral standards, typically through processes of self-regulation. Albert Bandura's (1986, 1991) Social Cognitive Theory posits that moral agency is exercised through self-regulatory mechanisms grounded in moral standards and self-sanctions. People monitor their own conduct and judge it in comparison to their moral standards; they behave in ways that bring them satisfaction and a sense of self-worth while refraining from behaviors that would violate their standards and result in self-condemnation. However, these self-regulatory mechanisms are not automatic. Bandura outlines several psychosocial maneuvers through which these moral self-sanctions can be selectively ‘disengaged’ from inhumane conduct. According to Bandura this can happen by reconstruing the conduct (e.g., framing it as serving a higher moral purpose through moral justification or euphemistic labeling); obscuring

personal agency (e.g., displacing responsibility onto an authority or diffusing it within a group); distorting the consequences (e.g., minimizing or ignoring the harm caused); dehumanizing or blaming the victim (e.g., stripping them of human qualities or holding them responsible for their own suffering) (Bandura, 1999).

Understanding moral agency, therefore, requires understanding not only how people adhere to their moral standards but also the psychological processes that allow them to disengage from those standards (Bandura, 1999).

2.2 Decision-Making

The study of human decision-making is a fundamentally interdisciplinary enterprise, occupying a central role in fields ranging from psychology and economics to philosophy and computer science (Koehler & Harvey, 2004). To provide a quick introductory overview, the field bears a good number of theoretical frameworks, such as Rational Choice Theory (von Neumann & Morgenstern, 1944), Bounded Rationality (Simon, 1955), Prospect Theory (Kahneman & Tversky, 1979), and Dual-Process Theory (Stanovich & West, 2000; Evans, 2008; Evans & Stanovich, 2013) being among the most well-known. A special area of interest within decision-making, in line with the scope of this research, is about the situations where uncertainty dominates the decision-making environment, hence, decision-making under uncertainty. Theories, such as Expected Utility Theory (Savage, 1954; von Neumann & Morgenstern, 1944), Modern Portfolio Theory (Markowitz, 1952, 1959), Cumulative Prospect Theory (Tversky & Kahneman, 1992), or Case-Based Decision Theory (Gilboa & Schmeidler, 1995) are all theories posited primarily with uncertainty, albeit of the probabilistic kind, in mind. Some approaches are developed to work under deep or radical uncertainty, where no probability can be obtained, such as Robust Decision-Making (Rosenhead, 1990, pp. 193–218; Lempert et al., 1997; Marchau et al., 2019, pp. 26–51), which is a quantitative decision analysis method based on simulating countless future scenarios to detect and tackle potential vulnerabilities in those and aim not at optimality but rather robustness. Another example is the Conviction Narrative Theory (Chong & Tuckett, 2015; Tuckett & Nikolic, 2017; S. G. B. Johnson et al., 2023), which, as a qualitative approach, claims that no probabilistic decisions can be made under radical uncertainty, be it an optimal, as in the neoclassical Expected Utility Theory, or a descriptively systematic one to

demonstrate the real-world, as in the behavioral Prospect Theory. Instead, it claims that narratives, which are to explain, simulate, affectively evaluate, and communicate the situation, work as the key mental representations for decisions under uncertainty. In any case, whether adopting a quantitative or qualitative approach, involving uncertainty renders the decision-making process more complex, probabilistic (without deep uncertainty), narrative-driven (with deep uncertainty), stochastic, heuristic, and adaptive.

2.2.1 Normative and Descriptive Paradigms

At its core, decision-making hosts a fundamental tension: the gap between how people ‘should’ decide and how they ‘actually do’ (Bell et al., 1988). This tension has given rise to two dominant paradigms of inquiry, the ‘normative’ and the ‘descriptive’, which together form the intellectual foundation of decision research (Over, 2004). The normative paradigm is concerned with the principles of rationality, prescribing how an ideal agent ought to behave to achieve an optimal outcome (Baron, 2004). The descriptive paradigm, on the other hand, is empirical, seeking to characterize and explain the psychological processes that underlie how real people, with all their cognitive limitations, make judgments and choices (Over, 2004).

Normative theories traditionally find their roots in economics and philosophy, establishing benchmarks of rational conduct based on axioms of logic and consistency (von Neumann & Morgenstern, 1944). These models, most famously Expected Utility Theory, define a rational actor as one whose choices are internally coherent and aim to maximize utility, or subjective value (Baron, 2004). For decades, this idealized understanding of *Homo economicus* served as the default model of the human agent (Keren & Wu, 2015). However, a growing body of empirical evidence, starting to appear in the mid-20th century, began to reveal systematic and predictable ways in which human behavior deviates from these normative standards.

This empirical challenge, led by figures like Herbert Simon, Daniel Kahneman, and Amos Tversky, launched the descriptive paradigm that defines much of behavioral decision research (Keren & Wu, 2015). Simon (1955) first questioned the plausibility of the all-knowing, computationally unlimited rational agent, proposing instead the concept of ‘bounded rationality’. He argued that human decision-makers are constrained by limited cognitive resources, incomplete information, and finite time.

Consequently, these decision-makers do not optimize; instead, they ‘satisfice’, seeking solutions that are merely good enough for their purposes (Simon, 1955). This insight shifted the research focus from simply identifying ‘errors’ in reasoning to understanding the adaptive and often efficient mental shortcuts, or ‘heuristics’, that people use to navigate a complex world.

To structure the investigation of these paradigms, the field further delineates decision-making contexts based on the quality of information available to the agent; hence, a crucial distinction is made between risk and uncertainty (Keren & Wu, 2015). A decision is made under ‘risk’ when the potential outcomes of a choice and their associated probabilities are known and explicitly defined; in contrast, a decision is made under ‘uncertainty’ when the probabilities of the outcomes are not known, or cannot even be meaningfully estimated (Ellsberg, 1961). A related concept is ‘ambiguity’, which refers to situations where the missing probability information is a salient feature, often leading to a distinct aversion to choosing such options (Ellsberg, 1961). The following sections will illustrate the evolution of decision theory through these paradigms and contexts, beginning with the foundational normative models of the rational agent before exploring the behavioral revolution that placed the complex human psychology at the center of the inquiry.

2.2.2 The Rational Agent

The intellectual journey of decision theory begins with the construction of an ideal, a perfectly rational decision-maker (Baron, 2004). This normative approach does not aim to describe how people ‘actually’ behave, but rather to prescribe how a rational agent ‘should’ behave to achieve coherently defined goals (Over, 2004). The cornerstone of this paradigm is Expected Utility Theory (EUT), a framework that provides a mathematical foundation for rational choice under conditions of risk (von Neumann & Morgenstern, 1944).

2.2.2.1 Expected Utility Theory

Formalized by von Neumann and Morgenstern (1944), EUT posits that the value, or utility, of an uncertain choice is the weighted average of the utilities of its possible outcomes, where the weight for each outcome is its objective probability of occurring (Baron, 2004). Unlike simple monetary value, utility is a subjective measure of worth

or desirability, which can vary from person to person. A familiar implication is that concave utility over wealth yields risk aversion (diminishing marginal utility), which is the idea that each additional unit of a good adds less utility than the one before. According to EUT, a rational agent, when faced with multiple options, will always select the one that offers the highest expected utility (Baron, 2004). Early attempts to measure utility functions experimentally sought to validate the theory, finding that it was possible to construct such functions for individuals, though not without significant inconsistencies (Mosteller & Nogee, 1951).

2.2.2.2 Axioms of Rational Choice

For EUT to hold as a normative theory, the decision-maker's preferences must adhere to a set of fundamental principles, or axioms, which ensure that preferences are internally consistent and stable (Baron, 2004). Four are central to the theory's coherence: Completeness, Transitivity, Continuity, and Independence.

'Completeness' is defined as for any two options, A and B, a rational person must have a clear preference: they must prefer A to B, prefer B to A, or be indifferent between them. 'Transitivity' posits that preferences must be logically consistent, such that if a person prefers A to B, and B to C, then they must necessarily prefer A to C. 'Continuity' axiom avoids all-or-nothing preferences by stating that for any three outcomes (A preferred to B preferred to C), there must be some probability p where the decision-maker is indifferent between receiving outcome B for sure and a gamble that offers A with probability p and C with probability $(1-p)$. The 'Independence' axiom, also known as the cancellation principle, states that if two options include an identical component, that component should not affect the choice between them (Baron, 2004).

2.2.2.3 Allais and Ellsberg Paradoxes

While the axioms of EUT appear logically sound, empirical investigations soon revealed that human choices systematically violate them (Keren & Wu, 2015). The first significant contest came from French economist Maurice Allais. The Allais Paradox demonstrates a clear violation of the Independence axiom (Allais, 1953). In a typical formulation, people are shown to prefer a certain reward over a gamble with a slightly higher expected value; however, when a large but identical probability of winning nothing is introduced to both options, their preference reverses in a way that

is inconsistent with EUT (Allais, 1953). This suggests that the psychological value of certainty has a special weight that the normative model fails to capture. A second major challenge was presented by Daniel Ellsberg (1961), who highlighted the distinction between risk and ambiguity. The Ellsberg Paradox shows that people overwhelmingly prefer to bet on known probabilities rather than unknown ones, a phenomenon termed ‘ambiguity aversion’ that is not accounted for by EUT (Ellsberg, 1961).

2.2.2.4 Bounded Rationality and Satisficing

While the Allais and Ellsberg paradoxes challenged specific axioms of EUT, Herbert Simon (1955) extended a more fundamental psychological critique of the entire rational agent model. Simon introduced the concept of ‘bounded rationality’, arguing that the vision of a perfectly rational *Homo economicus* is unrealistic because it fails to account for the cognitive limitations of the human mind. He noted that real-world decisions are characterized by incomplete information, immense complexity, and severe time constraints. Given these limitations, Simon (1955) proposed that humans do not and cannot engage in the exhaustive calculations required to find the single best, or the ‘optimal’, solution. Instead, they adopt a strategy of ‘satisficing’, by which an agent sets an aspiration level and searches through options sequentially, selecting the very first one that meets this minimum standard. This insight was revolutionary, as it shifted the focus of research on decision from a purely normative undertaking to a descriptive one, seeking to understand the actual, resource-efficient strategies people use.

2.2.3 Psychological Models of Choice

The paradoxes of Allais and Ellsberg and the theoretical challenge of bounded rationality exposed the descriptive shortcomings of the rational agent model (Allais, 1953; Ellsberg, 1961; Simon, 1955). This created an opening for a new, psychologically grounded approach to decision-making led by Daniel Kahneman and Amos Tversky (1974). This behavioral revolution did not seek to prescribe rational conduct, but to describe how humans actually make judgments and choices, which resulted in two of the most influential frameworks in modern social science, the Heuristics and Biases Program and Prospect Theory (Keren & Wu, 2015).

2.2.3.1 Heuristics and Biases Program

Building on Simon's concept of bounded rationality, Tversky and Kahneman proposed that people rely on a limited number of simplified mental shortcuts, or 'heuristics', to manage the complexity of assessing probabilities and predicting value. These heuristics are typically fast and effective, but they can also lead to severe and systematic errors, or 'biases', when compared against the norms of probability theory. Three of the most studied heuristics by Tversky & Kahneman (1974) are Availability, Representativeness, and Anchoring and Adjustment. 'Availability' heuristic involves judging the frequency or probability of an event based on the ease with which instances or occurrences can be brought to mind. For example, one might overestimate the risk of a dramatic but rare event, like a plane crash, simply because examples are vividly publicized and easily recalled. For 'Representativeness', Tversky and Kahneman's classic illustration asks readers to consider Steve, a shy, orderly, detail-oriented man. Many judge him more likely to be a librarian than a farmer based on stereotypical fit, and similarly neglect base rates when asked whether short personality sketches come from engineers or lawyers. 'Anchoring and Adjustment' is shown by a wheel-of-fortune example. After seeing an arbitrary number (e.g., 10 vs. 65), participants' estimates of the percentage of African countries in the UN remain biased toward that starting value, which illustrates that adjustments from the anchor are systematically insufficient (Tversky & Kahneman, 1974).

It is important to note that the heuristics and biases approach has also been challenged. An alternative perspective, championed by Gerd Gigerenzer and his colleagues, frames heuristics not as sources of error but as an adaptive toolbox of 'fast and frugal' mechanisms that are ecologically rational, that is, well-suited to the structure of the environments in which humans evolved. From this viewpoint, heuristics like 'take-the-best' (which involves choosing an option based on the single most valid cue) are not biased shortcuts but remarkably effective and robust strategies for making decisions with limited time and information. This approach reframes the debate from a focus on cognitive errors to an appreciation of the adaptive nature of bounded rationality (Gigerenzer & Goldstein, 1996).

2.2.3.2 Prospect Theory

In their landmark paper, Kahneman and Tversky (1979) introduced Prospect Theory as a formal descriptive alternative to EUT. The theory proposes a two-phase choice process: an initial Editing phase, where prospects are simplified and coded, followed by an Evaluation phase, where the edited prospects are evaluated and the one with the highest value is chosen. Rather than defining choice in terms of final states of wealth, Prospect Theory models choice as a process of evaluating changes, specifically, gains and losses, relative to a neutral reference point (Kahneman & Tversky, 1979).

The Reference Point and Loss Aversion assert the theory's most significant psychological insight, that is, people are far more sensitive to losses than to equivalent gains, a principle known as 'loss aversion' (Kahneman & Tversky, 1979). This asymmetry is captured by an S-shaped value function, which is steeper for losses than for gains and reflects diminishing sensitivity to both (Tversky & Kahneman, 1992). The Value Function and Probability Weighting Function posit that people do not treat probabilities linearly. Instead, they transform them using an inverse S-shaped probability weighting function, which demonstrates that people tend to overweight small probabilities and underweight moderate and large probabilities (Kahneman & Tversky, 1979). This model was later refined into Cumulative Prospect Theory (CPT), which provides a more robust theoretical foundation that applies to choices with any number of outcomes (Tversky & Kahneman, 1992).

2.2.3.3 Framing Effects and Mental Accounting

A direct and powerful consequence of Prospect Theory's principles is the phenomenon of 'framing' (Tversky & Kahneman, 1981). Tversky and Kahneman demonstrated that the way a choice is presented can dramatically alter preferences, even when the underlying outcomes are identical. Richard Thaler (1985) extended these insights into the domain of financial behavior with his theory of 'mental accounting'. He proposed that people organize their financial lives by creating a series of non-fungible mental accounts and then evaluating outcomes within these specific accounts rather than as part of their overall wealth (Thaler, 1985).

2.2.3.4 Case-Based Decision Theory

Case-Based Decision Theory (CBDT) by Gilboa and Schmeidler (1995, 2001) offers an alternative model for choice under uncertainty, suggesting that individuals often make decisions not by calculating probabilities and utilities, but by drawing on past experience. According to this theory, decision-makers faced with a new problem search their memory for similar cases from the past. They then evaluate potential actions based on how well they performed in those previous, analogous situations. The action that yielded the best outcomes in the most similar past cases is the one most likely to be chosen, making this a model of choice based on memory, analogy, and historical precedent rather than abstract probabilistic reasoning (Gilboa & Schmeidler, 1995).

2.2.4 Context, Emotion, Morality, and Expertise

While the behavioral revolution provided powerful descriptive models, it largely focused on the cognitive evaluation of well-defined gambles (Kahneman & Tversky, 1979). However, real-world decisions are rarely made in a vacuum. They are shaped by the immediate context, triggered by emotions, guided by moral values, and influenced by social and professional dynamics (G. Loewenstein & Lerner, 2003). This section explores these crucial dimensions, moving beyond the individual's cognitive processes to understand how external and internal environments construct the act of choice.

2.2.4.1 Theory of Reason-Based Choice

A key departure from classical rationality is the idea that preferences are not stable, pre-existing attributes that people consult. Rather, they are often constructed on the spot in response to the demands of a specific situation (Shafir et al., 1993). One of the most robust demonstrations of context effects is the 'attraction effect'. Huber et al. (1982) showed that adding a third, asymmetrically dominated option can paradoxically increase the choice share of the now-dominant option. This violates the principle of regularity in rational choice, which states that adding a new option should not increase the popularity of an existing one (Huber et al., 1982).

To explain such phenomena, Shafir et al. (1993) proposed the theory of Reason-Based Choice. They argued that when faced with a difficult decision, people often seek out compelling reasons to justify their selection to themselves and others.

2.2.4.2 Affect and Emotion in Decision-Making

For centuries, emotion was viewed as a disruptive force that hindered rational thought. More recent research, however, has established affect as an essential and often beneficial component of decision-making. Loewenstein and Lerner (2003) provided a useful framework distinguishing between integral and incidental affect. ‘Integral affect’ refers to feelings directly linked to the decision at hand, while ‘incidental affect’ is a background mood or emotion that is unrelated to the choice but can ‘spill over’ and influence it (G. Loewenstein & Lerner, 2003).

According to Loomes & Sugden (1982), choices are often guided by a desire to avoid future negative feelings. Regret Theory posits that when making a decision under uncertainty, individuals anticipate the potential for regret, the painful feeling that arises from comparing the outcome of their chosen option to what they ‘could have’ received had they chosen differently (Loomes & Sugden, 1982).

Antonio Damasio (1994) argued that emotion is a necessary guide for rational action. His Somatic Marker Hypothesis proposes that emotional experiences create physiological gut feelings, or somatic markers, that become associated with the future consequences of certain choices, thereby simplifying complex decisions (Damasio, 1994).

2.2.4.3 Moral Intuitions and Dual-Process Moral Thinking

Many of the most significant decisions individuals and organizations face are not about maximizing personal utility but are constrained by moral, ethical, and social norms (Haidt, 2001). A central finding in modern moral psychology by Greene and colleagues (2001), as explained in the preceding section on moral psychology under DPM, is that moral judgments emerge from the interplay of at least two distinct systems. Using fMRI and classic dilemmas, they found that personal, emotionally salient moral dilemmas activate brain regions associated with emotion, while more impersonal, calculation-based dilemmas activate areas linked to deliberate reasoning. Jonathan Haidt's (2001) SIM complements this by arguing that moral judgments are

primarily driven by quick, automatic, and often affect-laden intuitions, while deliberate moral reasoning often comes after the fact to justify the judgment (Haidt, 2001).

2.2.4.4 Behavioral Game Theory

The limits of the self-interested actor model are starkly revealed in Behavioral Game Theory. The classic Ultimatum Game developed by Werner Güth and colleagues, for instance, demonstrates that human utility is deeply intertwined with social preferences. In the game, a proposer offers a split of a sum of money, and a responder can either accept the deal or reject it, in which case neither party receives anything. Responders frequently reject low but economically rational offers that they perceive as unfair, demonstrating that preferences are shaped not just by personal payoff but by powerful norms of fairness and reciprocity (Güth et al., 1982). Similar experimental works, such as the Dictator Game, Trust Game, Public Goods Game, Stag Hunt, etc., were systematized by Camerer and colleagues (2003) into Behavioral Game Theory.

2.2.4.5 Organizational and Group Decision-Making

Decision-making models must also account for the environment in which choices are made, including the dynamics of groups and organizations. One of the most significant challenges in group decision-making is the ‘common knowledge effect’ (Stasser & Titus, 1985). Stasser and Titus demonstrated experimentally that group discussions tend to be dominated by information that all members hold in common, while unique and unshared information held by individual members is less likely to be influential.

2.2.4.6 Naturalistic Decision Making

In contrast to lab-based studies with laypersons and non-experts, the Naturalistic Decision Making (NDM) framework by Klein (1993) studies how experts make decisions in complex, real-world environments. The cornerstone of NDM is the Recognition-Primed Decision (RPD) model, which posits that experts often do not analytically compare options. Instead, they use their extensive experience to recognize a situation as an instance of a familiar pattern. This recognition cues a plausible course of action, which the expert then mentally simulates to verify its viability (Klein, 1993). This model highlights the power of skilled intuition and provides a framework for

understanding expert choice that is fast, effective, and distinct from the deliberative models of classical theory.

2.2.4.7 Conviction Narrative Theory

Conviction Narrative Theory (CNT) proposes a qualitative approach to decision-making under radical uncertainty, arguing that in such situations, probabilistic calculations are psychologically impossible (Tuckett & Nikolic, 2017). Instead of weighing probabilities, individuals construct narratives or stories to make sense of the situation, imagine possible futures, and manage the emotional strain of ambiguity. According to CNT, a decision to act is made only when a particular narrative becomes compelling enough to generate a state of ‘conviction’, which allows the decision-maker to proceed with confidence despite the lack of knowable probabilities (Chong & Tuckett, 2015; S. G. B. Johnson et al., 2023). This framework centers storytelling and emotion, rather than calculation, as the primary mechanism for choice in uncertain environments.

2.2.4.8 Intertemporal Choice and Discounting

Many decisions involve a trade-off between the present and the future (Thaler, 1981). Empirical research has shown a clear and systematic deviation from the classical model of constant discounting, a phenomenon known as ‘hyperbolic discounting’ (Ainslie, 1975; Thaler, 1981). Thaler (1981) provided key early evidence showing that people are disproportionately impatient when it comes to near-term rewards. This dynamic inconsistency, where preferences shift as the future becomes the present, helps explain a range of behaviors from procrastination to insufficient saving for retirement.

2.2.5 Prescriptive Approaches

A natural consequence of identifying systematic biases is the desire to mitigate them (Fischhoff, 1982), hence, advising prescriptions for good decisions. A recent and influential paradigm is ‘choice architecture’ by Sunstein and Thaler (2003). The authors introduced the concept of Libertarian Paternalism, an approach that aims to steer people toward better choices without restricting their freedom to choose otherwise. By carefully designing the environment or choice architecture in which

decisions are made, it is possible to ‘nudge’ people toward outcomes that are in their own long-term interest. A typical example would be employers automatically enrolling employees into retirement savings plans while allowing them to opt out freely. This would dramatically increase participation rates (Madrian & Shea, 2001).

Another prescriptive approach, developed specifically for conditions of deep uncertainty where probabilities cannot be reliably calculated, is one centered on the notion of robustness, starting with Robustness Analysis (Rosenhead, 1990, pp. 193–218) to identify strategies that are ‘robust’, that is, they perform acceptably well across the widest possible range of futures and avoid catastrophic failures, even if they are not the single best strategy for any particular outcome. This approach progressed further with Robust Decision-Making (RDM), a method that aims for resilience rather than optimality (Lempert et al., 1997). Instead of trying to predict the most likely future and optimizing a strategy for it, RDM uses computational analysis to test a wide range of strategies across hundreds or thousands of plausible future scenarios (Marchau et al., 2019).

2.3 Uncertainty

The third key subject area investigated in this chapter is the rather complex and multi-dimensional concept of uncertainty, which is inherently related to various aspects of life and dealt with in numerous fields of knowledge, from philosophy to ethics, economics to sociology, just to name a few. Reith (2004) argues that the modern era was founded, in many respects, on the ambition to tame the future. From the birth of probability theory in the seventeenth century to the development of sophisticated insurance markets, modernity has been characterized by a drive to transform the contingent and the unknown into the calculable and the manageable (Reith, 2004). This idea reached its zenith in the industrial society of the twentieth century, an order built upon the belief that scientific expertise and rational planning could control hazards and reliably distribute goods. However, a profound shift in this understanding began to take place in the latter half of the century, giving rise to a new societal paradigm (Beck, 1992).

Ulrich Beck (1992) famously argued that late modern society has transitioned from an industrial society preoccupied with the creation and distribution of wealth to a ‘risk society’ defined by its preoccupation with managing the self-inflicted and often

incalculable hazards it produces. These risks, from nuclear fallout and ecological crises to global financial meltdowns, are the unintended side effects of modernization itself, possessing a global and often catastrophic character that escapes traditional mechanisms of control and compensation (Beck, 1992). This has led to a condition where society is increasingly occupied with problems that it has itself created (Reith, 2004).

The contemporary condition is an era increasingly defined not just by risk, but by what some term ‘radical uncertainty’, a state where the range of possible future outcomes is unknown, probabilities cannot be calculated, and past experience is an unreliable guide (Tuckett & Nikolic, 2017). Issues like climate change tipping points and systemic resource depletion are not merely calculable risks but represent novel, emergent threats that defy traditional modes of prediction and governance (Samimian-Darash & Rabinow, 2015, pp. 1–9). The scholarly fields historically focused on risk assessment are therefore seen as increasingly inadequate. Consequently, it has become vital to treat uncertainty itself as a central problem and to examine the new forms of reasoning, governance, and subjective experience emerging in relation to it (Samimian-Darash & Rabinow, 2015, pp. 1–9).

This section provides a theoretical framework for understanding this multifaceted concept of uncertainty. It traces the term’s evolution from its foundational economic and sociological definitions to its contemporary psychological and moral dimensions. It explores how individuals, organizations, and governments navigate a world where optimization is often impossible, and then investigates the challenge of making moral decisions under conditions of doubt.

2.3.1 Different Meanings of Uncertainty

To analyze decision-making in an age of uncertainty, it is essential to first establish a clear conceptual vocabulary (Samimian-Darash & Rabinow, 2015, pp. 1–9). The terms ‘risk’ and ‘uncertainty’ are often conflated in everyday language, but they represent distinct concepts forged through a long intellectual history in economics, sociology, and philosophy (Reith, 2004).

2.3.1.1 Economic Foundations

The notion of uncertainty became a part of economics starting with the marginalist revolution and was tackled mainly by the Austrian School, Frank Knight, and Keynes in the course of time, where Knight's distinction between risk and uncertainty in his seminal work *Risk, Uncertainty, and Profit* (1921) was the most important conceptual and analytical contribution to tackling of the issue (Beckert, 1996). Knight (1921) proposed a crucial separation that remains foundational to the field. He defined 'risk' as a situation where the future is unknown but the probability distribution of all possible outcomes is known; it represents a future that can be, in principle, calculated and insured. In contrast, 'uncertainty' refers to a situation where the underlying probability distribution is itself unknown and cannot be meaningfully estimated. It is immeasurable and resists calculation. This Knightian or 'true' uncertainty cannot be managed through mathematical or statistical methods and instead requires the exercise of intuitive judgment and foresight.

The economic understanding of risk and uncertainty was deepened by the work of Daniel Ellsberg (1961), who explored the psychological dimension of this distinction. Through a series of thought experiments, Ellsberg demonstrated that people have a distinct aversion to ambiguity, situations where they have uncertain or incomplete information about probabilities. People overwhelmingly prefer to bet on known probabilities rather than unknown ones, even when the expected monetary value is the same (Ellsberg, 1961). This ambiguity aversion showed that the formal quality of information about the future has a direct and predictable effect on human choice, a finding that could not be explained by classical utility theory (Weber & Johnson, 2009). Together, Knight and Ellsberg established that uncertainty is not merely a lack of knowledge, but a unique condition with distinct economic and psychological properties. This foundational view was famously echoed by John Maynard Keynes (1937), who, as highlighted by Kay and King (2020), addressed uncertainty as a matter of things where there is no scientific basis on which any probability can be calculated. According to the authors, both Knight and Keynes insisted on assigning continued importance to the distinction between risk and uncertainty, but lost to the subjective or Bayesian probability, which can be defined as the process of decision-making under uncertainty by assigning individual probabilities or odds to potential outcomes by

relying on the intuition of the individual. And so they failed to incorporate this idea into mainstream economics.

2.3.1.2 Sociological Constructions

While economics provided a formal distinction, sociology and anthropology offer a framework for understanding how risk and uncertainty function as socially constructed concepts (Reith, 2004). This perspective moves beyond a simple dichotomy to a more nuanced triad of danger, risk, and uncertainty (Samimian-Darash & Rabinow, 2015, pp. 1–9).

‘Danger’ is understood as an ontological hazard that is culturally selected for attention (Douglas, 1985). Following the work of Mary Douglas (1985), this view holds that what a society defines as dangerous helps to preserve its moral and social boundaries. The selection of dangers is therefore not an objective assessment of harm but a social process of creating certainty by defining taboos and attributing blame.

‘Risk’, in contrast, is a distinctly modern concept that emerges with the ambition to control the future (Reith, 2004). Risk is not a synonym for danger; rather, as Niklas Luhmann argued, it is distinguished in that the risk is the potential loss attributed to a decision. Danger is external and happens to us, whereas risk is the consequence of what we do (Luhmann, 1993, as cited in Samimian-Darash & Rabinow, 2015, pp. 1–9). This concept of risk is operationalized through what François Ewald calls a ‘technology of risk’, most clearly embodied in insurance, which works by converting uncertainty into a series of calculable possibilities over which control can be exerted (Ewald, 2002). Modernity can thus be seen as a risk culture that systematically attempts to manage contingencies by rendering them knowable and predictable (Reith, 2004).

‘Uncertainty’, from this perspective, emerges as what lies beyond the reach of risk technologies. It represents the limit of modern ambitions for control and is increasingly seen as a distinct field of governance requiring new technologies like preparedness and anticipation (Samimian-Darash & Rabinow, 2015, pp. 1–9).

2.3.1.3 Environmental Dimension

Within this broad handling of uncertainty, a further crucial distinction has been articulated between possible and potential uncertainty. ‘Possible uncertainty’ is comparable to risk, as it is dependent on past knowledge and calculation regarding the chances that a known threat will be realized. ‘Potential uncertainty’, by contrast, arises from a "virtual domain with the capacity to generate a broad variety of actualizations", many of which may be entirely novel and have no historical precedent (Samimian-Darash, 2013). This concept is essential for confronting contemporary challenges like environmental sustainability. As Petryna posits (2015), climate change, for instance, is characterized by the threat of ‘tipping points’, thresholds beyond which an ecosystem can rapidly and irreversibly shift into a new state. Such shifts are not repetitions of past events but represent a domain of potential uncertainty where historical data is an insufficient guide, leading to the structural likelihood of being blindsided by catastrophic surprises (Petryna, 2015).

2.3.2 Uncertainty and Unsustainability

Controversies, discussions, and dilemmas about environmental sustainability naturally activate ethical reasoning, social values, and perceptions of uncertainty. According to Gardiner (2006), climate change is ethically a ‘perfect moral storm’, in that it is simultaneously global, intergenerational, and theoretically complex, hosting difficult temporal and spatial characteristics such as dispersion of causes and effects, fragmentation of agency, and institutional inadequacy. These features magnify uncertainty about what counts as ‘enough’ action and who owes what to whom. Psychologically, public responses to climate change are shaped by affect, imagery, and values that people’s risk perceptions and policy support are not mere computations but situated judgments under uncertainty (Leiserowitz, 2006; Weber, 2006). Focusing on sustainability also allows identifying ‘deep leverage points’, such as worldviews, values, and institutions, where change is potent but uncertainty is salient, with religion and spirituality as influential value systems within that deep layer (Abson et al., 2017; Ives & Kidwell, 2019). As such, (un)sustainability discussions induce and reveal uncertainty about thresholds, responsibilities, and consequences, and highlight the moral and cultural commitments, such as faith, that people use to navigate it.

2.3.2.1 The Sustainability Discourse

When one intends to discuss issues related to the environment or socio-ecology in their own right, it seems almost impossible not to include or address sustainability or sustainable development in the discourse (Blühdorn, 2022). While sustainability is a term that stemmed originally from environmental studies, it has turned into a means to bridge development and environment (Rogers et al., 2008), and differentiating it from sustainable development, which itself has come to be a sort of popular catchphrase (Mensah, 2019), has become increasingly difficult (Benson & Craig, 2014). According to the leading initial drive behind their worldwide propagation, the United Nations Brundtland Commission, sustainability is “meeting the needs of the present without compromising the ability of future generations to meet their own needs”, and sustainable development is to incur economic growth, in particular for the worse-off, by following this promise, adhering to technological, social-organizational, and ecological limits (Brundtland, 1987). Johnston (2014) calls the two terms ‘cognates’. Whatever nuances they may have in definition aside, both sustainability and sustainable development interchangeably stand for an assumed solution to an implied problem that does not even require much explaining or articulation anymore; the planet is dying because of human misconduct, that is the epoch of Anthropocene (Crutzen, 2002), but it can be saved, given what needs to be done is done without delay. A three-legged framework constituting economic, environmental, and social dimensions of sustainability—sometimes called three E’s as in Ecology, Economy, and Equity, even with an optional ‘plus’ for Education—is most common (Edwards, 2005, pp. 21–22; Smythe, 2014), suggesting that if any decision-making satisfactorily accounts for these main dimensions, future life on the planet can be sustained. The mottos for the three main components are to maintain the resilience and robustness of biological and physical systems, maximize income while maintaining a constant or increasing stock of capital, and maintain the stability of social and cultural systems, respectively (Munasinghe, 1993, as cited in Rogers et al., 2008).

2.3.2.2 Critiques Against the Sustainability Agenda

Some claim it is a goal impossible to pursue (Benson & Craig, 2014), a mirage invented by corporate power (Foster, 2015, p. 18), and an attempt to buy time for consumer capitalism (Blühdorn, 2022). No such criticism should be easily dismissed,

for capitalism is well known for its infinite adaptability (Blühdorn, 2017) and survivalist capacity in that it benefits from any successful and effective criticism leveled at it, by taking over and adapting the very critique, breeding a new form of capital accumulation as a result (Chiapello, 2013). It is the idea of constant material betterment, progressivism, that is argued to have allowed capitalism to neutralize and assimilate any opposition that was drawn upon the same underlying structure, now possibly enveloped in environmentalist rhetoric (Foster, 2015, p. 84). The economic leg alone is also argued to have dominated the sustainability discourse, isolated and disembedded from social and environmental dimensions, and hence, representing a flawed model for the reintegration of welfare and environment (Smythe, 2014).

Despite disagreements about the underlying agenda, there is a broad consensus that the sustainability trajectory is off track. To be consistent with the Paris Agreement's 1.5 °C temperature limit, the IPCC (2023) concludes that global GHG (Greenhouse Gas) emissions must fall ~43% below 2019 levels by 2030. Yet under current national pledges, the UNFCCC (2024) projects 2030 emissions ~8.3% above 2010 and ~2.6% below 2019, implying only a shallow decline and an emissions peak close to 2030.

As part of the criticism leveled against the SDG initiative, it is argued that it had goals that proved difficult to achieve in reality even before climate change became a major issue (Benson & Craig, 2014), it failed to reduce the impact of humans on the biosphere even remotely adequately (Foster, 2015), and became a spent and exhausted force as a result (Blühdorn, 2017). Instead, focusing on the concept of resilience that welcomes change, self-organization, and uncertainty (Benson & Craig, 2014), or shifting thinking from productivity and consumption to meaningful engagement with nature as a material, intellectual and spiritual resource (Smythe, 2014), or bidding farewell to Western modernity after a prolonged lifespan thanks to the sustainability paradigm in favor of a newly emerging third modernity (Blühdorn, 2022), are alternatives to what is suggested for moving beyond sustainability.

2.3.2.3 Arguments in Favor of the Sustainability Agenda

Proponents of the agenda, on the other hand, see it as a hope (J. D. Sachs, 2015), a novel approach to global governance through goal-setting (Biermann et al., 2017), and claim that a sustainability revolution has been taking place and it has now embarked on a paradigm shift (Burns, 2012; Edwards, 2005). This paradigm shift is argued to

cause a move away from seeing humans as autonomous individuals, replacing that ideal with one where people are understood as being fundamentally dependent and interconnected (Becker, 2012, pp. 1–2). Becker names three characteristics that define the meaning of sustainability, which are, ‘continuance’ (the positive aspect) such as the continuing existence of major functions of a system, ‘orientation’ (the normative aspect) as in the acceptance of sustainability as a global political norm, and ‘relationships’ (both the positive and the normative aspects) of the human being with contemporaries, future generations, and nature. He provides a critique that the normative aspects of sustainability (why something should be sustained) cannot be simply deduced from its positive aspects (how mechanisms of its continuance operate) (Becker, 2012, pp. 9–14). This approach, inevitably, invites the ethical dimension into the discussion, questions the human being as the autonomous and independent individual, and highlights their relatedness and relationships instead (Becker, 2012, p. 134). The relational impact of individual behavior on others and nature is to dominate the discourse on sustainability against rather technical decision-making based on logic and science, given that the value judgments are made in an open and specific way to the knowledge of all stakeholders, easing their adoption (McIntyre et al., 2017). This relationship between sustainability and ethics also extends to the religious domain.

2.3.2.4 Sustainability and Faith

Johnston (2014) argues that many of the early proponents of the sustainability and sustainable development initiative were themselves religious or drew religious analogies to endorse their social vision, and moreover sustainability itself can be understood as performing religious work, where religion is broadly defined to include cultural production of the ‘valuable’ in society, even to the extent of operating as a political religion. Whether as established institutions (as in the monotheistic Western traditions) or within a broader and less-institutionalized set of belief systems (as in some Eastern traditions), religion globally is a prominent social phenomenon (Ives & Kidwell, 2019). To simply exemplify, about ~85% of the global population today identify with a religion, according to the Pew Research Center (2022).

The relationship between sustainability and religion can be investigated from both directions, namely, the influence of sustainability discourse on religions and the effect of religions on sustainability. Regarding the former, Gottlieb (2008) argues that since

religions almost always invest in their own futures, sustainability is crucial for their continuity, and hence a religious issue, but religions also have to question whether they are “morally relevant to the actual condition of suffering, threat, and collective denial and irresponsibility” humans witness, therefore, religions need to transform their understanding of value, contest the widespread assumption that ‘more’ is ‘better’, and promote religious virtues and forms of life to human betterment instead. For the other direction, that is, how religions can contribute to sustainability efforts, Hessel (2009) claims that religious beliefs and values shape people’s attitudes and behaviors, so religious communities can foster the teaching of eco-justice ethics to build a just and sustainable community.

Religion’s role in shaping social values for sustainability should be assessed in light of its great capacity to effect change within society, which, in systems theory terminology, translates into intervening at leverage points (Ives & Kidwell, 2019). Leverage points are “places within a complex system [...] where a small shift in one thing can produce big changes in everything” (Meadows, 1999). The socio-ecological system is a complex system containing leverage points with the potential to lead to alternative structural arrangements. Despite a substantial and constant attention to sustainability, humanity still remains on largely unsustainable development trajectories, so Abson et al. (2017) propose a research agenda that tackles the issue by leveraging three key points in the system: ‘reconnecting’ people to nature, ‘restricting’ institutions, and ‘rethinking’ how knowledge is created. Differentiating between ‘shallow’ and ‘deep’ leverage points (Abson et al., 2017), where the former consists of easier-to-influence parameters with a limited potential of change such as taxes and subsidies, and the latter such as social structures, institutions, and worldviews that are relatively much more difficult to influence but highly potent of generating effective transformations, Ives & Kidwell (2019) argue that religious activities span both deep and shallow leverage points with enormous potential to effect change for sustainability.

The dialogue between sustainability and religion, as mentioned earlier, is two-way. While a rather secular global agenda for sustainability might have certain expectations from world religions and beliefs as means of support, religions, in particular, the institutionalized ones, can understandably put forward their own broader vision for a human future as well. An example, the first of its kind in terms of scale, of such an organized effort came from the Catholic Church in May 2015 as an encyclical, under

the title *Laudato si'* (Praise Be to You)—followed up by *Laudate Deum* (Praise God) in 2023. Compared to the Agenda 2030 from the UN, the 2015 encyclical seems to skip the rather temporal development and progress rhetoric with a spatial character, hence the subtitle 'On Care for our Common Home' (W. Sachs, 2017). Sachs argues that while the UN agenda seeks to repair the existing global economic model, the encyclical aims at post-development and goes even as far as recommending 'degrowth' in certain aspects, as a declaration of interdependence it replaces the declaration of independence of the nation-state era, as opposed to "a green economy with social democratic hues" envisioned by the Agenda 2030 the papal declaration is based on a cultural shift toward eco-solidarity.

2.3.2.5 Muslim Environmentalism

The Catholic Church might have been the first among the world's major faiths to explicitly call for action, but it has not necessarily been the only one. While little is known about their relationship with environmental concerns such as climate change (Koehrsen, 2021), Muslims, members of the second largest faith group in the world, who are together with Christians expected to represent the two most populous religions of the world with almost equal shares (about 30 percent) by 2050 (Pew Research Center, 2022), also undertook certain initiatives, including foremost the International Islamic Climate Change Symposium in August (2015), "framing the issue of environmental stewardship in both scientific and religious terms" (Kaminski, 2019). *Khilafah* (vicegerency), *mizan* (balance), *fitrah* (human natural state), *fasad* (corruption), *taqwa* (God consciousness), *rahmah* (compassion), and *ihsan* (utmost good) are some of the fundamental Islamic concepts that were highlighted in the declaration. It was jointly launched by Islamic Relief Worldwide, the Islamic Foundation for Ecology & Environment Sciences (IFEES), and GreenFaith (Koehrsen, 2021). Muslim contribution is not limited to the efforts of the last decades only. Kaminski (2019) provides a comprehensive account of the Islamic conception of the environment starting with the time of the Prophet codified in both the Quran and the *ahadith*, through the Middle Ages visible in the works of numerous Muslim scholars, into modern times including the first environmental NGOs of Iran after the revolution in the 1980s and the Islamic Principles for the Conservation of the Natural Environment document drawn in (1983) in Saudi Arabia as well, evidencing the

extensive moral and legal literature on natural environment within the Muslim heritage comprising both pre-modern and modern times. Despite the existence of this normative potential, empirical knowledge of the perceptions and behavior of Muslims is rather limited (Koehrsen, 2021). Findings from such a rare study, Muslim Leaders Survey, conducted by Skirbekk & Pedziwiatr (2018) on 150 key influencers (e.g., imams, teachers, community leaders, etc.) in Muslim communities both in the Global South and North indicate that while the majority of respondents consider climate change harming people either now or will harm them in near future less than half think that the issues of climate change are adequately addressed by religious leaders in congregational gatherings. The study designates Muslim leaders with the highest awareness of environmental issues, distinguished from the average Muslim, of which according to researchers' calculation based on the World Value Survey 1995-2009 data showed that only 8 percent see environmental pollution as the most serious problem of the world, instead majority voting for 'people living in poverty and need' as the most prevalent issue.

In locating morality within environmentalism, or activism in general, it is claimed that "protest is like religious ritual: it embodies our moral judgments, so that we can express allegiance to moral visions through our actions" (Jasper, 1997, p. 14). According to Hancock (2017, pp. 126–129), involvement in activism provides non-religious activists with a coherent moral framework for practicing secular morality, while Muslim environmentalists, having engaged in traditional religious practice, find themselves already striving to live a moral life because of their religious commitment. For them, there is hardly any separation between the two roles, which are being a Muslim and being an environmentalist, despite the latter being often associated with a progressive lifestyle. In that sense, Muslim—and maybe also other religious—environmentalism suggests an interesting amalgam of morality, faith, and environmental sustainability, each reinforcing the other. The silence, or rather low voice, of the contemporary Muslim world on environmentalism, notwithstanding the extensive availability of strong environmental principles in scripture, can be attributed to socio-historical forces and social change in Muslim-majority countries, referring to colonial pasts and post-colonial challenges, that overshadowed Islamic ecological ethics (Saniotis, 2012).

2.3.3 Navigating Uncertainty

Naturally and inevitably, uncertainty becomes a hard problem to deal with or a complex environment to navigate through. As such, the condition of deep uncertainty presents a fundamental challenge to traditional models of rational choice, which often presuppose an agent with complete information and unrestricted computational capacity. In response, a range of more realistic frameworks has emerged to explain how individuals, organizations, and social groups actually make decisions when the future is unknown.

2.3.3.1 Bounded Rationality Revisited

In a previous section on Decision-Making, bounded rationality was introduced as the idea that choices are made under limits of information, computation, and time, often aiming for satisficing rather than optimization (Simon, 1955, 1956). From the uncertainty point of view, these limits are not peripheral or secondary but central. When probabilities are naturally ambiguous or not sufficiently specified, the optimization benchmark is itself poorly formulated, and aspiration-level search becomes a tractable and defensible response (Ellsberg, 1961; Simon, 1955, p. 19).

Heuristics function in this context as economical procedures that structure search, prioritize cues, and specify stopping rules. While such rules can introduce systematic error relative to probability theory (Tversky & Kahneman, 1974), they can also be fast and frugal in environments where information is scarce, noisy, or costly to integrate, yielding accurate outcomes with minimal effort when their assumptions match the context (Gigerenzer & Goldstein, 1996; Todd & Gigerenzer, 2000). Accordingly, the evaluation criterion shifts from universal optimality to ecological rationality, namely, the fit between a rule and the informational structure of the environment.

Under uncertainty, decision procedures are therefore expected to vary with task demands. People adaptively trade off effort and accuracy by selecting simpler or more integrative strategies in response to time pressure, attribute correlation, and payoff structure (Payne et al., 1988). In this chapter, bounded rationality is treated as an enabling assumption for modeling decisions under incomplete and unstable conditions: aspirations guide search, stopping rules limit computation, and context determines which heuristic is appropriate. This framing connects directly to the subsequent analyses, where uncertainty is operationalized as constraints on

information and time rather than as deviations from an idealized omniscient benchmark.

2.3.3.2 Psychological Responses

When calculation is infeasible, human judgment relies on simpler procedures and affective appraisals to navigate uncertainty. The heuristics perspective, as explained earlier, shows that people use efficient rules of thumb that economize on search and computation, but can yield systematic biases relative to probability theory (Tversky & Kahneman, 1974). Affective processes also exert direct influence. The ‘affect heuristic’, in which global feelings about a target co-vary inversely with perceived risk and benefit, becomes especially salient when information is sparse or time is limited (Finucane et al., 2000). More generally, ‘risk as feelings’ highlights that immediate emotions can dominate deliberation when outcomes and probabilities are unstable (G. F. Loewenstein et al., 2001).

Uncertainty further reshapes preferences through ambiguity. Ambiguity aversion intensifies when an ambiguous option is evaluated alongside a less ambiguous alternative, a ‘comparative ignorance’ effect that depends on salient contrasts (Fox & Tversky, 1995). Perceived competence modulates this response. People tolerate ambiguity more in domains where they feel knowledgeable and less where they feel unskilled (Heath & Tversky, 1991). These patterns indicate that judgments under uncertainty are context-sensitive, with evaluations contingent on reference comparisons and domain-specific confidence rather than fixed attitudes toward uncertainty.

Under radical uncertainty, where outcomes cannot be exhaustively enumerated or sensibly weighted, commitment often requires more than calculation. Conviction Narrative Theory (CNT), as investigated earlier in the section on decision-making, proposes that agents construct forward-looking narratives that integrate available evidence with a felt sense of conviction, enabling action despite unresolved unknowns (Tuckett & Nikolic, 2017). Recent formal work elaborates how such narratives guide attention, expectation formation, and choice when probabilistic structuring is underdetermined (S. G. B. Johnson et al., 2023). In this chapter, psychological responses to uncertainty are therefore treated as adaptive adjustments in heuristics, affect, and narrative construction calibrated to informational limits.

2.3.3.3 Organizational and Social Responses

Individuals do not face uncertainty alone. Organizations and social networks provide structures and resources for managing it. In some organizational contexts, decision-making under uncertainty does not follow a linear, rational process at all. The ‘garbage can model’ by Cohen and colleagues (1972) describes organized anarchies (e.g., universities) where decisions are the messy outcome of interplay between four independent streams. They are ‘problems’ looking for solutions, ‘solutions’ looking for problems, ‘participants’ with varying agendas, and ‘choice opportunities’ that “are occasions when an organization is expected to produce behavior that can be called a decision” (Cohen et al., 1972). This provides a model for how organizations function amidst ambiguity.

Furthermore, according to FeldmanHall & Shenhav (2019), a primary method for resolving uncertainty is through ‘social learning’. When direct experience is unavailable or ambiguous, individuals heavily rely on information from others to guide their choices and update their beliefs. This process of learning from others is fundamental to navigating social worlds, from deciding whom to trust to coordinating on social norms. Social information thus acts as a powerful technology for reducing uncertainty and enabling collective action (FeldmanHall & Shenhav, 2019).

2.3.4 The Moral Challenge of Uncertainty

The condition of uncertainty has profound implications not just for practical decision-making, but also for morality itself. In a world characterized by crises and the collapse of traditional certainties, the very foundations of moral life are called into question.

2.3.4.1 The Postmodern Moral Condition

Zygmunt Bauman argues that the late-modern condition, first explored in *Postmodern Ethics* (1993) and later theorized as ‘liquid modernity’ (2000), is marked by enduring uncertainty and moral uncertainty. In this setting, universal, rule-based ethical codes cannot deliver the certainty they promise. Instead, moral responsibility falls back on individuals who must act without external guarantees or validation. To be moral, on Bauman’s view, is precisely to live (and choose) under conditions of irreducible ambiguity rather than secure foundations.

2.3.4.2 Moral Uncertainty

While Bauman describes a broad sociological condition, the philosopher Ted Lockhart (2000) provides a focused, analytical framework for the specific problem of 'moral uncertainty'. The core dilemma he poses is, "What shall I do when I am uncertain what I morally ought to do?" (Lockhart, 2000). Lockhart makes a critical distinction between what is 'morally right' and what is 'rational' for an agent to do. He argues that the most reasonable decision for an agent, given their state of doubt, can diverge from the action that is in fact morally right. This is because the agent's degree of confidence in her moral beliefs is a crucial component of rational choice. It is irrational to accept an avoidable risk of being morally wrong if an alternative with a higher certainty of being right is available (Lockhart, 2000).

2.3.4.3 Rational Action Under Moral Doubt

To resolve this issue, Lockhart proposes a formal principle: agents should act to maximize 'expected moral rightness' (EMR). In its simplest form, assuming actions are either right (value = 1) or wrong (value = 0), this means choosing the action that has the maximum probability of being morally right across the spectrum of one's moral doubts. This provides a clear strategy for action in the face of irresolvable moral disagreement (Lockhart, 2000).

However, Lockhart refines this principle by challenging the binary hypothesis, arguing that many moral theories, especially consequentialist ones, imply degrees of moral rightness. If actions can be 'more or less' right, then the rational agent must seek to maximize the 'expected degree of moral rightness', which involves weighing not just the probability of being right, but also the magnitude of potential rightness or wrongness of different outcomes. This allows for a more nuanced hedging against severe moral failure (Lockhart, 2000).

CHAPTER III

LITERATURE REVIEW

This chapter provides a targeted, synthesized literature review of the main theme of the study, religio-moral agency in decision-making under uncertainty, with emphasis on empirically grounded mechanisms relevant to Muslim actors and organizations. It also examines religion's influence on economic and social decision-making and the content of Islamic moral frameworks most relevant to organizational conduct. The last section then turns to collective dynamics and agent-based modeling (ABM) on how micro-level religio-moral dispositions scale into meso- and macro-level outcomes under uncertainty.

3.1 Ethical Decision-Making Under Uncertainty

Classical decision-making models, as explained earlier, typically assumed stable preferences and full information. Evidence across psychology and economics showed, on the other hand, that agents use heuristics to reduce complexity, departing from EUT axioms (Tversky & Kahneman, 1974). In moral contexts, the same constraints still apply. People adapt strategies according to task demands, trading effort for accuracy as the structure of the problem changes (E. J. Johnson & Payne, 1985; Payne et al., 1988). Adaptive strategy selection is a means that enables timely action under time pressure and ambiguity. These mechanisms also explain context effects relevant to organizational ethics, such as reason-based choice, where justification shapes selection beyond consequence alone (Shafir et al., 1993).

A growing literature also argues that moral judgment is often intuitive and emotionally motivated, with reasoning frequently operating post hoc to justify initial evaluations (Haidt, 2001). Furthermore, neuroimaging studies show that brain regions react differently during personal moral dilemmas, supporting a dual-process architecture, in which affective-intuitive and controlled-deliberative systems can come into conflict (Evans, 2008; Greene et al., 2001). Dual-process accounts do not dismiss reasoning; rather, they explain when and how deliberation can override initial intuitions, and how social discussion can shift moral attitudes by providing reasons that align with group norms (see the previous chapter for more details on different perspectives in moral psychology). A more comprehensive and inclusive view of ethical decision-making

(EDM) is the process-based approach, where decision-making is seen as a whole process, where each step has its predecessors and successors, concurrently accounting for several internal and external factors and parameters.

3.1.1 Process-Based Models of EDM

James Rest's (1986) 'four-component model', based on Moral Awareness, Moral Judgment, Moral Intent, and Moral Behavior, remains foundational. Interactionist accounts, which argue that human behavior results from the interaction between the situation/environment and the personal characteristics, such as those by Linda Trevino (1986), extended this by emphasizing the joint effect of person and situation on ethical behavior in organizations, bringing norms, authority, and opportunity structures into focus. A key refinement was to treat characteristics of the moral problem as causal to the process. Jones's (1991) 'moral intensity' concept specified six characteristics of a moral issue that are crucial to understand ethical behavior, which are the magnitude of consequences, social consensus, probability of effect, temporal immediacy, proximity, and concentration of effect, that alter attention, judgment, and action in the process.

A recent systematic review in psychology, mostly about how mental health professionals navigate ethical questions that they face, synthesized 38 EDM models into eight recurrent procedural components and compared their coverage and use. The eight components are: Review (gathering information, reviewing standards), Deliberation (defining and judging the situation), Prediction (thinking about consequences and probabilities), Perspective Taking (including cultural factors), Interpersonal (consultation and consensus among participants), Intrapersonal (individual values and competencies), Action (resolving the dilemma or accepting consequences), and Self-monitoring (documenting, testing, and revisiting). Authors also report that many practitioners simply rely on intuitive and automatic processes instead of structured or prescriptive EDM models (M. K. Johnson et al., 2022).

More recent synthesis work proposes integrated EDM models that explicitly combine emotion, intuition, reasoning, and rationalization within a single process, and embed person-, situation-, and issue-level variables, as by Schwartz (2016). This approach retains the staged logic of classic models while acknowledging that flows are recursive rather than strictly linear. It also foregrounds rationalization as a distinct post-judgment process that can weaken intent-behavior translation, aligning with evidence on

Bandura's (1999) moral disengagement mechanisms that permit unethical conduct without loss of moral self-regard. Practically, integrated models imply that strengthening ethical behavior under uncertainty requires interventions at multiple leverage points: making the moral dimension salient, supporting deliberation and reasoning without overload, and reducing opportunities for self-convincing narratives for devising excuses.

3.1.2 EDM Under Radical Uncertainty

Uncertainty in ethical choice is both empirical and normative. Empirically, radical uncertainty describes conditions where relevant states, consequences, or probabilities are indeterminate, limiting the usefulness of conventional expected utility calculations. Decades of work on ambiguity and paradoxes to the axioms of Rational Choice established that human agents are ambiguity-averse and use context-sensitive strategies in such settings (Allais, 1953; Ellsberg, 1961; E. J. Johnson & Payne, 1985; Payne et al., 1988). Under these conditions, agents frequently rely on conviction narratives, which are coherent, affectively engaging stories that make future courses of action feel compelling enough to pursue despite missing probabilities (Tuckett & Nikolic, 2017; S. G. B. Johnson et al., 2023). Narrative construction functions as a bridging mechanism between uncertainty and choice, integrating beliefs, emotions, identity, and feedback from early actions.

Normatively, uncertainty also deals with which moral principles apply and how to weigh them in conflict, a problem addressed under moral uncertainty (Lockhart, 2000; Tarsney et al., 2024). Proposed strategies, such as maximizing expected choice-worthiness, still require stable value inputs, which in practice can come from institutional, cultural, or religious frameworks. Importantly, uncertainty does not always promote self-interest. Recent experimental evidence indicates that individuals can behave more prosocially under uncertainty than under risk, consistent with the activation of principled heuristics when payoff maximization is infeasible (Chen & Zhong, 2025). This finding highlights the importance of robust moral frames and shared narratives in guiding action when consequences cannot be calculated.

To provide a summary, the review of ethical decision-making architectures so far converges on three propositions. First, real-world moral choice is bounded by limited attention, information, and time, and therefore relies on satisficing and fast-and-frugal

heuristics rather than exhaustive optimization (Simon, 1955; Tversky & Kahneman, 1974). Second, moral judgment draws on both intuitive-affective and deliberative-analytic processes that interact with each other dynamically across different situations (Evans, 2008; Greene et al., 2001; Haidt, 2001). Third, structured EDM models remain useful, especially if they explicitly incorporate situational pressures and features of the moral issue itself, while also recognizing post-hoc rationalization and social mechanisms (Jones, 1991; Rest, 1986; Schwartz, 2016; Treviño, 1986).

3.2 Religion, Religiosity, and Decision-Making

This section reviews how religious belief and group belonging shape judgment and behavior under uncertainty, with an emphasis on evidence directly about Muslim populations and general mechanisms that are also relevant to Muslim decision-makers.

3.2.1 Religion and Economic Decision-Making

A starting question is whether religiosity is systematically linked to concrete economic attitudes and behaviors. Studies in economics treat religious commitment as an input into preferences and constraints and examine its effects at the household, firm, and regional levels. One influential tradition models religious participation as part of a ‘religious economies’ framework: individuals invest time and resources in religious goods, accumulate ‘religious human capital’, and make affiliation and participation choices in relatively competitive religious markets (Azzi & Ehrenberg, 1975; Iannaccone, 1998; Iyer, 2016). Although this tradition is primarily theoretical, it motivates a large empirical literature linking local religiosity to risk, trust, savings, and investment behavior.

At the macro and meso levels, cross-national and regional studies suggest that religious belief is associated, on average, with higher generalized trust, stronger convictions about individual responsibility, and attitudes that support market participation, though the patterns vary across religious traditions (Guiso et al., 2003). In corporate settings, the religiosity of the local community surrounding firm headquarters exhibits a more conservative risk posture. Specifically, U.S. firms in more religious counties tend to invest less, exhibit lower stock return volatility, and adopt more cautious financing and R&D policies, consistent with a lower aggregate appetite for risk among local stakeholders and decision-makers (Hilary & Hui, 2009). At the household level, a

family's religious denomination and personal devoutness are connected to longer planning horizons, stronger bequest motives, greater propensity to save, and, in some groups, lower participation in risky financial assets. These connections are partially explained by differences in fundamental economic attitudes, like a reluctance to take risks and a higher level of trust (Renneboog & Spaenjers, 2012).

Two points are particularly relevant for this research's focus on faith-informed decision-making in Muslim organizational contexts. First, the religiosity-risk relationship is not uniform. It depends on the content and social ecology of the religion, on whether the outcome domain is perceived as morally loaded, and on how religiosity is measured. For example, measures of religious attendance (a behavioral indicator tied to community monitoring and identity) often show stronger associations with conservative financial choices than measures of private belief alone (Hilary & Hui, 2009; Renneboog & Spaenjers, 2012). Second, where Muslim populations have been examined explicitly, results support that religious commitments can invite aspects and directions not captured by standard models of individual utility maximization. Aveyard (2014) found that a salient, practical, and, as such, ecologically valid Islamic cue, the call to prayer, *adhan*, reduced dishonesty in a behavioral task among Middle Eastern Muslims, whereas artificial verbal primes did not. In financial contexts, religiosity may also interact with institutional Islamic logic. In Indonesian Sharia stock markets, platform features that enable charitable giving can matter for participation, yet the intensity of personal religiosity shows a negative association with trading activity when conventional market information dominates decision-making, pointing to a gap between religious contemplation and transactional behavior (Asutay et al., 2023). Together, these findings indicate that religion can influence economic choices through multiple channels, such as values, social norms, identity salience, and institutional design, and that these channels can either reinforce or counter conventional market incentives depending on context.

From a decision-science perspective, these regularities are consistent with the general shift from normative models of a single, stable utility function toward descriptively realistic accounts that accept bounded rationality, satisficing, and strategy selection depending on the task demands and context. When choice environments are uncertain, time-pressured, or morally charged, religious commitments can serve as scaffolding that shapes attention, construal, and acceptable options before any calculation occurs

(E. J. Johnson & Payne, 1985; Payne et al., 1988). Religious scaffolding can lead to a stronger aversion to potential losses, especially when those losses are seen as moral failures rather than just financial setbacks. It can also make people more willing to accept immediate costs if it helps protect sacred values. Such patterns in religious economic behavior, instead of being seen as an automatic result of religion itself, are better taken to imply that religiously structured identities and communities fundamentally change the choice architecture (the context and environment) in which people make decisions.

3.2.2 Religion and Prosocial Behavior

Another closely related question with respect to religion's role is whether religious people are more prosocial. One of the most comprehensive answers to date is provided by a recent meta-analysis by Kelly, Kramer, and Shariff (2024), which aggregates almost six decades of research across methods, populations, and outcomes. The result is a small but reliable positive association between religiosity and prosociality, with the magnitude depending on how prosocial behavior is measured. Self-report measures generate the largest effects, while behavioral observations in controlled tasks produce smaller but still positive associations. This measurement gap somewhat weakens simple claims that religiosity straightforwardly causes prosocial conduct. It also points to plausible mechanisms, such as self-presentation and identity maintenance, that can inflate self-reports when prosociality is normatively desirable.

The foundational study by Shariff and Norenzayan (2007) showed that implicitly activating God-related concepts increased generosity in an anonymous dictator game among university students. A broad meta-analysis confirms a small-to-moderate average priming effect on prosocial outcomes, but with two important qualifications: effects are concentrated among participants who already endorse religious beliefs, and secular primes that cue strong civic institutions can produce comparable prosocial shifts (Shariff et al., 2016). These results imply that religious cues are not magic bullets; they operate by activating existing internalized norms and expectations of monitoring. Among non-believers or in settings where secular norms have the relevant authority, institutional primes may be equally effective.

Field work and cross-cultural evidence complement laboratory findings. In small-scale societies, adherence to world religions (Christianity or Islam) predicts more equitable

offers and greater willingness to punish unfairness in anonymous economic games, even after controlling for market integration and community size (Henrich et al., 2010). Large-scale comparative work further shows that belief in moralistic, punishing, and all-knowing deities is associated with greater impartial rule enforcement and cooperation beyond kin, supporting that religious cognition helps sustain large cooperative groups (Purzycki et al., 2016). These effects are not uniform across traditions or contexts; they vary with the content of the respective religious doctrine, local institutions, and the credibility of signals that believers truly adhere to their professed norms.

Religious communities reliably generate ‘parochial altruism’, which is the high cooperation within the group, coupled with indifference or even hostility toward out-groups, when collective identity is salient and out-group boundaries are morally charged (Graham et al., 2009; Graham & Haidt, 2010). Studies also show that religiosity correlates with socially desirable responding, and classic experiments report that some highly religious participants are especially helpful when helping is visible and costless, a pattern compatible with ‘moral self-image’ maintenance (Sedikides & Gebauer, 2010; Batson et al., 1993). The result for decision-making under uncertainty is that religious primes and identities can tilt behavior toward generosity and fairness in the short run, especially among believers and when reputational concerns are engaged, but the size and direction of the effect will depend on group boundaries and institutional cues.

Within Muslim samples, related mechanisms also appear. As noted above, Aveyard (2014) found that an ecologically valid Islamic cue (call to prayer) reduced cheating, while artificial primes did not. More generally, research on Muslim organizational and financial behavior often points to the importance of credible cues of commitment, communal monitoring, and institutional design that aligns action with moral salience. In *Sharia*-compliant financial settings, for instance, charitable features and transparent compliance with Islamic prohibitions can increase perceived legitimacy and influence participation, even as standard accounting information remains a dominant driver of trading choices (Asutay et al., 2023). These patterns are consistent with the broader picture that religion’s behavioral footprint is the joint product of individual convictions and the social and institutional environments that validate and enforce them.

3.2.3 Religion as a Source of Moral Heuristics

When decisions are complex and uncertain, agents rarely construct utility-maximizing solutions from scratch. Instead, they use simple moral shortcuts, heuristics, that help them act without needing full calculations. Much of behavioral decision research concerns domain-general heuristics for estimating probabilities or values. A more relevant line for ethics studies how people use moral heuristics, which are simple rules based on values and obligations, often supported by religious worldviews.

One way values become usable decision rules is through ‘moralization’, the process of turning ordinary preferences into moral rules. Rozin (1999) argues that a common way this happens is ‘moral piggybacking’, where a new issue is linked to an already-accepted moral rule, borrowing its force. Religious traditions are effective sources of such rules because they provide widely shared ideas of right and wrong that apply across life domains. When organizational or societal choices are framed as duties of stewardship, justice, or sanctity, religiously influenced decision-makers can apply these rules directly, without lengthy trade-offs

Conviction Narrative Theory (Tuckett & Nikolic, 2017; S. G. B. Johnson et al., 2023) explains how such rules are used when evidence is insufficient. Under radical uncertainty, people create narratives that make a chosen course of action feel coherent and justified. These stories mix belief with emotion to generate enough confidence to act. Religion provides ready-made narrative templates about purpose, duty, and providence, and practices that make these templates credible in groups. In this way, sacred stories reduce indecision by clarifying what is non-negotiable and legitimizing action when outcomes are unclear.

The psychology of moral conviction and sacred values shows how these religious narratives can be powerful. Attitudes held with ‘moral conviction’ are experienced as objective and universal; they guide behavior across contexts (Skitka et al., 2005, 2021). When values are seen as ‘sacred’, meaning non-negotiable and not open to trade-offs, attempts to price or exchange them can cause moral outrage, whereas symbolic recognition of the sacred can make compromise possible on other points (Fiske & Tetlock, 1997; Ginges et al., 2007; Atran, 2016). In organizations, such protected values can act as hard rules (e.g., do not deceive stakeholders) that override outcome-based reasoning, especially under uncertainty.

Finally, cultural-evolutionary research shows how these heuristics and narratives are maintained and kept alive over time. Credibility-Enhancing Displays (CREDS), which are costly and visible behaviors that signal a person's genuine belief or commitment, increase the transmission of religious norms by making commitment visible and believable (Henrich, 2009). Shared rituals, especially intense ones, can fuse personal and group identities, making people more willing to sacrifice for group values (Whitehouse & Lanman, 2014). For decision-makers, this means moral heuristics are strengthened not only by abstract principles but also by lived community practices. Executives in such settings are more likely to treat sacred values as real constraints and to rely on conviction narratives when facing difficult trade-offs.

3.2.4 Religion as Framework for Certainty and Agency

Religious systems do more than provide rules and stories. They also help overcome two main barriers to moral action under uncertainty: doubt about what is right and difficulty in staying motivated. Contemporary psychology explains religion's role through four connected dimensions: believing, bonding, behaving, and belonging, each of which strengthens certainty and agency (Saroglou, 2011).

On the 'believing' dimension, religions provide meaning systems that clarify values and goals. Studies on meaning-making show that distress is lowest when daily events can be linked to a larger framework of meaning; religious beliefs offer such a framework by giving ultimate explanations and a long-term purpose (Park, 2005). In organizations, this can lead to clearer priorities (e.g., protecting vulnerable stakeholders) and greater willingness to act even with incomplete information, as long as basic duties are respected.

On the 'bonding' and 'belonging' dimensions, religious communities form tight groups with clear norms and mutual monitoring, which reduce uncertainty about identity and stabilize expectations (Hogg et al., 2010). Social identity research shows that belonging to such groups gives a solid ground for action by clarifying roles and responsibilities (Ysseldyk et al., 2010). The same communal structures that can produce in-group loyalty can also expand concern to outsiders when supported by doctrine and institutions, for example, beliefs in an all-seeing deity and systems that reward fairness (Purzycki et al., 2016; Graham & Haidt, 2010).

On the ‘behaving’ dimension, religion often promotes self-control and consistent behavior over time. A major review finds that religious involvement is linked to better self-regulation and goal pursuit, due to clear standards, regular practice, social accountability, and motivational support (McCullough & Willoughby, 2009). Later work shows that religion can shift people from effortful restraint to more automatic self-control, because standards are integrated into identity and daily routines (Koole et al., 2010). These benefits support the ability to stick to moral rules and sacred values when uncertainty or short-term pressures might otherwise lead to compromise.

At the same time, it is important to note the central role of the social channel in religion’s moral effects. Studies show that belonging, measured by participation in congregations, often predicts prosocial outcomes better than belief alone (Graham & Haidt, 2010; Bloom, 2012). Mechanisms include reputation in close-knit groups, repeated interactions, and rituals that make commitments visible. In organizations, this means that leaders’ faith can shape decision-making not only through private conviction but also through the social infrastructure that reinforces it.

Finally, experimental economics adds an important observation: in some cases, uncertainty itself can trigger more moral or altruistic behavior. This may happen because when chances for self-interest are unclear, prosocial norms and identities become more salient (Chen & Zhong, 2025). For Muslim charities and social enterprises in unstable environments, the mix of uncertainty, religious identity, and institutional cues can be influential. Here, religious frameworks not only reduce doubt but also turn uncertainty into motivation by channeling action through sacred narratives and protected values.

In sum, research shows that religion influences economic and social decision-making in ways relevant to moral agency under uncertainty. Religious communities affect risk attitudes and investment choices; religious identities and cues can promote generosity and norm enforcement, especially when monitoring is visible; and religious worldviews supply moral rules, stories, and self-regulation resources that support principled action even when outcomes are unclear. Evidence from Muslim settings fits this pattern while emphasizing two points. First, effects are strongest when cues are credible and social structures align with values. Second, tensions between ‘Islamic logic’ and market logic often appear in practice, highlighting the need to study how

Muslim decision-makers actually manage competing demands. These observations contribute to the focused, Islam-specific review that follows.

3.2.5 Islamic Religio–Moral Framework

This section focuses on Islamic moral content that is relevant to decision-making under uncertainty among Muslim agents. The goal is not to repeat normative or doctrinal details, but to highlight key principles and research findings that show how Islamic commitments can act as moral shortcuts, shape values, and guide behavior when outcomes are unclear. Three layers are reviewed. First, core theological-ethical principles such as *tawhid*, *khalifah*, *amanah*, *adl*, and *ihsan* that determine the moral direction for action. Second, *maqasid al-shariah* as a framework for reasoning about the common good under constraints. Third, empirical work on Muslim ethical and economic behavior, including evidence on the Islamic work ethic and *tawakkul* as a coping resource that supports agency in uncertain conditions.

3.2.5.1 Islamic Principles as Decision Anchors

Islamic moral thought begins with *tawhid* (divine unity) and sees the person as God's steward who carries a trust toward others and the natural world. In organizations, this has been described as an ethic that integrates work, markets, and morality, treating economic roles as forms of accountability to God rather than just profit-seeking (Rice, 1999; Beekun & Badawi, 2005). *Tawhid* supports a holistic view of stakeholders. Scholars argue that the unity of the moral order means no single stakeholder interest (such as shareholder return) can override duties to employees, customers, communities, and the environment. All are part of one entrusted order that must be kept in balance, or *mizan* (Asutay, 2007; Rice, 1999). The *khalifah–amanah* pairing denotes stewardship and trust. Within organizations, this means that managerial power is a trust to be used for the benefit of others, limiting opportunism and encouraging long-term thinking. In business ethics, this is reflected in expectations of truthful reporting, fair dealing, avoiding waste, and preventing harm, especially when stakeholders are vulnerable (Rice, 1999; Beekun & Badawi, 2005). *Adl* (justice) and *ihsan* (benevolence/excellence) set, respectively, the minimum floor and the aspirational ceiling of conduct. Justice requires fair weights and measures, fulfilling

contracts, timely wages, and proportional treatment. *Ihsan* encourages going further, such as generosity and high-quality work (Rice, 1999; Beekun & Badawi, 2005).

These commitments connect to moral psychology in that values practiced in religious communities often become ‘sacred values’ that resist trade-offs against material gain (Fiske & Tetlock, 1997; Atran, 2016).

3.2.5.2 *Maqasid Al-Shariah* as a Judgment Architecture

Islamic legal–ethical theory allowed the formation of a purpose-oriented framework, *maqasid al-shariah*, that seeks to identify the higher objectives of the religious law and use them to guide reasoning across cases. Classical jurists articulated a hierarchy in which the core necessities to be preserved are faith, life, intellect, lineage, and property; harm to these goods counts heavily against proposed actions and policies, and benefit to them counts strongly in favor (Opwis, 2005). Because *maqasid* is teleological, it allows decision-makers to reason beyond literal rules when facing novel contexts and uncertain data. Contemporary theorists present it not as a fixed checklist but as a systems-like orientation in which purposes, constraints, and context interact (Auda, 2007). Contemporary writings extend the classical list toward development and ecology, arguing that preservation should be complemented by ‘promotion’ of human capabilities and environmental integrity. Reviews in the fields of economics and sustainability discuss how the purposes of protecting life, intellect, and posterity can be read to support education, public health, poverty relief, and environmental stewardship, while protection of property grounds fair markets and productive enterprise with social constraints (Abdullah, 2018; Harahap et al., 2023).

3.2.5.3 Muslim Moral and Economic Behavior

Empirical literature provides a window into how these commitments manifest in judgments and choices. A critical review concludes that ‘Islamic work ethics’ IWE is consistently associated with organizational commitment, job satisfaction, and prosocial orientations, while differing from the Protestant work ethic by emphasizing intention, social obligations, and the communal benefits of work, rather than individual achievement alone (Ali & Al-Owaihan, 2008).

Another recent work on an Islamic stock-trading platform in Indonesia, as shared earlier, finds that a charitable giving feature embedded in the trading app influenced

platform engagement, while individual religiosity was negatively related to trading intensity; standard market cues such as accounting information and personal financial needs remained strong predictors of trading (Asutay et al., 2023). The authors interpret the pattern as ‘hybrid identities’ in which market logic and Islamic logic coexist, each salient under different cues.

In Aveyard’s (2014) study, as explained above, with university students in the Middle East, it was found that a salient, ecologically valid religious cue, the call to prayer, reduced cheating in an experimental task, whereas thin, artificial primes did not, suggesting that embodied, affectively rich cues are more likely to activate internalized norms than abstract reminders. This aligns with cultural-learning accounts in which ‘credibility-enhancing displays’ and emotionally charged rituals increase the plausibility and motivational force of moral commitments, thereby supporting self-regulation when temptations and ambiguities arise (Henrich, 2009; Whitehouse & Lanman, 2014).

Another set of empirical studies examines *tawakkul*, often translated as reliance on God, as a measurable orientation related to coping and agency. Psychometric work has developed and validated a multidimensional *tawakkul* scale for Muslim adults, identifying components such as taking appropriate means, trusting outcomes to God, and aligning one’s will with divine purposes; higher *tawakkul* correlates with lower anxiety, lower neuroticism, and better indicators of mental well-being (Gondal et al., 2022). Follow-up work shows that *tawakkul* mediates the link between religious orientation and lower stress, suggesting that it is a psychologically active coping resource rather than passive resignation (Gondal et al., 2023).

As an interim summary on the empirical work in the literature, the following can be argued: Islamic moral content does not eliminate uncertainty, but it supplies rules, goals, and identities that reduce indecision and constrain opportunism when information is incomplete. But these effects are context-dependent and often modest in magnitude, yet they are reliable enough to matter in organizational life. Where cues and structures make religious meanings salient, that is, through rituals, social reinforcement, or product features, faith-consistent behavior becomes more likely without crowding out competence, calculation, or responsiveness.

3.3 Collective Religio–Moral Agency

This section moves from individual judgment and agency to social dynamics. Studies on social influence and diffusion explain when prosocial norms spread or stall, while agent-based modeling (ABM) shows how simple local rules generate system-level patterns (Centola, 2010; Granovetter, 1978; Macy & Willer, 2002).

3.3.1 Network Dynamics

Threshold models predict that ‘adoption’ rises once enough peers comply, while beyond a personal threshold, change becomes self-reinforcing (Granovetter, 1978). ‘Diffusion’ varies by behavior type, that is, simple contagions spread with one exposure, whereas complex contagions, which are costly identity-related norms like transparent reporting or foregoing speculative gains, require multiple confirmations (Centola & Macy, 2007).

Network structure also matters. In controlled diffusion experiments, ‘clustered’ networks (with many overlapping ties) outperform random or hub-dominated networks for spreading complex behaviors. Local redundancy provides repeated reinforcement that individuals need before adopting a demanding norm (Centola, 2010). Related work shows that once a reinforcing minority passes a critical mass, systems can tip quickly toward a new convention, whereas below that level, efforts fade (Centola et al., 2018).

Finally, long ties (connections between distant actors in a social network) are not always helpful for demanding norms. Formal and empirical work on complex ‘contagion’ shows that weak tie (loose or infrequent contact) shortcuts can undermine the repeated exposures needed to convert reluctant actors. As such, clustered (overlapping contacts in a dense network) reinforcement remains the better predictor of uptake when behaviors are risky or identity-relevant (Flache et al., 2017). Weak tie shortcuts help spread lightweight behaviors, but for complex norms, they can undermine the repeated exposure required; instead, clustered reinforcement performs better (Centola & Macy, 2007).

3.3.2 From Religious Heuristics to Rules

ABM provides a clear way to encode how religio–moral heuristics operate in interaction. Agents follow simple rules, interact on networks, update based on experience and observation, and produce macro-patterns that can be compared to stylized facts. The ODD (Overview, Design concepts, Details) protocol, details of which are explained in the methodology chapter, is a standard for documenting assumptions, update sequences, and parameters so that models are replicable and easy to interpret (Grimm et al., 2006). In this literature review, ABM is treated as an analytic tool, which means it does not forecast specific outcomes but clarifies which micro-rules and structures are sufficient for cooperation and norm adherence to emerge under uncertainty (Macy & Willer, 2002).

Three modeling choices are especially relevant. First is the non-compensatory ‘sacred’ constraints. Many religious commitments function as ‘protected values’ that do not trade off against material payoffs. In ABM, such constraints can be encoded as hard prohibitions (actions disallowed) or as lexicographic rules (hard priorities that are checked in order without any compromise) that eliminate options before utilities are compared. Representing sacred constraints this way prevents drift toward expediency when payoffs are volatile and allows analysis of how many constraint-adhering agents, what clustering, and which sanctions are needed for stable adherence (Young, 2015).

Second is about identity and ‘tags’. Simple identity markers, such as organizational affiliation, public pledge to a religious work ethic, or visible participation in demanding practices, can guide conditional cooperation and punishment. Tag-based models show that cooperation can flourish among tag-similar agents when helping and punishment are selective, yet the same mechanism can entrench ‘parochialism’ (i.e., very strong bounds with one’s own group but little concern or sometimes even hostility toward outsiders) without bridging ties (Hammond & Axelrod, 2006).

For the third, it is observability and ‘sanctions’. Models of reputation and third-party punishment show that when actions are observable and norm breaches are effectively sanctioned, cooperation and fairness can be sustained even with many anonymous encounters, but when observability or enforcement weakens, cooperation erodes (Rand & Nowak, 2013). In ABM, observability is information flow through networks, and sanctions are payoff penalties or status loss.

3.3.3 From Micro-Rules to Group Action

Three robust mechanisms determine whether micro-rules scale into group-level prosocial outcomes. They are cooperation, noise, and sanctions.

As stated earlier, cooperators survive and spread when they cluster, but without clustering, cooperation collapses (Nowak & May, 1992). Cooperation at scale often requires credible monitoring and aligned sanctions. When reputational information flows and norm-consistent punishment is feasible, prosocial behavior can be sustained even in large groups, but when these channels fail, cooperation decays (Rand & Nowak, 2013).

Perfectly rational yet myopic best responses can trap groups in suboptimal conventions. In lab networks, injecting a small number of ‘noisy’ agents who occasionally deviate from the locally obvious choice helped groups coordinate on the globally efficient equilibrium. While too much noise disrupts learning, calibrated noise enables escape from deadlocks (Shirado & Christakis, 2017). In simulations, bounded exploration similarly prevents premature convergence on defective strategies and opens pathways for cooperative clusters to form (Nowak & May, 1992).

All these mechanisms interact with identity. Tag-based cooperation can be powerful inside groups, but without cross-cutting ties, cooperation can remain parochial (Hammond & Axelrod, 2006; Flache et al., 2017). Brokerage roles often function as weak-tie bridges that transmit successful practices while preserving local reinforcement. Models and experiments on convention change, that is, shifting from one shared practice to another, likewise show that a small number of ‘boundary spanners’, who connect otherwise separate groups, can accelerate diffusion once local clusters with a new norm have formed (Centola, 2010; Centola et al., 2018).

3.4 Summary

A summary of the reviewed literature, including common major arguments from respective works, along with notable potential gaps, is provided below.

3.4.1 Convergences in the Literature

Four converging areas emerge across decision science, moral psychology, religion–prosociality research, Islamic ethics, and computational social science (mostly ABM).

(i) Ethical agency is bounded and adaptive, not optimizing. Human agents approach complex, time-pressured, and noisy environments with limited attention and partial information. They rely on heuristics, including satisficing, cue-driven attention, and strategy selection to make timely choices rather than solving global optimization problems (Simon, 1955; Tversky & Kahneman, 1974; E. J. Johnson & Payne, 1985; Payne et al., 1988). In ethical domains, adaptive processes emerge through interacting components of awareness, judgment, intention, and behavior, with the decision-making person and the situational factors jointly shaping outcomes (Rest, 1986; Treviño, 1986; Jones, 1991; Evans, 2008). Contemporary process models explicitly combine intuition, affect/emotion, reasoning, and rationalization/justification, and treat ‘moral intensity’ as an issue-contingent driver of attention and effort (Jones, 1991; Schwartz, 2016).

(ii) Radical uncertainty invites narratives and value constraints onto the stage. When states and probabilities are indeterminate, agents frequently construct ‘conviction narratives’ that integrate belief and emotion to enable action without idealized or precise expected utility calculations (Tuckett & Nikolic, 2017; S. G. B. Johnson et al., 2023). In parallel, many ethical decisions are governed by non-compensatory constraints, such as protected or ‘sacred’ values, that bound permissible options before trade-offs are considered (Fiske & Tetlock, 1997). Together, these narratives and constraints manage potential paralysis in ambiguous environments.

(iii) Religion functions as a decision resource through multiple channels. Across methods and populations, religiosity shows a small positive association with prosociality, stronger in self-report than in behavioral measures, and causal ‘nudges’ are modest and conditional on belief background and cue validity (Shariff & Norenzayan, 2007; Shariff et al., 2016; Kelly et al., 2024). Beyond momentary primes, stable effects operate through belonging, monitoring, sacred values, and costly commitment, which support self-regulation and cooperation in repeated interaction (McCullough & Willoughby, 2009; Purzycki et al., 2016; Sosis & Bressler, 2003; Whitehouse & Lanman, 2014). In Muslim samples and institutional contexts, ecologically valid cues and credible affordances matter; thin, decontextualized primes do not (Aveyard, 2014; Asutay et al., 2023).

(iv) Islamic moral content provides applied heuristics for action. Islamic ethical anchors (*tawhid*, *khalifah*, *amanah*, *adl*, *ihsan*, etc.) and purposive reasoning under

maqasid supply compact decision rules and screening criteria that can be applied under uncertainty to remove impermissible options, prioritize harms avoided, and justify preventive action (Opwis, 2005; Abdullah, 2018; Harahap et al., 2023). Empirically, Islamic work-ethic orientations and *tawakkul* relate to cooperative conduct, commitment, and stress buffering, supporting adherence to standards when outcomes are opaque (Ali & Al-Owaihan, 2008; Gondal et al., 2022, 2023). Decision-relevant distinctions, such as ordinary uncertainty versus exploitative *gharar*, map directly onto governance practices that favor clarity, fair risk-sharing, and avoidance of zero-sum speculation.

Finally, recent experimental economics indicates that uncertainty does not always erode morality. Under some conditions, indeterminacy increases prosocial restraint, consistent with rule-guided responding when calculative advantage is unclear (Chen & Zhong, 2025). This finding fits the broader synthesis: credible norms, sacred side-constraints, and conviction narratives can turn uncertainty from a barrier into a catalyst for principled action.

3.4.2 Gap in the Literature

Three subject areas, related to Muslim religio–moral decision-making, emerge as relatively under-investigated.

(i) **Operationalization of Religious Influence:** Many studies rely on generic experimental cues or broad self-report surveys of religiosity. These methods show average patterns but fail to capture real-life religious signals, routines, and institutional features that make faith commitments action-relevant in practice. Evidence shows that Muslim participants respond to embodied cues like the call to prayer, but not to thin verbal reminders, highlighting this gap. Likewise, platform designs that build in Islamic motives (e.g., embedded giving options) can shape behavior even when general religiosity measures show mixed links with trading activity. For executives, the key issue is not whether religiosity abstractly correlates with outcomes, but how specific religious cues and structures interact with accountability, resource limits, and performance goals in real decisions.

(ii) **Process Modeling of Religio–Moral Decision-Making:** Islamic ethics is often presented programmatically (normative ideals) or descriptively (beliefs and attitudes), with less attention to its role as a set of ‘moral heuristics’ that can be embedded within

established process models of ethical decision-making. The actionable step, that is, how *maqasid*, *adl*, *khalifah*, and *amanah* are operationalized as rules under bounded cognition, remains under-specified. As a result, claims about Islamic ethics sometimes appear aspirational rather than linked to concrete decision-making procedures, especially under time pressure and uncertainty.

(iii) Linking of Individual Behavior to Organizational Level: The majority of studies focus either on individual behavior (e.g., generosity tasks, self-control) or on macro-level correlations (e.g., community religiosity and firm risk-taking). What is relatively scarce is an empirically grounded explanation of how local rules, identity cues, and observability combine within organizations and inter-organizational networks to produce durable prosocial practices under uncertainty. The ABM and network literatures supply general mechanisms, such as reinforcement thresholds, clustered diffusion, or calibrated exploration, but few studies tailor these mechanisms to Muslim charity ecosystems with their distinctive landscapes.

CHAPTER IV

METHODOLOGY

The research constitutes an empirical part based on a series of interviews with participants at charitable organizations, and an experimental part based on the simulation of collective agent behavior captured in the first part. In the former, a GT-informed approach was adopted as the main method of inquiry. For the latter, an ABM that instantiated patterns derived from the first part was implemented.

4.1 Empirical Part: A Grounded Theory-Informed Approach

The empirical analysis was conducted according to GT (albeit with some deviations), which over the years has become one of the most widely used frameworks in qualitative analysis (Bryman, 2016, p. 572), in this case, with interviews as the primary means of data collection. GT was originally developed by Barney Glaser and Anselm Strauss (1967) with the aim of inductively deriving a theory from the data collected on a phenomenon; hence, the notion of grounded theory in data, and its evolution over the years since its initiation, followed quite distinct paths, resulting in different facets. These include a rather less formal and more flexible Glaserian kind (claimed by the author to have remained most faithful to the origins), a continuously modified Straussian version (Strauss & Corbin, 1990; Corbin & Strauss, 2015) that is often considered structured and prescriptive, and a constructivist-interpretivist variant developed by Charmaz (2000, 2014). In contrast to the conventional GT, the constructivist approach allows the researcher to engage with literature before and during the analysis to some extent to enhance her theoretical sensitivity, though without forcing preconceptions on data or hindering the emergence of a theory. Considering the highly subjective and interpretive nature of the subject matter, that is the perceptions of the interplay among morality, faith, sustainability, and uncertainty in the eyes of individuals, and the multidisciplinary of the study which translates into the concurrent treatment of concepts from economics, psychology, ethics, theology, ecology, and complex systems, the constructivist grounded theory (CGT) appeared to be the right fit for this research.

Referring to seminal publications and original works on GT, just as I did in the above paragraph, is also considered a tactic to convince the readers that a GT approach has

been indeed used in the study (Bryman, 2016, p. 572), which may not have always been the case because uncertainty or ambiguity in evidencing the methodology that was actually applied to data collection and assessment generally prevails. Sometimes using it is tantamount to just implementing a typical inductive approach; sometimes researchers borrow and apply only a few features of GT, which is argued not to be enough to render it true or complete GT (Walsh et al., 2015). In this regard, it might be necessary to state those features of GT that cannot be omitted without moving into the domain of a different methodology. They are (i) non-predetermined coding which is the researcher's interpretation of parts of the data with certain labels attached to them to define or tag actions, events, expressions, behavior, etc., (ii) constant comparison of data with data, and data with concepts or emerging categories, and (iii) theoretical saturation, meaning the researcher stops collecting and reviewing data where no more illumination of the concept is possible (Bryman, 2016, p. 573). The fourth major characteristic of GT is (iv) theoretical sampling, which is the idea of selecting the next sample to collect and investigate based on the findings from the last sample(s), effectively rendering the data emergent. As Thornberg and Charmaz (2014, p. 153) posit, "grounded theory is a research approach in which data collection and analysis take place simultaneously". While utmost care was taken in this study to ensure compliance with the first three properties of GT, the deviation was inevitable concerning the step of theoretical sampling. Due to time constraints and, more importantly, because the interviewees were executive members of their organizations, they had to be contacted months in advance to secure a manageable interview schedule, designating the next interviewee (or new questions and themes to investigate) based on the findings from the last participant could not be realized. Instead, purposeful (or judgment) sampling, where the researcher actively selects the most productive sample to answer the research question (M. N. Marshall, 1996), was preferred. Given the interview participants' position in the organizations they work for and their experience in operations they supervise, this approach can be fairly termed elite-interviewing (C. Marshall & Rossman, 2016, pp. 304–305), the main advantages of which are that such individuals can provide an overall and broad view of the organization and its activities, are familiar with legal and financial structures and can discuss organization's past, policies, and plans, as a result, they can provide valuable information for research. Due to the actual methodological steps followed, I believe calling the adopted technique a

‘grounded theory-informed approach’ rather than a pure ‘grounded theory’ would be appropriate.

A typical CGT coding process starts with ‘initial coding’ where data is compared with data to produce labels that best interpret “what is happening in data”, in the case of this research that would be describing and interpreting the participants’ understanding and expression of the interplay among concepts related to themes such as ethics, religion, nature, environment, sustainability, uncertainty, and charity among others. This is normally followed by ‘focused coding’ in which the most significant or frequent codes among the initial codes that “make the most analytical sense” (Thornberg & Charmaz, 2014) are designated, and fed into the last stage of coding, ‘theoretical coding’, where a narrative or a theory that draws upon and relates together the categories discovered in the analysis, serving as a backbone, is constructed in a capacity to sufficiently explain the subject investigated. The most crucial aspect of theory building is to address ‘how’ and ‘why’ in order to explain how the phenomena work and why they happen (Hennink et al., 2011).

As each coding cycle has its specific role in GT, as explained above, there are many alternate coding techniques in addition to the default initial coding for the first cycle in GT, that is, before more advanced categorical relationship and theory building are undertaken in the later stages of analysis. Initial coding should not necessarily be taken as a prescribed and fixed coding method; instead, “it is a first cycle open-ended approach to coding the data with some recommended guidelines” (Saldaña, 2016, p. 115), where the goal is “to remain open to all possible theoretical directions indicated by your readings of the data” (Charmaz, 2014). As such, for this study, the term initial coding is almost analogous to the first cycle coding. Some other more specific examples of the first cycle coding techniques in qualitative analysis are in vivo coding, process coding, emotion coding, value coding, motif coding, and causation coding (see Saldaña, 2016, for a comprehensive list). Among these, process coding, causation coding, and in vivo coding were employed in the first cycle of coding of data, following context and suitability. They should be considered tools not of competing but rather complementing methodologies.

‘Process coding’ is widely accepted to be naturally well-aligned with GT, where, often by using gerunds, actions, interactions, consequences, and routines are captured. The Charmazian initial coding step draws heavily upon coding processes evident in data

by definition. This also suggests a proper fit for a study on decision-making, which, as a gerund itself, is a process-oriented subject. Processes that emerge during analysis are clues to ‘how’ religio-moral decision-making takes place.

‘Causation coding’ is considered a suitable tool to capture motives, belief systems, worldviews, interrelationships, and complexity of human actions and phenomena, a method that “may serve grounded theorists in meticulous searches for causes, conditions, contexts, and consequences” (Saldaña, 2016, p. 188). That is the investigation of ‘why’ in this research: why would people think and act in a certain way when faced with a certain (or uncertain) phenomenon? According to attribution theory, developed by Heider (1958), people are motivated to identify everyday causal explanations when they encounter novel and unusual events or when they perceive threats from such events, which can provide sense, meaning, and comfort to them, fashioning their environment more predictable and controllable (Munton et al., 1999). Attribution, or causal explanation, has an external-internal dimension described by Heider with external aspects referring to impersonal causes such as physical changes in the environment, irrespective of agents, and the internal part indicating internal characteristics of an individual where intentionality is defined as a requirement of linking a behavior to an internal cause (Munton et al., 1999, p. 11). Despite its uses and potential benefits in depicting how agents make sense or construct meaning based on causal explanations they themselves provide to phenomena, it should be noted that causation coding is not a statistical technique nor a positive methodology to investigate mathematical causality; it is both speculative and constructive in that it focuses on perceptions of individuals on what they believe to be true. For the same reason, it is important to capture these causes, regardless of being illusory or not, and locate them in the decision-making process of the agent, especially under uncertainty, which further complicates the situation and facilitates the accommodation of contextuality, narration, and sensemaking.

The last coding method that was most frequently used in the study was *in vivo* coding. It is a “way of assigning a word or short phrase in the original text” to a code (Bryant & Charmaz, 2019, p. 342). In some cases, *in vivo* code was created by transferring something the participant voiced during the interview verbatim, without changing a single word, as in “Human is human”.

4.1.1 Data Collection

The empirical dataset consists of one-to-one interviews with 21 participants who had varying yet relatively high levels of managerial and supervisory responsibilities with most of them acting either as board members, executives, directors, or advisors to the board at Islamic charitable organizations located in the Gulf region, 14 out of 21, and the United Kingdom, 7 out of 21 (see Table 4.1). All the participants are self-reporting Muslims, most of them well-versed in Islamic vocabulary, including charity-related subjects, and they were all involved in humanitarian relief activities for national and international Muslim and non-Muslim communities in need. While their direct exposure to solely environmental or green projects was rather limited, all of them had knowledge and/or experience about sustainability-related issues, with some expressing greater involvement in such projects than others. The main interview questions that were directed at participants numbered around 12-16, depending on the course of the conversation and their willingness to elaborate (see Appendix for the full list of main and sub-questions). These included personal definitions for terms and concepts such as sustainability, ethical duty, explanation of what is to be moral, etc., and inquiries in related areas such as faith-morality, faith-sustainability, or uncertainty-faith relationships, with additional questions on sustainable development, environmental and societal challenges, and uncertainties faced in running organizational activities, particularly in the field.

While Strauss and Corbin (1998, p. 281) suggest that 10 good interviews can suffice for a GT, others claim a minimum of 20 interviews is necessary for the proper application of the method (Saldaña, 2016, p. 55) (Saldaña, 2016, p. 55). All interviews were conducted in live online sessions, in English, with participants AE2 and QA2 assisted by Arabic-English interpreters. The conversation was managed in a semi-structured fashion with a list of open-ended interview questions to guide the conversation and potential sub-questions in case further elaboration was needed, though none were enforced. Questions were formulated to the greatest extent to be thought-provoking, broad, and value-neutral, carefully tailored to provide sufficient clarification if the participant seemed to have failed to grasp the issue, but not to overexplain it or prime her. While in most cases all of the general themes suggested by the questions were visited by the interviewees in the session, depending on the course of the conversation, flexibility was granted, so the participants were allowed to

take any direction they saw fit. The interviewees, QA1, BH1, and OM1, asked for and received the potential interview questions in advance before the session, while the remaining participants encountered them for the first time during the interview. The online sessions lasted for 45-90 minutes, depending on the participant's availability and motivation. Sessions were recorded as per the interviewee's consent and transcribed after the interview.

Table 4.1: List of Interview Participants

ID	Name	Country	Organization	Role
1	KW1	Kuwait	Charity	Board Member
2	KW2	Kuwait	Charity	Chairman of the Board
3	KW3	Kuwait	Charity	Senior Advisor
4	AE1	UAE	Charity	Director
6	AE2	UAE	Charity	Chairman of the Board
18	QA1	Qatar	Charity	Senior Manager
21	QA2	Qatar	Charity	Senior Manager
23	QA3	Qatar	Charity	Senior Manager
16	BH1	Bahrain	Charity	Administrator
20	BH2	Bahrain	Charity	Senior Specialist
17	OM1	Oman	Charity	CEO/Board Member
5	SA1	Saudi Arabia	Charity	Board Member
7	SA2	Saudi Arabia	Charity	Founder/CEO
22	GL1	Saudi Arabia	Charity	Senior Manager
8	UK1	United Kingdom	Charity	Senior Manager
9	UK2	United Kingdom	Charity	Senior Advisor
10	UK3	United Kingdom	Charity	Senior Advisor
11	UK4	United Kingdom	Charity	Coordinator
12	UK5	United Kingdom	Charity	Senior Manager
13	UK6	United Kingdom	Charity	Senior Manager
19	UK7	United Kingdom	Charity	CEO

Source: Author, 2025

4.1.2 Data Preparation and Analysis

Transcripts were manually edited, checked, and corrected word-for-word as per audio recordings, then coded and categorized in NVivo 14, a widely used Computer-Assisted Qualitative Data Analysis Software (CAQDAS). In a typical first-cycle coding attempt using software, transcript files are uploaded to the CAQDAS and the researcher starts working on the transcript by reading it, selecting sections (words, groups of words, sentences, phrases, paragraphs, etc.) she thinks are relevant for the study according to research questions and per the coding technique adopted, such as process or causal

coding, by highlighting and marking the relevant sections. Each marked section of text is assigned a code by the analyst, a short description, or a tag given to the text to classify it, again, in line with the coding method being followed. A code can be assigned to more than one text section. All those codes and supporting text would be accessible to the CAQDAS user with a simple click.

Only the participant responses were coded, ignoring the interviewer's input for the actual coding process, although the entire interview transcript, including lines by the interviewer, was accessible during the entire analysis in case there was a need to revisit, for instance, to better contextualize a participant's expression in the interview. More often than not the very first codes were created by taking and expanding a verbatim quote by the participant into a longer statement, for example, a quote such as "It is not a brand of Islam" by a participant implying—given the respective context—that morality is not a unique concept only to the Islamic faith and is shared by all religions even non-religious worldviews was coded as "Morality is not a brand of religion or Islam". This was applied to various instances throughout the entire coding process, in particular in the early initial coding phase to preserve much of the authenticity and originality of an actual statement by the participant, in many cases to the extent of including bits of the encompassing context, e.g., "Being rude, obnoxious, lying, cheating, stealing are of fundamental morals of every faith, not just Islam". Such a statement, obviously, starts becoming more of a descriptive memo or note than a code but as I discovered during the qualitative analysis is an extremely helpful method to quickly browse existing codes without needing to select each separate code in NVivo, open the source window for each code one by one to see the actual transcript excerpt coded, read it through to remember its details and in what context it was generated before deciding if and how to use or reuse it. In particular, during the grouping and re-grouping of codes, typically operated by dragging and dropping them onto new categories or subcategories on a tree-like structure on the screen, this proved to be particularly convenient. Since (i) recoding is a natural part of most qualitative analysis methods including GT, (ii) given the total number of above 2,000 initial codes generated after the initial passes, and also (iii) because of the fact that with such rich data using short and abstract code names would risk giving similar names to substantively different pieces of text, thus confusing the researcher into thinking that they belong to the same focused code or category during the rather meticulous analysis

period, convinced me to use such a customized technique. I believe it is fair to say that such codes created in the initial coding could be ranked somewhere between in-vivo excerpts from the transcripts and the initial codes as known in the GT, with the more conventional initial or open codes starting to appear on the next level to contain these excerpt-like codes as sub-codes. This resulted in a data structure that could be trailed in the software from the sections of the interview transcript up to the excerpt-like codes, then to initial codes, focused codes, categories, and finally to core categories and themes.

Particularly during the second cycle coding and refinement of categories (in some cases by breaking a category with opinionated content into subcategories), in line with causation coding as explained above, phrases by participants that suggest a ‘because’ explanation were selected along with antecedent conditions, sometimes readily present in the same segment of conversation, sometimes picked up at different parts of the transcript, grouped in NVivo, in breakdown lists under parent codes to express perceived causal chains. As in any conversation with human respondents, no straightforward flow of reasoning should be assumed, participants may fail to provide a satisfactory reason as to why they think something happened, or try to come up with, that is, actively construct, plausible answers at that moment during the interview, change their minds later on, or even self-contradict with what they said before. It is up to the researcher to distinguish between treating interview data as a statistical piece of information or as a sign of a meaningful pattern emerging in the analysis. Despite this distinction, Harding (2013, pp. 75, 98) suggests, though more as a guideline than a strict rule, that for a potential code to be considered worthy of contributing to research findings, it needs to be shared by at least one-fourth of respondents, and before a category or theme can be established based on similar codes a ‘commonality’ of three-fourths for all participants has to be determined (Saldaña, 2016, p. 25). Glaser (2019), on the other hand, calls preferring exhaustion over sufficiency in determining interchangeable indicators (pieces from a dataset that subscribe to the same emerging pattern) an inclination towards ‘grounded description’ rather than a GT, stating that only 4-5 concepts are necessary for theory-building, given the researcher focuses on their relationships and properties instead of trying to construct a descriptive account of the entire population.

4.1.3 LLM-Assisted Analysis

Once the main propositions and theoretical framework were established, LLM-based AI was employed to supplement the multidimensionality of the research, i.e., apply a combined religio-socio-psychological (RSP) lens on data to discover subtle patterns, undertones or undercurrents, to produce nuanced findings complementing (or contrasting) the earlier framework, a process at which certain LLMs in their current state are reasonably good at. This is akin to employing a research assistant to help with “data collection, coding, categorization, and theory development” in the research process, despite the fact that the use of AI in qualitative analysis, particularly in GT, has been limited (Veggel et al., 2024). In one such study, Sinha and colleagues (2024) compare open coding findings from two human researchers to those from Microsoft Copilot (working on the GPT-4 model by OpenAI) and conclude that there are both challenges and opportunities for employing LLM in GT analysis. The former lies within token size limitations, restricted repeatability due to the stochastic nature of LLMs, and the possibility of shallow interpretations or noise in data.

4.1.3.1 Strengths of LLMs

Sinha and colleagues (2024) claim that GPT-4 was able to detect and code segments of data that went unnoticed by the human coders but its ‘grain size’, that is, the average size or length of marked and coded section of the transcript for each code, happened to be coarser than that of human coders, meaning that researchers produced more codes for the same given text segment than GPT-4 did. The quality and richness of the memos generated by GPT-4, on the other hand, proved to be satisfactory. In a different study by Wachinger and colleagues (2024) on the use of LLM in thematic analysis, ChatGPT 3.5 “was able to produce thematic insights that to a considerable degree aligned with or resembled those produced by an experienced human researcher”. The authors also went beyond the typical GT perspective and instructed the LLM to adopt a Marxist lens on the same data, in a similar fashion to the RSP lens applied in this study, and found that ChatGPT’s assessment was surprisingly nuanced. As in several similar articles, Dai and colleagues (2023) also suggest a human-LLM collaboration in their study on the use of GPT-3.5 in thematic analysis with in-context learning (ICL), where the human coder writes exemplars to train the LLM and assert that such calibrated cooperation achieves the best agreement between human and machine coding outputs.

4.1.3.2 Limitations of LLMs

Some of the observations made by Wachinger et al. (2024) were also evident in this research, in that, despite being instructed to conduct a CGT, what the respective LLM followed seemed similar to the rather more structured version of GT. Given the co-construction of data by the researcher and the participant based on shared experiences, as suggested by the CGT, it is difficult for an LLM to apply as expected. There is the exact response from Gemini 2.5 Pro (Experimental) in that regard, “Approaches like Charmaz's constructivist GT emphasize co-construction of meaning and researcher perspective, which are inherently human aspects an LLM cannot replicate”. Therefore, it is safer to expect and assume, despite the constructivist terminology used throughout the LLM-assisted analysis, a more structured process in line with the Strauss-Corbin version of GT.

Yan and colleagues (2024), in addition to possible issues of accuracy, reliability, and academic acceptance, point out the token size, that is the context window limitations, of an LLM, which roughly translates to the total upper limit for all combined input and output data that can be successfully generated in any open session without the AI starting to forget about previous inputs and outputs, or worse, start ‘hallucinating’. This is more so true for LLM use in qualitative analysis, which often would require transcripts or notes containing thousands of words to be uploaded to the LLM. In this research, the combined text of 21 interview transcripts comprised about 180,000+ words or 1,000,000+ characters. For the time being, no publicly available (paid or free) LLM model can handle this size of data in a single thread (session). It would need to be split into smaller chunks of text, which inevitably would cost the researcher the valuable context of analysis, not to mention the laborious micro-managerial task of keeping track of and merging many individual outputs from separate threads into a single document, usually a text or spreadsheet. To illustrate by an example, at the time LLM-assisted initial coding was initiated, one of the most ‘intelligent’ LLMs then with good reasoning capability that would meet requirements for a qualitative assessment, was Claude 3.5 Sonnet from Anthropic, with OpenAI’s o1 (and later o3-mini-high) model being the other possible candidate. Otherwise, a capable model, it had a very limited context window, which necessitated splitting a single interview transcript, out of 21, into 3-5 parts before it could be fed in for analysis. Splitting also impedes cross-comparability of data, which is more of a concern in focused coding, where constant

comparison of data with data, data with other categories, and categories with categories is an essential part of the process. Pattern recognition, which is about capturing regularities in data by continuous comparison of bits and pieces, will also be limited to within-chunk evaluation, making global recognition not necessarily impossible but severely compromised, and more importantly, without the LLM having a holistic overview of the entire picture in data, that is context, it will be practically impossible to understand the relationships between different chunks, where each one will be treated in a separate and isolated thread. Except for information such as personalization or special ‘shared memory’ features on some platforms, in their current state, there is no cross-thread information transfer in the LLMs. What is discussed and generated in a session remains within that session, assuming each session will have already taken up to its context window limit by the time the individual analysis of a data chunk has been completed. It is up to the researcher or user to collect relevant bits of information from each partial analysis and pass them over to a separate thread where they are expected to be put together to constitute a meaningful whole. As one might expect, this is an arduous as well as hopeless effort in that it defeats the purpose of employing an LLM in the first place, which is to enhance the pattern recognition and discovery of subtle undertones that might escape the human eye. In my first attempt to employ an LLM with good analytical capability for initial coding, Claude 3.5 Sonnet, I had to split the original 21 transcript files (one per interview) into a total of 65 parts before they could be fed into the AI interface without exceeding the allowed token size, which, by the way, happens without any advance notice by the AI. It is the user’s responsibility to continuously check, through the audit trail and periodic prompting, whether the LLM still has full access to the uploaded data or if the context window has already been reached and the AI has started to drop older pieces of data and replace them with new bits. As a final remark on text processing capacity, while context window refers to a working memory-like feature of the LLM in which new information replaces the old once the limit has been reached, not necessarily line by line in an orderly fashion but gradually in a complex sense, what the user can provide as input, either in the chatbox or uploading a file on the interface, as well as the output the AI model generates to the user input, are also subject to different size or length capping limitations with the context window being the mother of all.

4.1.3.3 LLM Selection for Analysis

The user must familiarize herself with such parameters, mostly by trial and error, in addition to the official model specs published by the developer, before deciding on the LLM to employ for analysis. The context window, or token size limitation, usually weighs, in fact, heavily on one side of a typical ‘context window vs. intelligence’ trade-off, which can roughly be interpreted as ‘maximum size of data that can be analyzed vs. depth or granularity of analysis’ for any given session in qualitative data analysis terms. It is very common in the publicly available AI world to face a selection of LLMs where there are comparably ‘intelligent’ ones that can provide insightful and nuanced analyses, but with rather very limited input size, and the ones that can receive and process very big chunks of data, but are not necessarily the strongest at analytical reasoning.

Table 4.2: Models Employed in the LLM-Assisted Qualitative Analysis

GT Step	LLM	Output
Initial Coding	Gemini 2.0 Experimental Advanced (1206)	885 Initial Codes with memos from 3 different lenses, i.e., Religious, Sociological, Psychological
Focused Coding (Religious)	Gemini 2.0 Pro Experimental	190 Religious-Lens focused codes, including 91 Level-4 (lowest and most granular in the hierarchy) categories
Focused Coding (Sociological)	Gemini 2.0 Pro Experimental	185 Sociological-Lens focused codes, including 74 Level-5 (lowest and most granular in the hierarchy) categories
Focused Coding (Psychological)	Gemini 2.0 Experimental Advanced (1206)	284 Psychological-Lens focused codes, including 127 Level-5 (lowest and most granular in the hierarchy) categories
Theoretical Coding	Claude 3.7 Sonnet	Integrated Theoretical Framework with the Core Category, main categories, and relational propositions

Source: Author, 2025

The LLMs employed during the different stages of analysis in the study are listed in Table 4.2. Gemini 2.0 Experimental Advanced (1206), used in initial coding and focused coding through the psychological lens, was a well-balanced model by Google DeepMind, with both a large enough context window and decent analytical reasoning. Unfortunately, it was offered for use only for a short while until it was replaced by

Gemini 2.0 Pro Experimental, which, put simply, was not as good as its predecessor, but still capable of executing a medium-quality analytical assessment on medium-sized data. For theoretical coding, a model with a much higher analytical reasoning capability was required; thus, Claude 3.7 Sonnet (having replaced the former version 3.5 by then) was employed. Finally, Gemini 2.5 Pro was used to generate a number of supporting tables and visuals, cited accordingly.

4.1.3.4 The RSP Framework of Analysis

The RSP framework, which, as mentioned earlier, stands for a three-lens analytical approach that comprises religious (Islamic), sociological, and psychological disciplinary perspectives, was put forward in order to produce nuanced findings to complement the original framework I developed. The lenses were selected to represent the relevant perspectives in line with the research objectives and data. Religious and moral psychological perspectives were a natural choice for a study seeking to construct religio-moral agency based on empirical findings. A religious lens was essential for understanding faith-based meaning-making, Islamic principles, and how participants explicitly draw on their religious identity and knowledge. The psychological lens captured individual motivations, emotions, biases, coping mechanisms, and sense-making related to uncertainty and moral dilemmas. The sociological lens addressed the social context, including organizational dynamics, cultural influences (as in GCC vs. UK positioning), group identities, and broader societal trends (modernity crisis, sustainability discourse, etc.). The framework was effective in showing how these dimensions interacted and sometimes created tension within an individual's worldview or behavior. It allowed for exploring how religious ideals are mediated by psychological factors and social contexts. Using distinct lenses helped uncover subtleties that might have been missed by a single perspective. It moved beyond surface statements to explore underlying psychological drivers, social positioning, and theological interpretations, to find the 'undertones'. The procedure that was followed for the RSP framework, from data preparation to theory development, is shown in Table 4.3. Data preparation included anonymization of interview transcripts and converting rich text and spreadsheet formats into plain text, both to reduce file size to upload and also the chunk size to paste in the chatbox, depending on whatever input methods are offered by the AI assistant.

Table 4.3: LLM-Assisted Qualitative Analysis Procedure

Step	Explanation	Example
Data Preparation	Anonymization of interview data, i.e., removal of names and identifiers of personal and sensitive information, converting into plain text format, resizing (splitting) of input data according to context window and token size requirements of LLM	Original Transcript: <i>“My name is Ali. I have been working for the UN for 5 years.”</i> Anonymized Transcript: <i>“My name is [Interviewee_22]. I have been working for [Organization_22] for 5 years.”</i>
LLM Selection	Preliminary trials with candidate LLMs on anonymized sample data to check context window limitations, data input restrictions, capacity for reasoning, and suitability for respective analysis step.	Prompt: <i>As a checkpoint, provide both the first and last sentences in text pasted in the chat box before starting coding. Proceed only after confirmation.</i>
Introduction	Introducing research objectives, plan, methodology, sampling and data collection, reservations and limitations, and a designated role for LLM with do’s and do not’s. Some AI interfaces have separate sections for user bio, memory handling, and options to tweak AI behavior in generating responses.	Prompt: <i>I’m opening up this thread to have your feedback on a research project.</i> <i>Research motivation: A crisis of capitalism and modernity induces a culture of distrust in our times, augmented by unsustainability-induced uncertainty.</i>
First Cycle Coding	Initial Coding of transcripts, codes are given unique numbers and names in gerund form. Observable behavior, and insights (interpretations) for religious, sociological, and psychological lenses. Verbatim quotes selected by LLM for coding given unique numbers and saved as a means of referencing and audit trail.	Prompt: <i>Instruction #3: Capture verbatim quotes by respondents when coding, exact quotes as provided, word for word as in transcript (no correcting, no summarizing, etc.).</i>
Second Cycle Coding	Focused Coding of the Initial Coding data into a hierarchical tree-like structure with higher level, broader parent categories (e.g., Level 1) and lower level more specific child categories (e.g., Level 4) generated according to religious, sociological, or psychological lenses, tentative within-lens relations described, accompanied by commonality ratios, insights, memos, and audit trail info.	Prompt: <i>Instruction #6: Adopt a hierarchy for categorization of codes as in 'Category Lvl 1 > Category Lvl 2 > Category Lvl 3 > Category Lvl 4 > Category Lvl 5' structure, where increasing level numbers communicate higher specificity for the subject, with child categories contained within their parent categories.</i>
Theory Building	Identification and a matrix of common themes and concepts across all three (RSP) lenses, resolution of tensions and contradictions among lenses, major and potential core categories, integrated theoretical framework with supporting propositions, and comparison of findings against research questions, visualization.	Prompt: <i>Instruction #11 Relationship Mapping: Identify causal, contextual, and consequential relationships between categories. Map conditional relationships (when, where, why certain phenomena occur).</i>

Source: Author, 2025

This is followed by file or text splitting and merging if necessary, all to stay with the context window and input capping limitations of the AI. Once the selection of LLMs for the respective stages of analysis was done, an introduction text, developed and refined over many trials at different models, was provided as input to familiarize the LLM with the research. This included research objectives, research questions that are expected to be answered at the end of the study, what would follow thereafter, that is, an agent-based empirical model drawing upon findings from this theory-building, methodologies adopted throughout the project, how data was collected, general non-private information about participants (with their names, organizations, and other personal identifiers anonymized) such as their proficiency with English (as perceived by the researcher), whether there was an interpreter present during the interview (in 2 out of 21), or if they asked for potential interview questions in advance before they approved the online meeting (4 out of 21), size and formatting of the expected input files including naming and number schemes followed to keep track of codes and categories throughout the analysis. The necessity of such an introductory step also depends on the reasoning and knowledge capability of the LLM, whereas relatively capable models require much less in terms of preparatory details and can effectively figure out by themselves most of the requirements during the process based on prompts and conversation with the user, less intelligent models can easily get carried away and make bad assumptions unless specifically and clearly instructed. It might also be worth mentioning at this point that continuous human-machine interaction or drafting such detailed instructions for an LLM has a certain reflexive quality, which stimulates structured and systematic thinking for the user as well.

a) Initial Coding

The initial codes were co-created with disciplinary insights, which are assessments and interpretations of the coded phrase through the respective lenses of psychology, sociology, and Islam. Table 4.4 shows excerpts (shortened from the original for convenience) from the actual initial coding table. The code C.1.18 (the 18th code generated by the LLM from the 1st interview), as the code name implies, is about the faith-morality relationship. The descriptive account indicates that the participant talks about a positive correlation between the two; simply put, the more religious a person, the more moral. The LLM signals a potential self-reporting bias in that the participant might be overlooking the informal channels of moral development outside the formal

religious domain, which should be regarded as a potential bias identified ‘according to whatever norms and references by the LLM training data’, even though the AI was instructed to look for potential biases by comparing such susceptible comments to other contradicting statements by the same interviewee. The exact instruction line read: Cross-compare the current statement with other statements made by the same participant in the interview to identify any potential inconsistencies or contradictions that might suggest bias. If there are no obvious signs of self-reporting biases, or if it is not applicable to the specific quote, simply state 'No apparent self-reporting bias'. The insight columns constitute the multi-disciplinary lens applied to the coded data, where the analyst, the LLM in this case, is expected to move beyond the surface-level observations and provide a nuanced analysis of the coded text per respective lens. The code C.10.24 from the table illustrates a helpful example where the relationship between morality, faith, and culture is captured based on the participant’s statements during the interview, with the claim that it is the societal factors instead of religion that primarily influence morality. The basis of the assessment is the supporting quotes of Q.10.34 and Q.10.35 by a participant, the latter of which was expressed verbatim as:

So, actually in many ways, secular countries have lived out and acted upon religious values more than religious countries have, and so it... it ultimately comes down often to culture and... and... and traits within society. Some of the most religious countries are also the most corrupt.

The corresponding descriptive or observable account captures this in that while faith is important, it is the society and culture that ultimately determine the actual morals. The bias section indicates that this might be a personal belief in the culture-morality-faith relationship. Since this is an opinionated stance without any explicit references to religion or theology, only an interpretative comment is available under religious insight, which reads “Contrasts professed faith with required righteous action, highlighting potential for hypocrisy when practice contradicts belief”. Should the participant have expressed statements citing religious sources explaining this contradiction, these would have been included here. From the sociological lens, this is about cultural relativism and social structures as articulated in “Emphasizes cultural relativism and the power of social structures/values in determining moral norms, even within religious groups”.

Table 4.4: Sample Excerpt from the RSP Initial Coding Table

Code #	Code Name	Descriptive Account	Potential Self-Reporting Bias	Religious Insight	Sociological Insight	Psychological Insight
C.1.18	Recognizing Importance of Religious Depth for Moral Development	Posits religious depth correlates positively with identifying/implementing moral values ('akhlAQ').	Implies hierarchical religious development, potentially overlooking informal moral insights.	Explicit: Cites Hadith equating 'deen' and 'akhlAQ'. Interpretative: Deeper 'deen' understanding (Quran/Sunnah) enhances ethical commitment ('akhlAQ').	Attributes moral development partially to socialization within religious institutions/communities.	Views religious commitment as an individual psychological catalyst refining personal ethical frameworks.
C.9.10	Identifying as Socialist and Pacifist	Prioritizes socialist/pacifist identities over Muslim identity, acknowledging potential ummah tension.	Prioritization may reflect relative ideological importance or stronger political identification.	Interpretative: Suggests potential integration of secular (socialist/ pacifist) and Islamic values, possibly viewing Islam via social justice/peace lens.	Situates interviewee within specific socio-political movements (socialism/ pacifism), indicating engagement beyond immediate religious sphere.	Reveals core personal values (social justice, non-violence), strongly informing interviewee's worldview and decision-making.
C.10.24	Suggesting Culture and Society Influence Moral Behavior More Than Faith	Suggests culture/society may override faith in shaping moral behavior, citing corrupt religious nations.	Reflects a belief or nuanced view acknowledging social/cultural factors potentially supersede religious principles.	Interpretative: Contrasts professed faith with required righteous action, highlighting potential for hypocrisy when practice contradicts belief.	Emphasizes cultural relativism and the power of social structures/ values in determining moral norms, even within religious groups.	Analyzes the complex psychological interplay between internal beliefs and external social context influencing moral actions.

Source: Author, generated by Gemini 2.0 Advanced (1206), 2025

Finally, the psychological lens refers to an individual-collective interaction as being a key factor in determining moral behavior; it reads “Analyzes the complex psychological interplay between internal beliefs and external social context influencing moral actions”. This is an example of how the RSP framework was applied throughout the initial coding of interview transcripts to supplement different perspectives on the same data. The result was an 885-row spreadsheet document, similar to Table 4.4, additionally containing verbatim quotes and memos, that served as the main source of data for the next step, focused coding. Since the rest of the analysis would depend on the results from this initial coding, it was crucial to employ the best possible LLM that could handle both large data and nuanced analysis. A key decision made was to make sure that this initial coding table was large enough to hold the most in terms of richness in data, but also small enough to fit within the context window of the next step to allow a cross-comparison in a single session, as maintaining a holistic across-interview context was of more importance in the focused coding stage. Gemini 2.0 Experimental Advanced (1206) seemed to be the best candidate for the task. Despite its well-balanced capacity it was not possible to have it absorb the entire 1,000,000+ characters from 21 interviews in a single attempt, instead, separate threads were opened on the Gemini platform, each hosting 3-4 interviews (as a note, using comparably ‘smarter’ LLMs necessitated splitting each interview into 3-4 parts, in other words, this version of Gemini had roughly 10-15 times the token capacity), while not as good as having 21 interviews all at once, it was still acceptable in that this allowed some cross-interview context to be preserved for each individual initial coding analysis. The resulting initial coding table was about 1.5 times the size (in bytes as plain text) of the original aggregated transcript from 21 interviews, though the actual token size calculation could slightly differ, this meant that the dataset to be fed into the focused coding effectively expanded, as one would expect, since it now contained, in addition to the verbatim quotes by the participants, also the descriptive and interpretative information on these quotes. The enriched dataset this process produced was beyond any existing LLM’s capacity to be contained in a single thread for focused coding and categorization, so it had to be parsed into three parts, each holding information for one lens, which consisted of code number, name, descriptive account, and selected lens insight. This effectively meant having three separate initial coding tables, one for each lens and each containing codes and insights from 21 interviews, to be provided as input to the focused coding process, which meant maintaining the

within-lens cross-interview context while inevitably forgoing the between-lens, that is, interdisciplinary perspective. The reintroduction of interdisciplinarity had to wait until the theoretical coding phase, where lens-based categories generated in the focused coding step, each in a separate file out of a total of three, were provided as input data for the final synthesis before the LLM was instructed to treat all three focused coding tables as one combined dataset.

b) Focused Coding

After several tests and trials, it was decided to instruct the LLM (Gemini 2.0 Experimental Advanced for the psychological lens and Pro Experimental for the other two) to conduct a hierarchical categorization of the initial codes during the focused coding phase. The main rationale was to achieve a balance between coverage and granularity. If instructed to create categories with no particular hierarchy imposed the LLM would decide by itself on an average level of specificity for the category ('category' as the generic name used in the process for all code grouping regardless of level of detail), which, depending on dynamics unknown to the researcher, could result in categories that were too broad, containing dozens of codes, or too specific, as in one category per code. Context window is assumed, as always, to be an important factor affecting the AI behavior in selecting the unit of analysis, or 'grain size' as termed before. To illustrate it better with an oversimplified example, assume the total context window of LLM is 100 with the prompt input and output capped at 30 and 5, respectively, and the user wants to enter a dataset that takes up 50 in 'memory'. The user has to split the data input into parts that stay below 30 (e.g., 25 each) and feed them one by one. Once they are entered as input, 50 out of 100 from the context window will be left available for further use. Let's assume the user asked for an analysis that would take up 40 tokens from the remaining 50, and since the output to the screen is capped at 5, the 40-token-long analysis results would be printed out by the AI in 8 batches or passes. Once all passes are completed, roughly 10% of the context window will be left for future allocation without overwriting the original data in memory.

As such, both the initial coding table and the focused coding table were generated in many batches before being carefully checked by the author, then copied and pasted into an external (outside the LLM) document to serve as input for the next process. Therefore, to exercise greater control over the granularity of the analysis, the LLM

was instructed to adhere to a tree-like hierarchical structure when generating categories; that is, up to a maximum of four or five-level deep categorization turned out to be a fair balance between detail and coverage, given the rich contents of many of the lens-focused initial coding tables. Moving deeper into the level of detail, the categories would be far too specific, and many single-code categories would be generated as a result, rendering the focused coding step rather tedious and unproductive.

Instructing the LLM to maintain only a few levels, or not instructing it at all, could cause it to produce relatively shallow and broad categories where further granularization would be necessary before the analysis could progress beyond a simple thematic representation into a theory of agency with potential undercurrents discovered in the process, likely feasible only after the grain of analysis becomes fine enough. Experience also tells us that utilizing a hierarchy of categories would help many initial codes avoid being ignored and remain uncategorized. If, for whatever reason, some codes are still unused after focused coding, the researcher can inspect them manually and, if she wishes, can instruct the LLM to incorporate them into the existing categorical structure, at any level that is suitable, with ease. As such, several categories of different levels were produced as shown in Table 4.2 under Output.

c) Theoretical Coding

Once the focused coding for all three lenses was completed the resulting data were collected in a spreadsheet format (see Table 4.5 for a sample excerpt from the psychological lens) that comprised the following: Categories according to a hierarchy (the most specific and granular category on the row shown along with its parent categories), supporting initial codes that subscribe to the respective category, the lens insight, i.e., disciplinary (religious/Islamic, sociological, or psychological) interpretation on the creation of the category, within-lens relationships between categories, memo (imitating a human researcher with comments on how further research on that category could be explored and how these findings relate to the research in general), and audit trail, that is, what changes (e.g., initial generation, and all other refinements and updates such as renaming, merging, subordinating, etc.) have been made to the category during focused coding. For defining relationships between categories, the LLM was instructed to follow what Saldaña (2016, pp. 280–281) suggests as a list of relationship identifiers, citing Urquhart (2013), who expanded on

the original list by Spradley's renowned work *Ethnographic Interview* (1979). Some examples of tags used to define category relationships are 'contributes toward', 'drives', 'provides', 'is affected by', or 'is necessary for'. A calculated commonality, or as sometimes referred to, frequency, was also added to the table, not to treat the analysis as a statistical study, but to provide a criterion, one of many, to distinguish 'generalizable' categories from the rest. The complete set of criteria to define potential core categories, or simply, major categories, was instructed as follows (from the most heavily weighted to the least):

Relevance: Shows how useful and serving the category is in responding to the Research Objectives and Research Questions. Does it address multiple relationship dimensions identified in the Research Questions? Does it integrate religious, psychological, and behavioral aspects of decision-making and explain variations in how participants navigate uncertainty?

Centrality: A central category appears as a main theme across various dimensions of the data, connects to most other significant categories either directly or indirectly, explains a substantial portion of the variation in participant experiences, represents the main concern or process evident in the data, remains stable even when conditions vary, and can subsume and organize other categories without forcing the data.

Connectedness: Indicates if the potential core category forms logical, coherent relationships with other major categories. For each potential core category, systematically analyze its relationships with all other categories within the same lens. Use the data in the Relationship column as a starting point, but go beyond this and look for relationships that are not shown in the table but are evidenced by participant statements or behavior when the contents of the relevant 'Insight' and 'Memo' columns are thoroughly assessed.

Frequent Occurrence: Indicates the category's significance within the data and provides empirical validation for its importance, if it appears consistently across multiple participants (high Commonality rating), recurs throughout different contexts discussed by participants, is represented by numerous codes and instances in the data, and emerges naturally rather than being forced.

Table 4.5: Sample Excerpt from the Psychological-Lens Focused Coding Table

ID	Cat. #1	Cat. #2	Cat. #3	Cat. #4	Cat. #5	Initial Code	C.	Psychological Insight	Relationship
20	CAT.P.3-1 Defining Morality	CAT.P.3-1 Articulating Universal Moral Principles	CAT.P.3-1-1 Identifying Shared Moral Values	CAT.P.3-1-1-1 Affirming Universal Principles	CAT.P.3-1-1-1-1 1 Exhibiting Moral Universalism	C.1.12, C.1.17, C.2.28, C.5.9, C.8.12, C.10.17, C.11.17, C.13.16, C.16.10, C.18.15, C.20.18, C.22.15	11	Individuals affirm the existence of universal moral principles, suggesting a belief in a shared human morality that transcends cultural and religious differences (moral universalism).	Contributes toward CAT.P.5-2-3, affects CAT.P.1-1-2
21	CAT.P.3-1 Defining Morality	CAT.P.3-1 Articulating Universal Moral Principles	CAT.P.3-1-1 Identifying Shared Moral Values	CAT.P.3-1-1-1 Affirming Universal Principles	CAT.P.3-1-1-1-1 2 Exhibiting Moral Objectivism	C.2.27, C.3.14, C.9.13, C.9.22, C.9.23, C.11.18, C.12.24, C.16.8, C.19.11, C.19.28, C.21.19, C.22.17	9	Individuals demonstrate moral objectivism, believing certain moral values hold true regardless of personal opinion, culture, or faith. This implies a rejection of pure moral relativism.	Contributes toward CAT.P.5-2-3, affects CAT.P.1-1-2
22	CAT.P.3-1 Defining Morality	CAT.P.3-1 Articulating Universal Moral Principles	CAT.P.3-1-1 Identifying Shared Moral Values	CAT.P.3-1-1-2 Extending Universality to Environmental Care	CAT.P.3-1-1-2-1 1 Exhibiting Eco-Centric Moral Reasoning	C.8.12, C.11.19, C.19.29, C.22.17	4	Individuals extend the concept of universal moral principles to include caring for the environment, arguing that it is a shared responsibility based on our common humanity and dependence on the planet.	Drives CAT.P.1-1-2, contributes toward CAT.P.5-2-3, affects CAT.P.10-1-2

Source: Author, generated by Gemini 2.0 Advanced (1206), 2025

Major categories across all three lenses (religious, sociological, psychological) were identified by the LLM according to the above criteria, which, along with supporting focused coding data including lens insights, category relationships, and memos, enabled the LLM to initialize the main RSP analysis. Areas of convergence across all three lenses were discovered, as well as areas of unique contributions from each lens. A layered meta-framework was proposed as an integration strategy for the tripartite analytical framework with an inner layer where core dialectical processes are located, a middle layer including operational mechanisms, and an outer layer that captures how contextual factors shape moral agency. As a roadmap to this integrated meta-framework, a four-step plan was developed as shown in Figure 4.1. Step 1 is where the focused coding data from three lenses were subjected to cross-comparison to identify themes and concepts that were common across all disciplinary perspectives. The results were presented in a matrix showing major categories supporting the core concepts. Step 2 produced an overarching theoretical framework and an operational model for Muslim moral agency. In Step 3, the LLM was instructed to generate the code for the visualization of the relational categorical diagram. Graphviz, an open-source graph visualization software that works on the DOT language, was selected as the main tool towards that end. A visualization platform that allows language input is most convenient to pair up with the LLMs. In Step 4, the LLM was employed to suggest potential decision-making scenarios that correspond to theoretical and operational findings from the study and are feasible to design using NetLogo.

This summarizes the LLM-assisted qualitative analysis methodology. Next, the methods related to the ABM part of the study will be introduced.

4.2 Experimental Part: Agent-Based Modeling

Agent-based models in general are considered highly abstract thought experiments (Macy & Willer, 2002), conducted in artificial worlds to generate theoretical hypotheses, but not necessarily to empirically test them (Prietula et al., 1998, cited in Boero & Squazzoni, 2005). As such, most of the efforts exercised for the sake of methodological consistency are rather for internal verification of the agent-based model or alignment as per different platforms than empirical calibration or empirical extension of the model.

Step 1: Integration of Analytical Frameworks

- Identify common themes, concepts, and relationships across all three lenses
- Note unique contributions from each perspective
- Create a matrix of overlapping concepts and their varying interpretations
- Resolve potential contradictions or tensions between frameworks

Step 2: Meta-Theoretical Framework Development

- Develop an overarching theoretical framework that synthesizes all 3 perspectives
- Ensure the framework directly addresses research questions about faith-morality, faith-sustainability, morality-sustainability, etc.
- Develop theoretical propositions that represent the integrated findings

Step 3: Visual Model Creation

- Design a comprehensive visual representation of the integrated framework
- Create a simplified conceptual diagram and a detailed categorical diagram
- Ensure the visualization shows processes, relationships, and feedback loops

Step 4: Parameter Extraction for Agent-Based Modeling

- Extract specific parameters, rules, and mechanisms for the ABM component
- Translate theoretical concepts into operational variables
- Define agent attributes, decision rules, and interaction patterns

Figure 4.1: Roadmap to the Integrated Meta-Framework

Source: Instructed by Author, generated by Claude 3.7 Sonnet, 2025

4.2.1 Advantages of Agent-Based Modeling

Computational models fare better at capturing the dynamic nature of social phenomena than most other social scientific methods, such as equation-based models, statistical regression models, or descriptive studies, where the first two, due to mathematical restrictions, come short of accounting for heterogeneity of behavior or out-of-equilibrium dynamics (Bianchi & Squazzoni, 2015). According to Richiardi and colleagues (2006), since it is not possible for many systems to figure out their aggregate behavior by observing the individual behaviors of their components in isolation, the interaction structure of the model is of vital importance. If it is oversimplified, this may reduce it to be too unrealistic, with many otherwise crucial elements simply ignored; if, on the other hand, it is too realistic, then this might render the whole system analytically intractable or very difficult to manipulate. ABM offers

versatility to deal with this in that it allows all interactions to be computed instead of solved analytically, as in traditional modeling practices.

4.2.2 Methodological Standards

Despite their strong methodological foundations, the versatility granted to practitioners in designing the interaction structure and model specification often causes agent-based models to lack a well-established reference to an accepted methodological standard (Richiardi et al., 2006). The authors suggest a number of areas, such as links with the literature, structure of the model, analysis, and replicability, to be addressed in order to improve the methodological quality. A well-known standardization effort for ABM is the ODD (overview, design concepts, and details) protocol, meant particularly for the documentation and publication of model descriptions, with the main aim of improving their reproducibility. It was developed and tested by Grimm and colleagues (2006, 2010, 2020), including initially a group of 28 modelers. It is a protocol in a standardized format designed to make descriptions of ABM, also known as individual-based models (IBMs), clearer, more complete, and easier to understand, thereby enhancing reproducibility and scientific communication. Originally developed for ecological modeling, its application has expanded to various fields. The protocol provides a consistent structure comprising seven essential elements grouped into three blocks: Overview, Design Concepts, and Details. The Overview block summarizes the model, covering its Purpose and Patterns (the 'why' and the real-world phenomena it aims to reproduce), the Entities, State Variables, and Scales involved (the 'what' and its spatiotemporal context), and the Process Overview and Scheduling (the 'how' actions occur and in what sequence). The Design Concepts block explains the theoretical underpinnings, addressing concepts like basic principles, emergence, adaptation, objectives, learning, prediction, sensing, interaction, stochasticity, collectives, and observation. Finally, the Details block provides the specific information needed for potential re-implementation, including Initialization (the model's starting state, Input Data (external time-varying drivers, if any), and detailed Submodels (the precise rules, equations, and parameter values for each process). The protocol encourages including rationale for design choices and suggests ways to handle summaries, modified models, linking to code, and describing simulation experiments separately.

4.2.3 Modeling Purpose

Epstein (2008) calls the predominant assumption about modeling that it always aims for prediction a misconception and gives sixteen reasons other than prediction to build models. Edmonds and colleagues (2019) surveyed seven, three empirical, and the rest theoretical or for communication purposes. They are prediction, explanation, description, theoretical exploration, illustration, analogy, and social learning. While according to the authors, prediction is considered the ‘gold standard of science’, it is very hard to achieve for any complex social system and, thus, is rarely attempted. A subject matter such as moral agency, constructed out of interviews that inquire individual perceptions on several interrelated issues of psychological, sociological, and religious nature, that is, a proposed theory with some explanatory capacity but no validated micro-level models, no out-of-sample data to test against, and no clear definitions of conditions of application, hardly qualifies for any predictive power. Instead, modeling for ‘illustration’, which is defined as a means “[...] to communicate or make clear an idea, theory or explanation”, is best aligned with the aim of this study, which is the hypothetical investigation of the relationship between morality and faith on the communal level. Illustration is defined as an essential part of formal modeling where ideas inherit a structure, with the main purpose of helping the observers to see complex interactions at work, without any significant claims or need to fully express what is being illustrated (Edmonds et al., 2019). It helps embody ‘what-if’ thinking into concrete factors and emergent outcomes. While the GT-informed theoretical propositions are grounded in data, the ABM serves as a virtual lab for them.

4.2.4 Empirical vs. Theoretical Modeling

ABM has the capacity to link or bridge different domains; that is, it can be used for linking empirical research findings to their implied social-level consequences (Hedström & Aberg, 2005, p. 118) and acting as a bridge between the micro and macro levels (Macy & Willer, 2002). Hedström and Aberg (2005) suggest developing empirically calibrated agent-based (ECA) models to integrate sociological theory and empirical research with statistical field data, by verifying a functioning agent-based model that has ‘generative sufficiency’, which, in brief, can be translated as a model that, when run, can generate the desired social phenomenon to be explained. In another effort to advocate for a closer integration of model and empirical data, that is, empirical

embeddedness, Boero and Squazzoni (2005) categorize agent-based models according to their empirical targets and posit different strategies for empirical calibration and validation. According to the authors, these categories are ‘case-based models’ focusing on individual specific events with rich supporting empirical data, ‘typification’ referring to modeling a class of phenomena with some common features among them, and ‘theoretical abstractions’ addressing general social mechanisms without any reference to specific temporospatial attributes. Theoretical abstraction, as a target, is mostly used as a means of theoretical testing for implication analysis, to extend previous modeling frameworks, as in game-theory models, to develop new intuitions or ideas, or to test the theoretical consistency of hypotheses. They are helpful in understanding and explaining topics with complex interaction structures that are not empirically understandable, as in various social order and cooperation models (Boero & Squazzoni, 2005). A good example of what the authors suggest for empirical embeddedness is the ‘extremely influential’ (Hoffmann, 2000) works by Axelrod (1997), which comprised obtaining empirical grounded theoretical findings, experimenting with them in agent-based simulations, and finally moving from the simulations results to generalized inquiries with theoretical abstraction, thus linking all three, empirical, experimental, and theoretical. In a study about the use of ABM in sociology, Bianchi and Squazzoni (2015) indicate the prevalence of theoretical approaches with fewer empirical applications of models where model parameters are calibrated with available or ad hoc-generated empirical data.

CHAPTER V

FINDINGS

While, as explained in the Methodology chapter, a GT-conforming theoretical sampling step could not be followed, the data collection was conducted in two stages, with no actual planned delineations between, yet naturally phased in during execution. After the first seven interviews, the thematic content of open-ended questions was slightly modified, where uncertainty-related inquiries were toned up, in order to shift focus onto concepts that were deemed better aligned with research objectives. The remaining fourteen interviews, including those with all seven UK participants, were conducted with these minor updates in effect.

5.1 Initial Findings

Preliminary findings from the early stage of this study, based only on the first seven interviews, were presented to an academic audience during the Gulf Research Meeting 2023, Cambridge, to receive constructive feedback on the research structure and progress. In brief, this interim report hinted at ‘Moral Universalism’, ‘Anthropocentric Attitudes’ including reciprocal interactions with nature, and limited ‘Constructive Criticism’ in support of environmentalism for the religious moral agency.

5.1.1 Moral Universalism

Moral universalism was supported by participant claims such as that all religions have the same moral principles, there is a natural human disposition shared by all, and nature is everyone’s responsibility, including future generations. Regarding the faith-morality relationship, most of the participants described a universal understanding of morality (*akhlaq*) while associating it sometimes with religion (*deen*) or locating it beneath, meaning it was claimed that it is primarily their faith that shapes their morals. Similarly, “A human is a human” (EM1) was nevertheless a shared expression by almost all of the first seven interviewees, supporting a general universalist attitude towards morality. Sharing a common purpose (among all humans), including a responsibility towards nature, also appeared as a code in support of such universality. This was accompanied by relating morals to values that are ‘accumulated from birth till death’ and people’s moral understanding outside (or independent of) their faith.

Original human disposition, commonly termed as *fitrah* in the Islamic lexicon, though not always explicitly called by the exact name during the interviews, could possibly be considered another potent element of the narrative, suggesting a universal and essentially ‘good’ origin for the entire mankind, and at the same time associated with the code of *rahmah*, mercy, which was brought up by some of the participants in the interviews as a key differentiating characteristic of Muslims.

Regarding the relationship between moral values and religion, ‘Islam is about anything good’ or ‘Islam supports anything good’ are maxims that may express an opinionated position rather than a theological assertion, yet it has central importance in showing the meanings constructed by the participants in describing the faith-ethics relationship. Faith, in that regard, appears to be a heuristic device, a somewhat idealistic one, allowing the agent to reach a moral judgment without complex deliberation. It can be argued that equating Islam to ‘anything good’ (or vice versa) in a broad sense, without referencing any theological nuances, also implies moral universalism as well as the universal character of Islam according to the participant. ‘Politics of religion’, on the other hand, refers to the opposite, albeit less ideal, case for the relationship between religion and morality. The conflicts and disagreements between communities of different faiths, observable in some geographies during the supply of aid, roughly translatable to “If you want us to accept this aid from you, you should not bring it to them (the other community)”, an attitude that was claimed to be reinforced by some community elders or religious—not necessarily of Muslim origin—leaders the participants encountered during their fieldwork. This discriminatory attitude invited issues such as the ‘right to pollute’ and other debates in the ethics-faith and faith-environment relationships.

5.1.2 ‘Human First’ or Anthropocentric Attitude

A common pattern among all participants was the ‘prioritization of human needs over everything else’. While a natural and expected outcome of an investigation into the activities of charitable organizations invested in humanitarian relief, it might be important to note that this somewhat anthropocentric attitude might bear the potential of certain implications for the human-nature relationship. Anthropocentrism was also believed to be manifested through reciprocal attitudes towards the environment, e.g., “Harm nature and nature will harm you”, and pro-development opinions by many

seeking a balance between harm to nature and benefit to humans, ignoring non-developmental or progressive alternatives. A term I coined at the time to explain participants' general attitude towards nature was 'lack of human face', that is, agents' interactions seem more intense if they see a 'human face' in the entities they are dealing with, hence, the 'personification' of poverty, charity, or divine matters. However, the agents might be failing to see a 'human face' in their dealings with nature, evidenced by frequent references to rather elusive terms such as 'future generations', 'lack of awareness', 'self-realization', or the claim that 'nature is everyone's responsibility'. This was also supported by the fact that natural and environmental matters were largely missing from personal prayers (*dua*), a finding that was attributed to the impersonality of nature. The limited references to the environment in prayers came mostly in the form of prayers against natural disasters to avoid harm to people or for receiving a bountiful harvest, usually maintaining a benefit-to-humans twist where the natural environment is instrumentalized as a means for human prosperity.

5.1.3 Faith-Based Constructive Criticism

Among the other codes generated in this early attempt, a notable one was 'a way of life', the verbatim expression by one of the participants (KW1) when describing the major challenge for ensuring environmental sustainability as well as describing the relationship between faith, moral values, and the natural environment, a theme that was often visited in various forms by other participants such as "A Muslim should act with quality", citing the Islamic concept of *ihsan*, or criticizing people for overlooking the essence of sustainability and focusing on technicalities instead. Other code excerpts, such as 'awareness', 'education', 'upbringing', and 'nurturing', were also brought up by the interviewees in similar connotations. It is claimed that environmental issues are a result of human misconduct, mostly due to a lack of awareness of natural sustainability. When questioned about how they deal with uncertainties and ambiguities present in their organizational efforts, most of them stated that they embrace a certain mental state of preparedness and simply accept the odds as they are, or at best, similar to a precautionary principle, prepare a reserve fund for unexpected events and developments. Resorting to faith seems to go hand in hand with professional risk management. The adaptive or *ijtihadi* character of Islam was also mentioned in this regard.

5.1.4 Preliminary Domains

Findings from this early attempt were fitted to a framework that consisted of constructed broader domains of value, human, and nature, all under the blanket of faith (Figure 5.1). Value refers to and confirms the ontology of normative propositions, including moral values and those that are encompassed by various religions, in this case, Islam. The second domain, human, should be seen as the reasoning entity with a capacity to adhere to the normative world, although free in her will and decision. The last entails not just the Earthly environmental nature but the observable universe, including animate and inanimate entities, excluding 'human'. Human is treated as a separate and special case with unique attributes, in line with human exceptionalism evident in data. The intersection of all can be seen as the heart of this preliminary story, with 'self-realization' (or the self-realizing human being) as the earliest emergent central concept. Sustainability in this regard translates into nurturing and continuation of, not just economy as this would render it deprived of values and connection to nature in the broad sense, also not just the natural physical environment as this would be mute in value and purpose, not even of pure values because despite the acceptance of a distinct ontology for such values with no actual carriers it would lack the potential of materializing, but their juncture. Moving away from this abstraction, a normative assertion is that a virtuous Muslim who seeks and creates value in her interactions with other humans and everything that is created would be an effective agent for endorsing and disseminating the idea of sustainability.

The major emergent themes of moral universality (blue), anthropocentrism, including reciprocal relationship with nature (red), and constructive criticism extended from a religious lens (green) are illustrated color-coded in the diagram. Supporting codes are shown according to descriptive and in vivo coding. Tags in italics are not part of the data and are provided by the author to provide a comprehensive picture, showing what hypothetical codes could have emerged (but have not). These initial findings on the very limited set of samples should be better understood as the output from a preliminary initial analysis rather than a GT, with relationships between the concepts not yet defined, no relational propositions declared, and the overarching frames of nature, human, value, and faith supplemented by the researcher. While co-construction of reality by researcher and participant is core to the constructivist philosophy, it is still safer to have reservations about this framework in its early state.

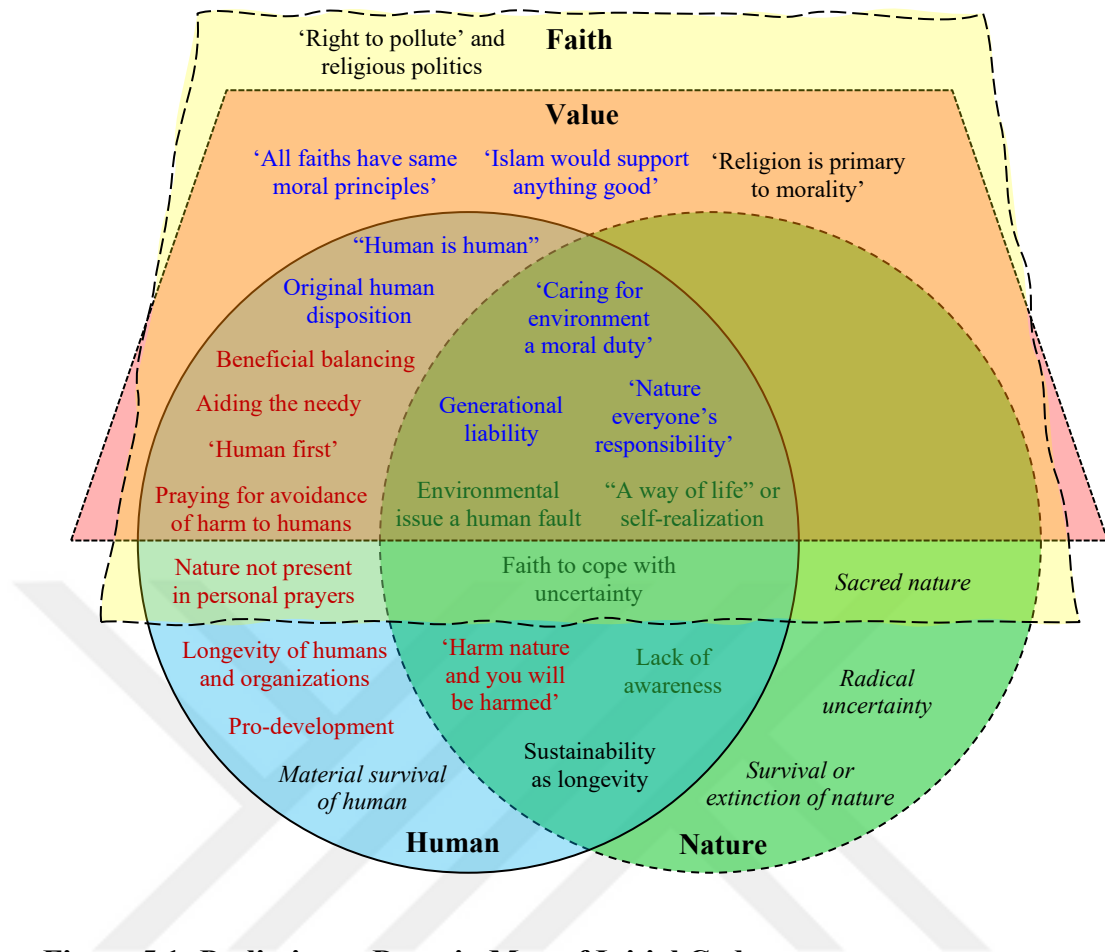


Figure 5.1: Preliminary Domain Map of Initial Codes

Source: Author, 2025

5.2 Late Stage Findings

A second milestone was reached when the dataset contained 20 interviews, and a thorough assessment was completed, leaving one last interview to be included in the study before finalization. The results, including a theoretical framework constructed as per GT-informed methodology, were presented at the SASE (Society for the Advancement of Socio-Economics) 2024 conference in Limerick, Ireland. Shortly after that, the last, the 21st, interview was held, transcribed, coded, and compared to the current findings to see if there were any potentially newly emerging categories, insights, or directions, or whether any additions could be made to the existing ones.

5.2.1 Initial Coding

As a result of the initial coding process, more than 2,000 codes, named in gerunds as explained in the Methodology chapter under Data Preparation and Analysis, were created by the researcher. These should be considered rephrased quotes or ‘pre-initial codes’ rather than typical qualitative analysis initial or open codes, which themselves only started to appear once the pre-initial codes were grouped according to the substantial meaning they were conveying. For instance, “All religions say be kind to thy neighbor” (UK7) is such a pre-initial code; part of it is a direct quotation of the participant's statement, but shortened and rephrased. It was used to create the code ‘All faiths, believers, non-believers have the same moral principles’, which eventually became a part of a category called ‘Morals are universal’, which was then moved under ‘Definition of morality’. This was a rather descriptive account exhibiting how morality was interpreted by the participants. To illustrate a different, a somewhat judgemental, example, the pre-initial code of “Economic development and preserving nature, we need to balance them out” (OM1) was preliminarily coded as ‘Pro-development’, which in the course of coding turned into the following hierarchical structure: ‘Challenges to sustainability’ (top-level) > ‘Economic development’ (as a potential challenge to sustainability) > ‘We keep developing’ (as an answer to ‘how should we respond?’) > ‘But we should aim at a middle ground, not at the full expense of nature or others’ (nuanced response) > ‘By taking a non-harming, preserving attitude toward environment’ (as to ‘how’) > “Economic development and preserving nature, we need to balance them out” (lowest level, closest to interview data). Except for the last one, which, as a so-called pre-initial code itself, is almost the equivalent of a verbatim quote, they are all researcher-defined categories and contain many pre-initial codes, if applicable, the same ones in support of more than one category. As such, in vivo coding and descriptive coding were the two coding techniques that were most frequently employed during the initial coding state. They were tagged with anonymized interviewee names and color-coded in NVivo, and as mentioned before, linked to the original interview transcripts they were excerpted from, so any top-level category could be traced back to the original data and vice versa.

5.2.2 Focused Coding

Focused coding was the phase where process coding and causality coding were made use of, in particular, as moving up the hierarchical code structure. To give a follow-up on the previous example, the following shows how the coding was broken down into a causal path: ‘Challenges to sustainability’ (top-level) > ‘Economic development’ (as a potential challenge to sustainability) > ‘We keep developing’ (as an answer to ‘how should we respond?’) > ‘Because it is either a need or right to material well-being’ (as an answer to ‘why’, ‘why should we be doing it?’) > ‘Because we need to sustain and improve our material well-being’ (nuanced response to a second ‘why’ as in ‘why is it a need?’) > “Development necessary to maintain jobs and meet needs” (KW1) (lowest level, closest to interview data). This chain should be taken as the ‘causal explanation as perceived’ by the participant(s), in line with the constructivist and interpretivist paradigm. Inquiry about an external objective reality, as in statistical or mathematical causality, is not within the scope of this research. A total of more than 600 codes from all levels were created (see Appendix).

5.2.3 Constructed Definitions

Definitions, as provided by the person who attempts it, are central components of meaning-making. From a phenomenological perspective, they are interpretations of lived experiences. In the world of cognitive linguistics and metaphors, they are used to make sense of abstract ideas. Viewed from the social constructivist perspective, they reveal the collectively constructed realities. The otherwise implicit assumptions, when questioned, can reveal important information on how people perceive the world around them, albeit limited to self-reported claims. As such, the participants were asked about how they explicitly define the key terms of morality, uncertainty, sustainability, or charity. Implicit definitions, that are not directly extended to the respondents in an explicit fashion, but what they happened to have provided during the conversation anyway, were also taken into consideration. It should be noted that such definitions, individual interpretations they are, are far from being complete in the academic sense. Except for very few, most of the interviewees faced questions asking them to provide such definitions without any advance notice, and despite their executive positions and extensive experience in the field, they are not social scientists. What they provide as descriptions or definitions can lack accuracy or depth, be misleading, or even self-

contradicting, all of which are welcome in the process of constructing meaning. Below are the definitions of the major terms as provided by the research participants. Unless otherwise noted, the so-called pre-initial codes, which are basically rephrased and condensed interviewee quotations, representing the most fundamental building blocks in the analysis, have been used.

5.2.3.1 Morality

a) *Morality as Organizing and Sustaining Society*

Morality, in the eyes of participants, was foremost about ‘organizing and sustaining a society’. It conveys ‘collective agreement and interdependence’ as in “An issue is a moral issue when it is linked to an agreed-upon standard of conduct” (QA1), or “Atheists would also agree with most of the Ten Commandments because humanity cannot coexist without those” (UK5). For some agents, it also had a ‘reciprocal’ attribute, as in “Morality is about treating people the way you want to be treated” (UK7), or “Even non-Muslims would understand and agree to helping your mother so your kids one day take care of you” (OM1). More than half of the interviewees defined morality as ‘being about fairness and justice, including against discrimination, exploitation, and oppression’, as one interviewee, relatively well-versed in the subject matter including the academic aspects, mentioned: “Adam Smithian notion of self-interested baker selling the bread he made is fine but he also has to sell it at a fair price” (UK5). The statement, “Islam encourages moral principles such as respect for life, justice, equality and mercy” (BH1) could also be listed in this group.

b) *Morality as Goodness and Beneficence*

Morality also meant ‘to do good and beneficial things for others’, both in the sense of a more compulsory ‘duty’ and rather less obligatory ‘solidarity’ that was articulated in ‘helping, supporting, and empowering the weak and the vulnerable’ as in “Additionally, morality also includes contributing to others' lives through economic empowerment” (GL1). The former was frequently expressed in the sense of ‘duty toward future generations’ as in “Caring for *nasl* is also part of *akhlaq* so they will keep caring about their coming generations” (QA2), while the latter was mostly associated with ‘mercy, compassion, or *rahmah*’ by the interviewees, e.g., “*Rahmah* is a trait independent from religion” (AE1) or “You may call it a hero complex if you wish but I feel like I should protect things that cannot speak up for themselves” (UK4).

c) Morality as No Harm

A rather passive description of morality read ‘Morality is about not harming others’, supported by close to half of the participants, e.g., “Being moral is like not harming anyone” (AE1) or as in “Being moral means being good, not causing harm to others” (UK4), or even via an anti-war stance “Pacifism against war provides another moral point” (UK2). “The common ground of morality is respecting and not hurting others” (GL1) illustrated an example that, in addition to the ‘no harm’ interpretation, could be attributed to a different classification as explained below.

d) Morality as Respect

The definitions for morality provided so far connoted an ‘action-informed’ understanding of the term. ‘Morality as respect’, on the other hand, which about half of the respondents subscribed to (note that any participant may have expressed views that can be attributed to more than one answer to ‘what is morality’), conveyed a more relational understanding of morality as in ‘Morality is about respecting others and things’ and ‘Morality is about respecting self, being true to self’.

5.2.3.2 Religion

No direct question, such as “What is religion?” was thrown at the participants; hence, the following findings were collected from their implicit statements during interviews. Two emerging major categories in this regard were ‘Religion as a social element’ and ‘Religion essentially as a distinct worldview’.

a) Religion as a Social Element

The former was predominantly contributed by the UK-based participants as follows, with one sample excerpt from each: “Shared faith enhances trust in advance” (UK1), “If culture is the things we do without questioning then it trumps religion every time” (UK2), “Societies which have strong spiritual and social capital will be better prepared to deal with such societal collapse” (UK3), “It seems religions differ in their essence and teachings with regards to their emphasis on nature, then come societal factors” (UK4), “I cannot imagine any religion lacking similar basic rules like Ten Commandments, even a tribal or animist one, that organize society” (UK5), “Faith is a motivator, activator and resilience builder” (UK6), “Faith is hope, and that is what you need for development purposes” (UK7).

b) *Religion as a Distinct Worldview*

‘Religion essentially as a distinct worldview’, a category contributed by slightly less than half of the interviewees but this time inclined towards a relatively more balanced distribution among GCC and UK-based participants, described faith in terms such as ‘An all-encompassing way of life’ that has a central role for ‘God has His will or *hikmah*’ that is subject to a ‘different (temporal) trajectory with a distinction between *dunya* and *akhirah*’. Some examples in support of this were: “Religion as a way of life, makes you look differently at everything” (KW1), “We have to have complete *tawakkul* in Allah like the birds, they wake up every morning and Allah guides them to their food” (UK7), “In Islam, your *barakah* or your money doesn't belong to you, it's your *amanah*” (QA2), “A Muslim and strategic thinker says for a person who passed away he has just moved on (to *akhirah*) not he has gone” (UK6), “Religion makes you human” (AE2), “Modern socio-economic life is empty, has very little spiritual meaning and people have lost their access to the divine” (UK3). As evidenced in interview data, this approach to religion, without necessarily implying any contradiction, was distinguished from treating it as a social instrument to organize, develop, or motivate communities, communicating a broader meaning and purpose in life.

5.2.3.3 Charity

While charity was not one of the heavy focus areas of the study, was instead included as part of the sampling plan to foster a conversational environment with greater exposure to moral issues, it quickly became a melting pot for the major chapters of religion and morality, if not surprisingly. Three categories stood out among others in regard to conversations about charity, which are its definitions as attempted by the participants, why they themselves became involved in the charitable sector, and why they thought there were those in need in the first place.

The two major categories that appeared in defining charity were ‘It is a religious or moral duty’ and ‘It is helping, caring for, and sharing with those in need’. The first could be interpreted as conveying a message closer to ‘have to do it’ and the second resembling a ‘choose to do it’ instead.

a) *Charity as a Religious Duty*

Some of those who defined charity as ‘It is a religious or moral duty’, roughly half of the participants, voiced the following in support of their arguments: “Charity as a religious duty is to make a difference in human life” (AE2), “As Muslims we should take care of children and people in need anywhere in the world, regardless of their faith” (BH1), “There have always been needy people because this is the role of life, Allah created us to help each other” (BH2), “Charity is a core component of faith, especially Islam” (UK1), “*Zakat* is not necessarily charity, it is not voluntarily, it is an obligation” (UK2), “Once people become in need, their rights over the wealthy begin to play” (UK3), “Charity in Islam would make me instantly think of *sadaqat* and *zakat*, then praying five times maybe, and also helping others” (UK4), “Working in charity is a duty I assigned to myself in my philosophical worldview” (UK5), “Our faith also compels us to help people who are vulnerable and in need” (UK6), and “Charity is one of the pillars of Islam” (UK7). A conspicuous approach to charity, though not likely completely unknown to the religious, came from UK7 in that the following was stated: “If you ignore an opportunity to do *khayr* for the third time it won't come back”, which was further elaborated as follows; “The people we help, they don't need us, we need them to save our *akhirah*” implying that it is actually the doer of the charitable act upon whom a (religious) favor is bestowed, not necessarily or only the recipient of charity. A follow-up was provided in the sense that “Allah says the way you are is the way I will be with you” and “If we are not merciful then we cannot expect Allah to be merciful upon us” (UK7).

b) *Charity as a Human Duty*

This subcategory differentiated from the previous one in that no explicit references were made to religion including Islam when providing a definition for charity as in “Helping those in need is a human duty” (BH2), “When it comes to charitable work there isn't much difference between believer and non-believer” (UK1), “Charity hardly means anything, it is like paying taxes, a communal obligation” (UK2), “Started as a volunteer and then felt a moral obligation to get involved in the charitable sector” (UK3), a code summarizing participant's experience, or as in “We're compelled to assist those unfortunate” (UK4), or “A noble mission is something that regardless of its size or scale contributes to humanity or planet, is also a role-model” when GL1 was

answering what a 'noble mission' referred to as termed by the respondent. The subcategory had contributions from slightly less than half of the participants.

c) Charity as Choice or Volition

This subcategory emphasized a more voluntary (less dutiful) approach to charity. As in most qualitative assessments in social sciences, this does not have to necessarily imply any mutual exclusivity or zero overlap with the neighboring categories, nor any 'duty vs. choice' delineation with thick borders; still, it was remarkable to observe this potentially different view on charity. To give a quick insight into this perspective, some terms that came up during interviews explaining what charity is about were 'caring for', 'sharing with', 'changing lives of', 'making a difference for', and 'balancing out from haves to have-nots'. Charity seemed to be about "Changing the lives of people in need" (KW1), and was defined in several ways as follows: "Charity is reaching out to the most vulnerable and making a difference in their lives" (UK6), "Charity is to make people better off" and "Charity is doing good without expecting anything in return" (UK1), "Charity to me is the provision of help or support to people in need of support with no expectation of return from it" (UK5), "Charity is solidarity. It is sharing with others. Charity is also how to build social cohesion" (QA1), "A poor person giving away his only dinar contributes by much bigger than a rich person giving the same amount" (BH2), or "It is that 'feel good factor' that everyone is looking for" (UK7). To AE2, charity meant to strive to do the best, as in "Doing my best to help people", or for BH2, it was stated that "Charity is foremost about being a good person who tries his best to help others". Charity as a correction mechanism was also evident in the words of some respondents: "Charity is help extended by the advantaged to the disadvantaged" (UK1), or as in "Charities' role might be to put it back down if it's out of balance" (UK5).

d) Why the Charitable Sector

Answers to such a question were thought to provide some insights into picturing how the agents were seeking meaning and purpose in their lives, in line with the motivation for this research as articulated in the Introduction chapter. About half of the respondents mentioned their intentions, goals, and dreams in their lives as the main contributing factors for choosing a role in the third sector, hinting at a proactive attitude. About half seemed to have adopted a rather reflective or reactive position and

said it was what they experienced in their lives up until then that made them take a career in the charitable sector.

The proactive arguments were as follows: “Working in charity is a duty I assigned to myself in my philosophical worldview” (UK5), “Started as a volunteer and then felt a moral obligation to get involved in the charitable sector” (UK3), “Helping others makes life more meaningful” (UK1), “Charity gives you that purpose of life everyone is striving for” (UK7), “I’ve started working in charitable sector because I wasn’t able to transfer my passion to government work” and “Wanted to deal with work in a deeper, more spiritual and more meaningful way” (UK5), “I also do volunteer work, so it’s not only a job, it’s about my responsibility towards others” (BH2), “Following the path of the Prophet and the *Sahaba* as the main goal of charitable activity” (AE2), “Started in the charity sector because wanted to make an example out of himself” (QA2), “Started working charitable sector because I wanted to see impact, change or have a closer role” (UK4), “Reaching out to and helping others strongly related to my values, belief, and mindset” (UK6), “A job at an Islamic charity is a way to enhance *akhirah* and take us closer to Allah” (UK7). They were somewhat dominated by the UK-based interviewees.

Within the reactive and reflective arguments, the UK-GCC distribution was more balanced: “My first mission abroad in Somalia allowed me to get in touch with beneficiaries, this was a turning point” (GL1), “The poverty and dejection around me made me work in the charitable sector” (UK2), “Strong negative personal experience resulting in a new social campaign” (SA2), UK7 provided statements that could be ascribed to both proactive and reactive aspects, regarding the latter the following was mentioned by the participant: “When I was in the corporate sector I always found something missing in my life”.

‘Feeling emotionally attached to people and beneficiaries’ was another subcategory with supporting pre-initial codes such as “In my charity job I can see the impact of my work on the families we help” (BH2), “When you go onto the field instead of working at computers you start feeling the impact you’re creating” (GL1), “It feels very good to draw a smile on the face of an orphan or kid” (BH1), or referring to their charity activities on the field “Failing to answer a needy person makes me feel bad” (AE2). Both BH2 and GL1 stated that they started their careers in the charity sector by coincidence but later became attached to what they were doing: “Background in MBA,

ended up in charity sector while looking for a job, now feeling too attached can't leave” (BH2), “I started in the charitable sector by coincidence but later found myself doing a noble mission” (GL1).

e) Why Are There Those in Need

This was part of the opening questions in the interview. Typically, when a participant was greeted and provided a short brief about the research and formalities including how private or sensitive data collected during the interview will be handled and reminded of their rights as stated on the consent form, the icebreaker inquiry, very often, would be into their current job at the organization as why they started a career in the charitable sector, followed by a request to provide a definition for charity. Depending on the course of the conversation, some interviewees were asked about why there are people in need of assistance in the world, to find out how they would rationalize this condition. In other words, participants were presented with these categories directly through questioning, rather than the categories emerging organically from in-depth conversations. Nevertheless, the given answers could be simply grouped under the following captions: ‘It is God-given as part of a test’, ‘It has naturally been like this’, and due to ‘Lack of good governance and justice’.

Some examples from the codes assigned to the first one were: “*Dunya* and the universe is a testing ground for all people” (BH1), “There have always been needy people because this is the role of life, Allah created us to help each other” (BH2), “There being people in need of assistance is part of our human nature from Shariah point of view” (QA2), “There are people in need in this world because this is a test from God” (UK3), “The people we help, they don't need us, we need them to save our *akhirah*” (UK7), and “Faith helps with uncertainty, makes us believe it is a test” (UK1).

Sample codes in support of the second category, that the world historically and naturally has always been an inequitable place, are as follows: “The fact that there are people in need is a natural outcome of history” (UK1), “Some people being in need of assistance is the nature of human existence” (UK2), “But the scale has been off balance, out of sync, already from the beginning” (UK5), “Poverty historically has always been there, even during the times of the prophets” (UK6).

Two complementary categories partially supporting the argument of natural inequality were ‘You cannot choose what you are handed’ and ‘Because people have different

capacities'. "Many poor people are poor not for any reason of their own" (UK3), "You cannot choose the country you were born in, and some people, unfortunately, lack favorable conditions at birth, they need charity" (UK4), and "Three-quarters of the world and also some parts of Western Europe are structurally and intergenerationally poor" (UK5) were codes related to the former. For the latter, the respective codes were: "We have to be realistic, because of disparity between people's capacities there will always be people in need" (QA1), and "This is the rule of life, we all need each other, we are not the same, everyone has and lacks something" (BH2).

A relatively distinct category was 'Lack of good governance and justice', which, understandably, held the political system responsible for charity needs. "External factors such as injustice, discrimination, corruption, conflicts, disasters also lead people to seek assistance" (QA1), "No poverty possible if there is justice, good leadership, good governance, and no corruption" (UK6), "There are people in need in this world because of poor governance, power relations, and social injustice", and "The more governments fail to meet people's needs, the more important charitable sector" (UK3), "In the earlier days of Islam *zakat* and *sadaqah* were executed properly, so there weren't as many needy people as today" (QA2), "During Umar b. Khattab's time at a certain point there was no poverty because there was justice, equality, good governance and no corruption" (UK6), are some of the codes ascribed to the respective category.

Participant statements such as "Natural crises increased the number of people in need" (QA2), "Sometimes inequalities get exacerbated by earthquakes, economic shocks, or manmade rules of the system" (UK5), and "Poverty can be for a number of reasons, now we see the onset of climate poverty and it will increase" (UK3), additionally emphasized that these inequalities would get exacerbated due to external stressors such natural disasters or economic shocks.

5.2.3.4 Uncertainty

Without receiving any direct or explicit questions inquiring about the definition of uncertainty, the opinions of the participants on what uncertainty means or why it comes about were mixed.

a) Uncertainty as Something Negative and Positive

The majority sees it as something negative with a few exceptions who assign a potentially positive value to it, as in “Uncertainty might also pose positivity, it does not always have to be disasters, unexpected good things also happen” (UK1), or “If we can take the element of fear out of uncertainty and try to adapt, you can start seeing the positive side of uncertainty” (UK7), or as in “We shouldn't be pessimists about our future, humankind has always evolved” (UK3). One should also note that, as explained in the Literature Review chapter, and despite lengthy explanations provided during the interviews, the difference between a risk-like uncertainty and what may be termed as radical uncertainty was rarely clear to the respondents. “There is no investment without risk and risk is invited because of uncertainty” (OM1) can be seen as one such statement expressed with a positive attitude towards uncertainty.

In line with the negative connotation, uncertainty is something to cope with, and almost equal proportions of participants proposed two distinct ways to do so, ‘Resorting to faith’ and ‘More preparedness’.

b) Dealing with Uncertainty: Resorting to Faith

‘Leaving it in God’s hands or *tawakkul*’, along with ‘Having hope and motivation’, appeared as the two key subcategories detailing the former. Some of the supporting codes for *tawakkul* were: “Leaving things in God's hands helps with coping with uncertainty” (SA1), “You design and run projects but it is Allah who ultimately decides how they will unfold” (KW2), “Religion helps with uncertainty, everything is written and we have to do our best to earn God's reward” (KW3), “Self-confidence due to experience and belief in God as main means to deal with uncertainty” (AE2), “In dealing with uncertainty I keep reminding myself this is what God has created” (BH2), “You feel that calmness because if it's God's will so be it, you just move on” (UK4), or “Stupid person is the one who doesn't plan but you should also have *tawakkul*” (UK7). The second subcategory, ‘Having hope and motivation’, as a rather constructive way of resorting to faith in dealing with uncertainty, was expressed in statements such as “Religion provides us with moral motives and moral motives prompt us to make more accurate judgments, thus reduce uncertainty” (QA1), “Despite uncertainties as a Muslim I believe that I should keep my role in this life and serve the

community” (QA2), “Faith helps with uncertainty, makes us believe it is a test” (UK1), or “We just got our faith as the resolution of radical uncertainty” (UK2).

c) Dealing with Uncertainty: More Preparedness

An equally prevalent category in uncertainty coping, as ‘Resorting to faith’, was the category ‘More preparedness’, as mentioned earlier. It was about gathering more data, better risk management, reading certain signs before a shock hits, and overall preparedness against uncertainty. Needless to say, this approach was closely aligned with the assumption that uncertainty is some form of measurable or foreseeable risk. As such, some supporting codes were as follows: “To deal with uncertainty professionally we collect as much data as possible and analyze it carefully” (QA1), “In order to prepare for uncertainties we have to make plans and rely on expert knowledge” (QA2), “Keeping reserve funds to deal with uncertainty” (AE1), “Providing regular briefs to deal with lack of knowledge and uncertainty” (AE2), “To cope with uncertainty you should create awareness and inform people” (SA1), “Planning and consulting to cope up with uncertainty” (SA2), “Mental preparedness and anticipation as two means of coping with uncertainty” (KW1), “One way do cope up with uncertainty is to reduce it by various tools and techniques” (OM1), “Uncertainty can be resolved with more data” (UK1), “In professional life, I’m the planner but in life a bit of the opposite” (UK4), “Risk mitigation plans, corporate risk registers, logs, worst case scenarios, etc. to deal with uncertainty” (UK6), or “For uncertainty you get your warning signs, like you get ill before you die” (UK7). UK2 seems to have had a somewhat better grasp of the term radical uncertainty, albeit without much concrete direction as to how to anticipate or handle it, as evidenced in “We should keep our detectors out for unknown unknowns”.

d) Dealing with Uncertainty: Embracing

Two other relatively minor categories in dealing with uncertainty were ‘Take it as it comes, face it, embrace it’ as in “Uncertainty is within the nature of life, we have to accept it” (OM1) or “To deal with uncertainty you have to face it and learn from the experience” (AE2), and ‘Do your best, accept the rest’ attitude, noticeable in “Coping with uncertainty, whatever may come we have to do our best” (KW3) or as in “We can’t predict the future but we can do our best to prepare for it” (UK6).

e) Dealing with Uncertainty: Solidarity

Though not a major category in terms of commonality, ‘More engagement with stakeholders and community, more solidarity’ emerged as a noteworthy response to uncertainty. The following pre-initial codes were provided in support of the claim: “Dealing with uncertainties during while they happen we should try to adapt and then have *takaful* (solidarity)” (QA2), “To cope with uncertainty you should create awareness and inform people” (SA1), “Building trust as means of coping with uncertainty in charitable world” (KW2), “Taking into consideration all responses no matter how irrational” (AE1), “Let communities decide what is best for them, also implies less moral uncertainty” (UK1), “Multi-stakeholder engagement, training, drills, meetings, etc. to deal with uncertainty” (UK6).

f) Dealing with Uncertainty: Adapting

Finally, a few, mostly UK-based, respondents subscribed to the category named ‘Don’t worry, we will adapt and evolve’ based on codes such as “Having faith in humans adapting to changing circumstances” (UK1), “How to cope up with uncertainty - we evolve” (UK3), “For me, historically things do happen and we’ll be just back on track” (UK4), and “We can't change what we don't know but we can embrace it and even better we can adapt” (UK7).

As seen so far, while the definitions provided for uncertainty were somewhat mixed and limited, the solutions suggested to deal with it happened to be numerous and relatively better articulated.

5.2.3.5 Sustainability

Sustainability, as mentioned earlier, is a topic introduced to the study to contextualize uncertainty, otherwise an ambiguous term by its very nature. The basic assumption is that unsustainability induces uncertainty. As such, how participants tried to define sustainability should be taken as interpretations hinting at alternative definitions for uncertainty. For instance, if sustainability were expressed in terms of real-life ‘survivability’, then that would imply a naturalistic nonsurvival-uncertainty relationship, or when sustainability was seen as a ‘Responsibility toward future generations’, this would be expected to assign an ethical dimension to it. Or, if

sustainability was about a dynamic economic ‘Balance between things’, then the disruption of this balance would be expected to provoke uncertainty.

a) Sustainability as Continuity

No matter what nuanced interpretations were provided for the term and its role in the contextualization of uncertainty, sustainability was best understood as ‘Continuity, longevity, or survivability’ according to the majority of the respondents, with about half of them highlighting the ‘Operational continuity’ of their own charitable ventures in this regard. “Sustainability as continuing business” (KW1), “Sustainability as maintaining donations” (KW2), “Sustainability as operational continuity” (KW3), “Sustaining the charity despite COVID” (SA2), “Sustainability of donations and donors” (AE1), “Sustainability as finding new ways, tools to sustain donations and increase income” (QA2), “Building local NGOs after a global model to enhance (organizational) sustainability” (GL1), “Sustainability from development perspective requires sustaining humanitarian interventions into the future” (UK2), and “Organizational sustainability in relation to emergency and development” (UK7) are some codes supporting the respective category. Sustainability, described in terms of ‘Extension of the useful life of organizational investments’, was another closely related group of codes, although with a limited commonality, 4 out of 21, among participants. “Sustainability for us is about how to help beneficiaries so they benefit from projects for a long term” (QA1) and “Increased sustainability with farms built around opened wells” (AE1) were two examples of such a reading of sustainability. ‘Self-sufficiency of beneficiaries’ was another category showing how participants saw sustainability, yet, a minor one, as expressed in: “Sustainability is like you teach a man how to fish instead of just giving him a fish” (UK7), “From project management perspective sustainability means to make it self-reliant on its own resources to continue” (UK6), “Buying boats for poor fishermen or helping farmers to develop land in Socotra so they will be self-sufficient” (AE2), “From Islamic perspective supporting sustainability goes beyond giving money, it's about training and opportunity” (QA2).

b) Sustainability as Responsibility

‘Sustainability as responsibility towards future generations’ was the other equally dominant category that emerged from the pre-initial codes. It conveyed a potentially moral message, which, according to the focused coding findings, was grouped under

two main categories, 'Care for lineage, offspring, or humans' and 'Fairness and equity', as to why the participants felt any responsibility to otherwise hypothetical future generations. It should be noted that the investigation into the notion of future generations was part of the guiding questions in the interview, provided within the context of the UN's definition of sustainability (meeting the needs of the present without compromising the ability of future generations to meet their own needs), and hence, the respondents could safely be assumed to have been primed about the linkage between sustainability and future generations. Therefore, a more curious investigation would be into the proposed justifications by the interviewees as to why one should care about future generations.

c) Sustainability as Care

Some of the subcategories that led to the creation of 'Care for lineage, off-springs, or humans' were, from more to less common, as follows: 'Because our own children will be among them', 'Because caring about other (future) humans is a religious duty', 'Because we should leave them enough resources', and 'Because we should not leave them problems'. The first subcategory, 'Because our own children will be among them', was supported by close to half of the participants. Some excerpts were as follows: "When mentioning future generations I would think of my own children" (GL1), "Future generation means my children and grandchildren in 40-50 years" (UK1), "Future generations to me is my daughter, I feel like it's her, and her children's children" (UK4), "I'd visualize my children and their children when hearing about future generations" (UK5), "Future generations to me is my children's children and the environment they're going to be living in" (UK6), "I would take care of someone else's grandchildren because I'd like them to take care of mine" (BH2), "Survival and well-being of children in other parts of the world would also ensure safety and peace of my children" (GL1), "Nobody likes their kids or coming generations to have no jobs" (OM1), or "Future generation or *nasl* can be considered as an implementation of general sustainability on the individual scale" (QA2).

d) Sustainability as Religious Duty

More than a one-quarter of the participants contributed to 'Because caring about other (future) humans is a religious duty' as in "*Maqasid al-Shari'ah* understanding of posterity is the first call to why care about future generations" (UK2), "Muslims care

about future generations because of the notion *nasl* and their responsibility towards it” (UK3), “*Sadaqah jariyah* is an example to how future generations is understood in Islam” (UK3), “Hadith advises to leave up something to your family after your passing so they can stay fed and safe” (OM1), or “Islam encourages to take care of and not harm plants, animals because we have to think of next generations” (BH2).

e) Sustainability as Managing Resources

Less than a quarter mentioned the economic or resource aspects of ‘Care for lineage, off-springs, or humans’, still through the moral lens, such as “Because of overexploiting of oil, gas, and minerals future generations may not have the resources they need” (UK1), “Leaving enough fish, oil, and trees for future” (KW3), “We don't want the world to come to an end (due to depleted resources) after we pass away” (UK6), or “Preserving the land and resources for the next generation is a responsibility for all of us” (BH1).

Furthermore, codes such as “Caring about future generations is beyond matters of resources, it is also about leaving them a preserved nature” (UK1), or “We owe it to the future generations to deliver this planet as clean as we can” (GL1), that were in support of the subcategory ‘Because we should not leave them problems’, as well as others beyond the ones mentioned here, such as “We care about future generations because it is also about individual's universal rights to a family life” (UK2), were views on sustainability through the moral lens.

f) Sustainability as a Multidimensional Issue

More than half of the respondents provided definitions for sustainability that were in line with the current academic and professional literature, referring to sustainable development goals (SDG) or environmental, social, and governance (ESG) considerations for investment during the interview. Although they may not have uttered the respective terminology explicitly, the fact that sustainability is a multifaceted, complex issue was nevertheless brought up. Some example codes were as follows: “Sustainability is not only limited to environment, it is more comprehensive, has a wider spectrum” and “Sustainability as concurrent continuation of education, finance, health, water”, both from KW3, “Sustainability has different parts (types), like with ESG” (SA1), “SDGs take sustainability into a far broader context” (UK2), “UN definition for sustainability provides a summary for

sustainability” (QA1), “Reinvesting the revenue is very important for sustainability” (OM1), “Sustainability is about being multi-dimensional and inter-sectoral” (UK3), “In my country everyone associates sustainability with solar panels, etc., but it's beyond that” and “People just following a trend without realizing essential meaning of sustainability” (AE1), or highlighting the financial aspects “Sustainability is the capability to finance your household” (AE2).

5.2.3.6 Unsustainability

Unsustainability was the term coined for the category that emerged as a result of discussions about factors that work against sustainability efforts, in which uncertainty was also contextualized. ‘Environmental issue’, ‘Signs and Consequences’, ‘Causes and Responsibility’, and ‘Remedy’ dealt with the environmental crisis. ‘Challenges to sustainability’ appeared as obstacles and barriers in front of attempts to ease the crisis and improve the conditions.

a) What or Where is Nature

‘Nature hard to grasp’ was the emergent category implying the abstract and non-figurative quality of nature, supported by codes such as “Humans don't believe or don't realize that the *tabi'ah* is part of their lives” and “Human life is short, has a beginning and ending, it can't contain lifespan of nature, how can they pray for it?” (QA2), “It's a matter of needs and priorities, as in a Maslow pyramid, we can't tell a Gazan or Somali to use water responsibly” (GL1). ‘Modern life distant from nature’ was another minor category: “People in Europe are not as much reliant on nature, their lives not much intertwined with the environment” (UK3), “If you live on a farm or with animals you would feel much closer to nature, you call your pets your children” (QA2), or indicating that extra efforts are needed not to forget about once a natural part of human settlements, “Greenery is vital to any city” (SA1).

Those who suggested a tangible definition of nature mentioned “Environment to me is mainly the planet Earth but I don't approve of dumping into space (neither)” (UK6), “Environment includes all that is green, plants, animals, mountains, buildings, also *jamaat*” (QA2). Broader definitions included “Everything that is not me is environment including God” (UK2) and “Exploiting another planet same as exploiting Earth” (KW1) in response to whether the participant would approve of leaving the Earth alone and exploiting another planet instead.

b) Signs of a Natural Crisis

With about half of the participants contributing, 'Observable changes in nature' was the main subcategory under 'Signs of a natural crisis'. These were pieces of evidence in the interviewees' opinions that led them to believe there was an environmental issue. "Some say we are overestimating the environmental issue but I can already see some changes" (OM1), "The plastic pollution in the seas that threatens the marine life is sufficient evidence" (QA1), "Pollution associated with killer dust in cities" (KW1), "In some of the agricultural zones in Morocco there is no more water, they shift their operations to the north" (GL1), "From very little things like places I pass through when hiking or planting in my garden I see things are different now" (UK4), "Signs of environmental issue, animals and plants becoming extinct" (UK1), "Water shortage in a lake in France hinting at environmental crisis" (KW2). Some exhibited 'Strong conviction in crisis without doubt' as in "We're in a climate crisis, there's no doubt about it" (UK3), "There is clearly an environmental problem and it requires attention from all" (BH1), "There is an environmental issue we need to worry about" (OM1), "It is a serious and dangerous matter threatening the lives of many of the world population" (QA1), or "IPCC reports are one of the best because they are more than a mere statement, they're based on stats" (UK2), suggesting that the signs of the environmental crisis are evidenced in these reports. Others who were also convinced that there was an environmental issue, though not without reservations, mentioned that "There were false alarms in the past, some economists foresaw famine due to overpopulation" (QA1), "Although not unchallenged, I accept the claim that there is a manmade climate change" and "Based on my media observations, my school education, my lived experience as a layman, I'd say we have an environmental issue" (UK5), "I'm no expert on the environment but it seems there is an issue" (UK1), or "There is a big environmental issue but it's not as big as other issues, not on the top of the pyramid" (BH2).

c) Consequences of the Crisis

Roughly two-thirds expressed that 'Eventually we will face its consequences', meaning that the effects of the environmental crisis will be unescapably felt by all in the near future. Some supporting codes were "A potential environmental disaster in the next 30 years" (KW2), "There is a serious environmental issue of existential magnitude" (UK2), "There is a serious environmental issue and it will progress faster

than before” (GL1), “Time is working against us in environmental sustainability” (KW3), “We don't fully understand the ramifications of climate crisis” and “There have been times our species and communities were destroyed, but climate crisis is way beyond that” (UK3), “There is no doubt that one of the biggest threats facing our planet is the continuous deterioration of the environment” (QA1).

There were also interviewee statements that hinted at the reciprocal character of the human-nature relationship and thus consequences should be expected as a natural outcome of human misconduct, grouped under a category named ‘Reciprocal consequences, harm nature harm yourself’. “Humans harming environment would harm themselves” or “Cutting too many trees will result in reduced oxygen for humans” (KW3), “Responsibility belongs to us all because any harm to the environment will get back to us all” or “Especially after a natural disaster took place people speak more about their wrong-doings in protecting nature” (BH1), “One day whatever we did or do to the environment will come back to us” or “Creating artificial substitutes for food will fire back at us” (SA1) were some examples.

The following codes conveyed that the process has already commenced: “Global supply chain problems are part of environmental crisis, so is soaring of prices” and “These multifactorial things are affecting populations not just in Africa but everywhere” (KW3), “In some of the agricultural zones in Morocco there is no more water, they shift their operations to the north” (GL1), “If we don't take action to prevent rising temperatures real communities will be affected” and “Signs of environmental issue, animals and plants becoming extinct” (UK1), “I feel a lot of anxiety, high stress, and find it very traumatic to see what is happening to nature” (UK3). Additionally, it would be the vulnerable communities who will be disproportionately affected: “Environmental issues would affect those who don't have sufficient resources and capabilities to confront most” (QA1), “Natural crises increased the number of people in need” (QA2), “I feel affected in small scale but what about other people who grow food for us” and “Our ecosystem is super sensitive, small temperature changes will kill off lots of little things we don't even realize” (UK4).

d) Causes of the Crisis

The majority, 17 out of 21, blamed ‘The global economic system’ for the environmental crisis. The complex system it is, the global economic and financial

system entailed all the following in the eyes of the participants: ‘Consumerism, economism, and profiteering’, ‘Companies and businesses’, ‘Industry and technology’, and ‘Governments’. About two-thirds of the interviewees identified ‘Consumerism, economism, and profiteering is to blame’ and asserted the following rationales for their opinion: ‘Because they nurture a consumerist culture and overconsumption, subscribed by one-third of respondents, as in “Current economic system allows consumption beyond your means” (UK3), “Mindset of consumption is the major challenge against sustainability” (KW3), “Consuming above survival or well-being is where you cross the line, it is unnecessary and exploitative to nature” (UK1), or as in “Consumerism makes luxuries into necessities” (AE2).

‘Because they ignore everything else for the sake of economy and economic growth’ supported by the codes of one-fourth of participants, as in “Climate change and biodiversity crisis stems from unsustainable practices driven by the pursuit of economic growth” (UK2), “Economic pursuit harms the environment” (AE1), “It is not allowable to make nature suffer for the sake of economic growth” (AE2), or “If economic element positioned against human side, society, and nature, that defeats the purpose” (SA1).

‘Because they only care about money and material gain’ as stated in “Greedy profit-seeking is the main reason behind environmental crisis” (KW3), “The challenge comes from the capital(ism), everything is related to money now” (QA2), and “In the modern economic system for many people they don't know anything else but materialism” (UK3).

‘Because they overexploit and strain limited resources’ “Industrialization, capitalism, and rapacious exploitation of resources are to blame” and “Unsustainable practices result in excessive consumption, which strains limited resources” (UK2), “Environmental issue exists due to irresponsible use (of resources), consumption, exploding industry, no recycling, our way of life” (GL1), “Mankind created an economic system that feeds on itself unsustainably” (UK3). Another example in support of ‘The global economic system is to blame’ was “We're ultimately paying the price of an economic system based on an endless stream of consumption fueled by usury” (UK3).

'Human situation is to blame' was the other major subcategory, supported by quotations from about one-third of the respondents. It was self-reflective and emphasized human errors as the main cause of the environmental crisis. Some supporting codes were as follows: "Being insensible or insensitive to what environment is suffering" (KW3), "There are factors other than religion such as education and culture that affect people's relationship with nature" (BH1), "Polluter unaware that he's self-poisoning" (KW1), "Disseminating the right information might turn agents into inspirers" (SA1), "Education and awareness key to push kids and change their behavior" (SA2), "On some farming lands you can see how badly they treat the water they have with no proper irrigation" (GL1), and "Root cause of the environmental crisis is both capitalism and human nature that is prone to temptations" (UK2). A few respondents suggested that 'Human population overgrowth and increasing needs are to blame' for the crisis: "There is an environmental issue mainly due to overpopulation and overconsumption" (KW3), "Increasing human need causing increasing human consumption" (UK1), "Human consumption disrupted natural systems" (UK3), "Global population growth and populous big economies such as India and China that have growing middle classes exacerbate the issue" (UK5). Additionally, "Laws not properly implemented to deal with environmental issues" (KW1) appeared as a critique against the lack of proper implementation of laws and regulations.

A final subcategory was created to account for the responsibility of the environmental crisis, that is, who should act first and do something about it, based on limited data. A few participants claimed that 'Responsibility belongs to us all' in that "Everybody is responsible for (climate) change but we can categorize it in individual, community, corporate, state, and global" (GL1), "The responsibility belongs to all; states, societies, organizations, individuals, and the international community" (QA1), "Responsibility belongs to us all because any harm to the environment will get back to us all" (BH1), "We can't say responsibility mainly belongs to any certain country or community, we're all in this, we're on the same ship" (GL1), whereas some argued that 'There is a proportional liability', as in "The poor shouldn't pay the price for the mistakes of the rich in harming the environment" (QA1), "If you are an individual living in a fragile community, your responsibility would be different (less)" (GL1), "Rich countries may be more liable because of their bigger share in polluting and turning poor countries into wastelands" (QA1), "During the industrial revolution Europe did not care about

pollution because it wanted to develop” (KW3), “Everybody is responsible to the degree of their involvement, a corporation with 100K employees is of course more responsible” (GL1). “Manmade and natural climate change might be going hand in hand” (UK5) was also a noteworthy remark regarding potential causes of the environmental issue.

e) Remedy for the Crisis

This category was created with the pre-initial codes, built upon participant quotes advocating solutions to solve or alleviate the environmental problems. From the most prevalent to the least, the suggested paths to follow, with rough commonality ratios in parentheses, were ‘Individual and small collective efforts’ (about half), ‘Technology and innovation’ (more than one-third), ‘Political, administrative, or legal initiatives’ (above one-third), ‘Education, awareness, self-development’ (less than one-third), ‘Inclusion and cooperation’ (about one-fourth), ‘Balance, moderation, or mid-way’ (about one-fourth), ‘A religious or moral approach’ (less than one-fourth), ‘*Awqaf*’ (less than one-fourth), and ‘A breaking point’ (only 2).

‘Individual and small collective efforts’ were evident in participant statements such as “Change in consumerist mindset should start at one's home” (KW3), “On the individual level we can do little things such as consuming and acting more consciously” or “*Wasatiyyah* (moderation) can help us to live in simplicity, reduce the need to compete for bigger houses and cars” (UK4), “Ways of personal contribution to the environment, walking instead of driving, organic food, less meat, minimum waste” (UK1), “We need to be realistic but not pessimistic as in the story with the ant carrying water to a fire” (GL1). The collective aspects were emphasized in the following: “I'd like to volunteer to clean the canals of rubbish and trimming overgrown trees” (UK6), “Indirectly contributing to environment through tree planting by volunteer teams” (KW2), “It is possible that even small organizations when focused have a great impact” or “Grassroots taken as small organizations need to be supported and nurtured into big ones” (KW3), “Grassroots very valuable because entrepreneurial spirit and self-motivation is very difficult to find or build” or “We need both grassroots and professional organizations” (SA1).

‘Technology and innovation’ were praised as a general path for a solution based on three grounds: ‘Because new tech means betterment’, ‘Because they will effectively

reduce pollution’, and ‘Because they allow economic development and environmental preservation simultaneously’. To the first the following codes were assigned: “Humans developed new technologies that increased productivity so expected famine never happened” (QA1), “World should have enough natural resources to feed even more people but they must be used smarter” (UK5), “Technology a driving force behind aligning business with the environment” (SA2), and “Contributing indirectly to the environment by reducing energy consumption, paper use, and process automation” (BH1). The second subcategory, effective reduction of pollution with technology, contained the following: “Electrical cars will make a big difference to tackle environmental crisis” (KW2), “Electric cars as means of combating pollution” (SA2), “Wind farms, solar panels, green energy etc. are helping to combat pollution” (KW3), “Not necessarily slowing down but going for neo-Malthusian green or technovation instead” (UK5), meaning the economic development cannot be slowed down but rather improved by new green technologies. For the last and third subcategory, enabling parallel development and preservation, the following codes were listed: “With the new technology, both economic development and preserving nature can be achieved” (BH1) and “All countries going for harmonization now, and it takes harsh, fast and big economic development to feed this” (GL1).

‘Political, administrative, or legal initiatives’ as a path to follow to generate solutions to the environmental problems, justified by the supporters on a variety of grounds, were coded as follows: “On paper countries seem to agree but in practice it's not happening” (UK4), “We moved past the talking stage, we should talk about implementing sustainability” (KW3), “As the best scenario, international organizations, advocacy and civil society need to push for more standards respecting humans and other creatures” (GL1), “There's a national vision for sustainability but I'm personally not involved in related work” (BH2), “Controlling consumption takes regulating personal freedoms, which can be done much better in autocratic and centralized systems” (UK3), “Those who lack in faith will still need to obey laws” (KW1), and “We use education, faith, law, everything at hand to raise awareness” (QA1).

‘Education, awareness, self-development’ as means of easing the environmental issue appeared as another group of codes such as “Raising awareness and investing in technology should go in parallel” (QA1), “We need to keep talking about sustainability

to teach the coming generations but a certain awareness already saturated” (KW3), “We should start with parents so they can teach their children about environmental issues, this is more effective” (BH2), “Educating own children to give them some awareness as means of personal contribution to environment” (UK1), “Graduates absorbing the sustainability indoctrination so sustainability is within them” (KW3), “A culture of sustainability for young generations” (SA2), “Sustainability is also about self-development, developing the individual, teach them to use *aql*” (UK7).

‘Inclusion and cooperation’ were evident in the following codes: “International cooperation on environment a must because they share the same goal” and “International cooperation prevents duplicate efforts, allows experience sharing” (KW1), “While helping people in need or dire situation you can collaborate with different faiths” (AE2), “Different sectors have to interact and engage with each other to create sustainability” (UK3), “Issues of environment need to be contributed to by all because it affects everyone” (AE1).

‘Balance, moderation, or mid-way’ emerged as a category owing to the suggestions made to reach a middle ground between total economic development at the cost of the environment and total environmental preservation at the cost of no development. Some of the codes in support were as follows: “By reason a balance between taking from nature and not overexploiting it can be established” (UK1), “A right place to start a change could be utilizing the Islamic concept of *wasatiyyah*, especially for the religious” and “We can try to do things more sustainably like clearing out only the essential bits of a forest without going all the way for profit” (UK4), “Distribution aspect of development is quite easy, the Hadith says one meal is enough for two” (UK7), “We should consume every resource in a reasonable way and not too much” (BH1), “No country would reduce economic development, it's against their nature, but we can push for environment-friendly programs” (GL1).

‘A religious or moral approach’ existed as a minor category with “(Moral) principles might play a role in changing behavior aiming at midway between development and preservation” (BH1), “Two major tools to deal with environmental issues, law, and faith” (KW1), “*Al-muzaraah, istisna, murabaha* are examples of Islamic financial sustainability tools” and “We use education, faith, law, everything at hand to raise awareness” (QA1). The institution of *waqf* was proposed as an Islamic tool to alleviate the environmental issue, as evident in “*Awqaf* as an institution is a very good Islamic

practice for sustainability” (QA1), “Doing *waqf* for your own family or *nasl* is also *sadaqah jariyyah*, generational self-sustainability”, and “*Awqaf* is part of Islamic *akhlaq*, started with humans then moved to animals and nature, when Muslim morals failed so did *awqaf*”, and also “The *waqf* administration should be independent of government involvement” (QA2), “*Waqf* as means of assuring charity's sustainability” (KW2), and “*Waqf* is the organizational example to sustainability” (OM1).

‘A breaking point is necessary’ along with ‘Something bigger has to change or transform’ were the arguments forwarded by some of the interviewees to imply that before any sustainability transformation can be realized, a radical shift in the globe or within the societies would need to take place. “Necessary transformations might only occur when devastation is convincingly huge” (UK2), “You can't really put the genie back into the bottle” and “Maybe mankind will go back to being local, that would allow us to return to sustainability” (UK3), “Change for sustainability can happen on the communal level “ (UK1), “You cannot remedy human nature, it is what it is, but you can remedy capitalism” and “To ensure sustainable development fundamental systems need to be transformed” (UK2), “A change can happen if masses pressurize administrations and if we reduce our consumption of things” (UK4), “As the best scenario, international organizations, advocacy and civil society need to push for more standards respecting humans and other creatures” (GL1), were the respective supporting codes for these categories.

f) Challenges and Barriers

Challenges and barriers to ensuring sustainability, as referred to by participants during the conversation, were merged into this category with special attention reserved separately for economic development, which was directly inquired about by an explicit question (see Appendix: Interview Questions), and analyzed in detail under ‘Development’. The main subcategories created after the major sustainability challenges were, rather tagged descriptively, ‘Socio-political challenges’, ‘Complexities and unrealistic goals’, ‘Regional and social differences’, ‘Ignorance, lack of awareness and education’, ‘Socio-economic challenges’, ‘International conflicts’, and ‘Human nature’. As mentioned several times before, no mutual exclusivity nor collective exhaustivity is assumed for these subcategories or the owners of respective opinions. A participant may have held various opinions and perceptions that were assigned to more than one category, and these categories are far

from being exhaustive. Likewise, some overlap of the below codes with ‘Causes of the Crisis’ codes, namely, an intersection between causes and challenges, can also be expected.

‘Socio-political challenges’, comprising close to half of the participants’ statements, were observed in the following codes, grouped under ‘No sincere political will for change’: “On paper, countries seem to agree but in practice, it's not happening” (UK4), “When UNDP missions or Geneva Convention are agreed amongst powerful state actors there is always a backdoor” (UK5), “People in positions of power need to take lessons in how to listen to people” (UK1), “Arab Spring was an example where we saw many regimes allying with each other to stop change” (UK3), and “When compared massive amounts go for funding wars instead of contributing to sustainability” (KW3). Another group within ‘Socio-political challenges’, the ‘Lack of legislation, institutions, and state involvement’ were referenced by “Lack of new laws and policy making is an issue in the Gulf” (SA1), “Another challenge, lack of *waqf*, there are not as many as it used to be” (AE2), “The role of the family remains extremely important in the absence of a strong state” (UK3), and also “International organization working for sustainability too politicized” and “Best strategy for sustainability is to split it from politics” (KW2), both of which hinted at difficulties in policy-making, including politicization. Other code groups, with only one subscriber, were ‘Centralization and autocracy’ (“Central planning and autocracy are more geared up for dealing with crises such as climate change”, UK3), ‘Concentration of power’ (“Wealth, authority and power are increasingly concentrated in the hands of the few”, UK1), ‘Corruption’ (“Government elites taking bribes to allow dumping of waste”, KW1), ‘Disempowered communities’ (“Listening to communities can make a big change, some best ideas come from them”, UK1), ‘Democratic dilemma and populism’ (“Anti-consumption policies imply almost an acceptance of failure, people will never vote for that”, UK3), ‘Different time trajectories for different societies’ (“Muslim societies, in general, are on a different time trajectory to the Global North”, UK3), and ‘No social conflict, no change’ (“Because of modern warfare the conflicts that would need to happen to enable change are less likely to happen”, UK3).

‘Complexities and unrealistic goals’, with about one-third commonality, were suggested as another subcategory that created barriers to sustainability. The respective codes were “Globalization has added to the complexities of unrealistic practices”

(UK5), “Clean energy alternatives must also be economically feasible, like low cost, if not, countries would go back to carbon fuel” (GL1), “Economy as the main driver for sustainability” (AE1), “While appreciating the UN definition for sustainability I also realize they couldn't say that we'll keep everything the same as before” (UK5), “Private sustainability you can control, general sustainability is beyond our control and might not materialize” (QA2), “Each project has its own challenges, there is no one big common obstacle” (KW3), “It takes a lot of effort to put what you have in theoretical framework into practice” (QA1), “UN definition for sustainability is okay but how will you calculate the expectations of the future generations” (GL1), and “Everyone's talking about electric cars but because of battery technology, it might be even worse than fossil fuels” (UK5).

‘Regional and social differences’ emerged as a category that highlighted the importance of the social and regional context as a determining factor in dealing with unsustainable practices. Some supporting pre-initial codes were: “Being an agent against pollution is about that person's position in the society” (SA1), “In regards to Maslow's pyramid, if you were born in Somalia you wouldn't care about the forest fires in Antalya” (GL1), “Gulf region has a long way to walk in sustainability” (SA1), “Gulf region far better than before but still lags behind Europe in sustainability” (AE1), and “Sustainability efforts in GCC behind world but getting better” (KW2).

‘Ignorance, lack of awareness and education’ were the major themes hampering sustainability efforts in about one-third of the participants’ statements, as in “Lack of education as the main barrier to sustainability” and “People need to know why they should care about sustainability” (AE1), “Number one thing to do about sustainability is to create awareness “ and “Disseminating the right information might turn agents into inspirers” (SA1), “Awareness allows turning environmental issues into constant daily concerns” and “More awareness, less pollution” (KW1), “Lack of awareness and indifference as major challenges” (SA2).

‘Socio-economic challenges’ were coded as follows: “People got addicted to a lot of things that are fundamentally unsustainable such as air travel” (UK3), “The challenge comes from the capital(ism), everything is related to money now” (QA2), “The biggest existential threat to humanity is data surveillance capitalism” and “Accumulation of wealth and capitalism lead to war” (UK2), “Globalization has added to the complexities of unrealistic practices” and “Is it realistic for us to buy Peruvian

asparagus and West Indian mango during winter in British supermarkets” (UK3), “Sustainability consciousness is evolving but slowly, people also have economic difficulties” (KW3), “One of the top challenges to sustainability is economic injustice in the world” and “Creating an environment of equity and level playing field is important to ensure sustainability” (UK1).

‘International conflicts’ appeared as a minor subcategory that was argued to be creating obstacles to sustainability. “Besides environmental issues, there are also wars now” and “You will be doing a 10-year program for green economy but then a war can destroy everything you did and set you back” (GL1), “When compared massive amounts go for funding wars instead of contributing to sustainability” (KW3), “Less resources for future also means higher probability of conflicts” (UK1), and “The number one issue in the world is today the lack of peace and oppression” (BH2).

Finally, another minor group of codes, similar to ‘Human situation is to blame’ under ‘Causes of the Crisis’, was ‘Human nature’, this time, positioned as a challenge against efforts to warrant sustainability, including codes such as “Human being would never slow down when he or she has the opportunity to speed up” (GL1), “You cannot remedy human nature, it is what it is, but you can remedy capitalism” (UK2), “Humans taking things for granted, assume things go forever” (SA1), and “In regard to developing people they should know when to stop insisting on hopeless solutions and do change” (UK7).

5.2.3.7 Development

The participants were asked during the interview whether the approach to economic development, as it is, should be maintained, reduced, or changed. Typically, this investigation would come after conversing about religion-nature relationships and matters of sustainability. How the participants responded to the inquiry generated three main categories in line with their approval or disapproval of the development paradigm: ‘Keep developing’, ‘Reform it’, and ‘Slow down’. As usual, overlapping and intersecting among categories and opinions were allowed, as a result of which, the pro-development stance attained about two-thirds commonality, followed by the reformist approach with around one-third frequency, and lastly, the slowing down, perceived as almost completely unrealistic, was explicitly supported only by one respondent. Despite the overlaps between codes and the multivocality of the

interviewees, the survey-like nature of this particular inquiry allowed the inference that the Muslim charity executives were in favor of economic development. By no means should this be interpreted as they prioritized it over environmental preservation, but it can be safely assumed that ideas such as, for example, degrowth, were not part of their agenda.

a) Keep Developing

This majority category was broken down into the following child categories: ‘Aiming at a Middle Ground’ to answer the questions ‘how’, ‘Because it is a need or right’, and ‘Because nation-states cannot stop’ as responses to ‘why’. The following sample codes appeared to support the notion of development as a need: “Development necessary to maintain jobs and meet needs” and “Economic development is part of life” (KW1), “If you don't develop economically you can't create jobs and that would be bad” (OM1), “Economic development allows us to sustain the means for certain activities” (SA1), “We can't say economic development is bad, it's a good thing, it improves livelihood” (UK6), “Hard to think of anything that can replace economic development” and “Economic development in the sense of developing infrastructure and well-being needs to continue” (UK1), and “With economic development everyone wants a little bit more and also nicer things” (UK7).

‘Economic development as a right’, on the other hand, emerged in the following codes: “People also have the right to develop to have access to TV, air travel, etc. like I do” (UK4), “You can't say do not develop and have what we have to China, can you?” (UK5), or “Economic development is context or region dependent” (KW2), to imply some regions are comparatively underdeveloped and have the right to advance themselves.

The minor subcategory of ‘Because nation-states cannot stop’ was supported by “Even if you wanted to reduce (growth or development) you cannot because all nations are already competing” and “No country would reduce economic development, it's against their nature, but we can push for environment-friendly programs” (GL1), “All countries aim at keeping economic development” (BH1), and “Economic development needs to continue, we can't stop this” (KW1).

As to how to keep developing, the sole major category that emerged was ‘Aiming at a Middle Ground’. Further inquiries of ‘how’ produced the following subcategories,

accompanied by their supporting codes, explaining how such a middle ground can be achieved. The most prevalent subcategory with close to one-half commonality was 'By preserving the environment', generated by the codes such as "Economic development and preserving nature, we need to balance them out" (OM1), "Economic development should be maintained but in a way that avoids harm to the environment" (UK6), "Environment and economic development need to be balanced" (KW1), "Environmental protection and economic development can be aligned" (SA2), "Principle of do no harm is a very good religious and Islamic principle to apply in development and environment" (QA1), "The question with economic development is how to keep it without affecting the environment" (BH1), "We should be able to economically develop in a way that doesn't cause exponential degradation" (UK5), and "What we can do is to align (development) with morals, international standards, environment, and planet" (GL1).

'By considering the human aspect', was evident in "Human side of economic development needs to be balanced with the development itself" (SA1), "We have to develop economically, no doubt about that, but not at the expense of others" (KW3), "There is enough goodness and resources on this planet for future generations" (QA1), and "Development is a matter of priorities as well, you deal with emergency first then move to developmental issues" (UK7), referring more urgent humanitarian relief undertakings.

'By adopting standards and best practice' was supported by "Industrial best practice to balance environment and development" (KW1) and "What we can do is to align (development) with morals, international standards, environment, and planet" (GL1), as cited above earlier.

'By doing more than one thing right' meant concurrent execution of multi-dimensional activities, as in "To develop economically all aspects of sustainability need to be achieved" (KW3) and "By new technologies, changing behavior, establishing policies and regulations, cooperating internationally, we can both develop and preserve" (BH1).

'By reducing or rationalizing consumption' was about more conscious use of resources, as evidenced in "We should consume every resource in a reasonable way

and not too much” (BH1) and “Economic development can be maintained if we can exploit available resources well” (QA1).

‘By subordinating finance and money’ was supported by “Economic development should go beyond just financial aspects of it” (UK1) and “Pro-economic development for sure but at the same time I’m against thinking only of the dollar” (SA1).

‘By aligning with morals’ was a single-code subcategory but was maintained due to the fact that this was where moral aspects, no matter how intangible, were explicitly mentioned, as in “What we can do is to align (development) with morals, international standards, environment, and planet” (GL), a code that was referenced many times.

b) Reform It

A category with about one-third commonality among participants, reforming the existing economic system emerged due to the following pre-initial codes, the first group of which can be tagged as ‘By focusing on other forms of development’, conveying the message that there are other forms of development beyond purely economic. Another group was ‘By aligning it with Islam’. The former comprised codes such as “Development is a complete 360 approach, be it physical, psychological, etc.” (UK7), “There are other forms of development such as spiritual, religious, social, etc.” and “Only focusing on economic development overshadows health, education, general contributions people can make in society” (UK1), “Spiritual capital is extremely important and human development is multidimensional that has to include the spiritual component” and “Spiritual capital has an impact on economic development as in Protestant work ethics or risk-taking as in Muslim or Jewish societies” (UK3). The latter, ‘By aligning it with Islam’, was generated through codes such as “Development in the context of a system created by Allah for us and we have to understand it by Quran” (UK7), “As a Muslim you have to develop technical, spiritual, and social sides of things concurrently” (UK6), and “*Khalifah* means the person who tries to develop the Earth, wherever you are on Earth” (BH2). A few other codes, suggesting reform but without articulation, were “Economic development must be transformed into something else” (UK2), “The concept of economic development should be replaced by something but I don't know what that might be” (UK4), and “How can it be about fairness, equality, or sharing if 95% of the wealth in the world is owned by 3% of the people” (UK7).

c) Slow Down

While single-code and single-participant categories are not desirable in theory-building, ‘slowing down’ was found to be an important addition to the group of potential responses in dealing with economic development, the other two being pro-development and pro-reform stances, respectively. All stemming from the statements of a single research participant, they were as follows: “Where we’re going in economic development is so fast-paced”, “Maybe instead of 180-degree radical change, which might be difficult, we can slow down a bit”, and “Maybe we can grow a bit slowly, without harming the environment” (UK4). One thing that could be assumed safely was that, according to the majority of the respondents, a slowdown option was not perceived as feasible.

5.2.4 Interpreted Relationships

Relations between core themes and concepts, and the construction thereof, are key aspects of grounding a theory in empirical data. Put simply, if building substantive categories out of initial codes and memos is one-half of it, conceptualizing their relationships will be the second half of most of the GT work. What a theory, in general, ultimately does is that “[it] states relationships between abstract concepts and may aim for either explanation or understanding” (Thornberg & Charmaz, 2012). These relationships can be defined according to a template, similar to a coding family, or researchers can be inspired by existing theories (Urquhart, 2013). Such inspirations are a welcome addition to the constructivist co-creation in CGT. The relationships investigated in this section are, on the other hand, somewhere between purely inductive discovery, as would be expected from a GT-informed qualitative analysis employing a coding family as mentioned, and purely deductive hypothesis testing, as one may expect from a process inquiring participants with questions such as “Do you believe your anxiety stems from a feeling of loss of control?” where there is an already established theory or theoretical proposition and it is being tested against sample data. The relationships defined below are derived from interviewee responses to open-ended questions, e.g., Q4 from Interview Questions in Appendix, “Do you think faith/religion has any role in shaping morals?”, or Q7, “Do you think faith/religion has any role in defining our relation to the natural environment?”. These questions did not force or assume any explicit relationship between the respective concepts, for example, as

detailed under the Religion-Morality Relationship, where almost all the participants agreed upon a salient relationship between the two terms, roughly one-half claimed that faith and morality complement each other, while the other half argued that it is possible to be religious but not necessarily moral. As such, these discussions served to provide some very fruitful insights into the agent's worldview without imposing any presumptions. To illustrate another instance, Q6, “Do you think it is a moral or ethical duty to preserve the natural environment?” was also provided with a similar purpose in mind, though, in a relatively less explicit fashion, to examine how the respondent was interpreting the environment or environmental sustainability, and ethics relationship, or whether they were seeing environmental issues as ethical issues or not. The Religion-Uncertainty Relationship, another section below, was probed to a limited extent through means of explicit questioning, as shown in one of the Q12 sub-questions, “Do you think faith helps to deal with this uncertainty?”, which was typically reserved for a special case of uncertainty, moral uncertainty. Instead, the relationship was developed to a large extent inductively through the analysis of interview data.

5.2.4.1 Religion-Morality Relationship

All participants stated that there is a salient relationship between religion and morality; regardless of its nature or direction, the two are closely related. The majority held that ‘Religion shapes morals or is primary’ in this relationship.

a) Religion Before Morality

Example codes in this regard were: “Deeper understanding of faith leads to higher morals” (KW1), “No religion, no morals” (AE1), “Religion-faith-belief invites morality and ethics” (AE2), “Faith has a role in shaping morals” (SA1), “My faith guides my morality” and “Religion provides for like 99% of our moral life” (GL1), “Some say I'm moral but need no faith, my faith is in my heart, no praying, no fasting, this is unacceptable” (BH2), “Most of my morals come from my faith” (UK1), “Explaining universality of moral principles through *tawhid*” (UK2), “Religion helps in areas where our own moral compass is unable to see the big picture” (UK3), “I'm not super religious but I do believe in power of religion in shaping morals of those who are religious” (UK4), “My faith serves as a guiding framework for my decisions,

that's what I feel" (UK6), "Faith has a role in shaping morals" (SA1), and "Faith plays a role in shaping the collective moral character" (UK7).

b) Morality Before Religion

'Morals shape religion or are primary' was the counterpart of the above category in the opposite direction. While accepting a strong relationship between the two, this category conveyed the message that morals have existed long before organized faiths, and they are the building blocks of religions. Some codes were as follows: "*Akhlaq* has always existed even when there was no faith" (UK6), "Prophet (saw) put *akhlaq* before *ibadah*, he said the closest to me is one with the greatest *akhlaq*, not *ibadah*" (QA2), "For me religion equals to morality, and the law came to regulate it" and "Religion, in essence, is a set of morals, if it is not then it is not a religion" (QA1), "Religion is about morals, no morals no religion" (KW1), "The person closest to Allah is also those with the best *akhlaq*, not those who worship more" (QA2), "The Prophet says whoever is best in *akhlaq* will be closest to me in the last day" (OM1), "Islam is about *ad-deen al-mualamat* that is dealings of people, it is about moral code" (SA2), "If you don't have ethics with God who has created you then you are not *mutadayyin* and you don't have faith" (BH2), "It is possible for people to pick a right or good course much easier rather than being told to join a certain religion" (UK4).

A distinct subcategory was the references to natural human disposition or *fitrah*, as a fundamental quality prior to faith, evident in some codes such as "Contents of a good moral compass are the same, even if you're atheist your compass would take you there" (UK7), "People have morals by their nature, regardless of their faith" (KW3), "Sometimes you feel that God has created you with all the good and bad sides in you" (BH2), "Despite universal morals based on reason there will be outliers because their *fitrah* would be not true" (OM1).

c) Morality and Religion Complementary

This was the category that stated morals and faith are complementary, rather than one priming the other. "*Deen* and *akhlaq* are related to each other and in some cases they are one" (BH2), "There is no contradiction between religion and *akhlaq*, they compliment each other" (OM1), "Morals-ethics is one side of philosophy while faith is the other side" (UK2), "Religion commands us to do right, it restricts and guides our behavior, this corresponds to morality" (QA1), "Morals and faith coming together tell

me to do the right thing and stop doing wrong” (UK6), “Religion is important in identifying proper morality, good deeds, and how to behave in society” (KW3), “Religion helps in areas where our own moral compass is unable to see the big picture” (UK3), “Faith-morality a historical relationship” (UK1).

d) Islamic Morality Distinct

Some participants, about one-third, indicated that ‘Morals are very central and strong in Islam’, evident in codes such as “Islam is the basic of *akhlaq*” (KW2), “Morality taught by parents, owed to Muslim origins and Islamic background” (SA2), “I doubt if there are such strong morals (as in Islam) are elsewhere” (OM1), “The Prophet says he is a messenger to bring good morals, and this is (should be) the mission of a messenger” (QA1), “In Islam *akhlaq* comes first, then comes the financial side. In the modern world it is the opposite” (QA2), “Islam speaks a lot about morals” (BH1), or “The Prophet helped everyone, be it Muslim or non-Muslim, that is the ethos we need” (UK7). A few also argued that morality in Islam is different from secular ethics, in that it draws upon distinct sources, as in “Ethics is different in Islam in that you can deduct right or wrong based on utility but not *halal* or *haram*” or “We may perceive certain things from within Islam to be related to ethics but without a divine framework, they won't be Islamic” (UK5), “As a Muslim what guides us most in terms of a moral life are the Quran and the Sunnah” (GL1). It was also claimed that religion and morality are inseparable: “In Islam *akhlaq* and *deen* should not be different, it is wrong to be a *mutadayyin* with no morals” (BH2), “If we don't relate *akhlaq* to *deen* then it's a matter of psychology, something inside you, thus incomplete”, “The Prophet says he was sent to complete the *akhlaq*” (OM1). ‘*Muamalat* is a unique moral feature of Islam’ emerged as a minor category but nevertheless contributed to the claim that Islam is substantially different from other moral systems. “The Prophet says that real *deen* is about *muamalat*” (OM1), “*Deen* has two parts, one is worship or *ibadah*, the other transactions or *muamalat*” (QA2), “There is *akhlaq* with Allah and *akhlaq* with people” (QA2), “You could commit all the crimes in the world but you can still be forgiven because of Allah's mercy” (UK7) were some sample codes in support of this category.

Some excerpts highlighted ‘Important differences between secular and religious morality’, as in, “In secular humanist understanding limits are set by human, in the religious understanding it is the divine law-giver” (UK5), “Main difference between

believers and others is that the former feel there will be accountability” (UK3), while some stated that ‘Different religions might hold different moral understanding’ as shown by “Different religions might hold different views on certain moral principles” and “Some religions might deny life to people from other faiths, causing conflict” (BH1).

e) Morality and Religion Distinct

About two-thirds of the participants made statements that were coded as ‘Morals and religion are separate things’, implying either a weak or no salient relationship between faith and morality. As mentioned previously, no mutual exclusivity should be assumed among participant accounts, and neither should they be treated as staunch defenders of black-and-white opinions. Overlaps or contradictions can happen. Moreover, as will be seen in the following sample codes, a good number of them can be taken as criticism of the current situation within Muslim societies rather than a theoretical or normative belief in the separation of morals from religion. Nonetheless, it is noteworthy that the majority of respondents made statements that perceived religion and morality as distinct, stating that invoking one did not automatically imply the other.

“*Akhlaq* is *akhlaq*, it is independent of religion” (KW2), “Morality not necessarily related to religion” (KW1), “We don't have to be Muslim to know what is wrong, what is right” (BH2), “Being moral is not necessarily being religious” (AE1), “Morality is different from faith” (UK2), “Morals and ethics are not specific to any ethnicity or faith” (SA1), are some of the supporting codes. Other similar codes with a slightly different connotation such as ‘Religion yields no individual or collective moral superiority’ were “Faith makes a massive difference in terms of people's sense of well-being but hardly feeds into morally superior societies today” and “I don't think Muslims are morally superior to any other group” (UK3), “Being moral is not necessarily being religious” (AE1), “Both among people with faith and no faith there are charitable and morally aware, and those that are not” (UK7), “There are people who almost have the same morals as me but have nothing to do with my faith” (UK1), “Morality is not a brand of religion or Islam” and “Sometimes non-Muslims are better in moral matters than Muslims” (KW2).

A critical category was ‘It is possible to be religious but not necessarily moral’, which, to a great extent, was a criticism extended to Muslims. When grouped as per causation

coding the codes that appeared as answers to why or how this became the case, were such as ‘Because the essence of religion ignored or misread by Muslim followers’, ‘Because of alienation of scholar from academia and society’, ‘Because of societal corruption and centralization of power’, ‘Because money, capital, greed, selfishness, etc. replaced morals’, ‘Because of divorce of religion from the divine as in the West’, and ‘Because of preferring sole worship over morals with people’ including some unknown (to the respondents) or unnamed (e.g., “for some reason”) explanations as well. All the named codes were categorized under ‘Because morality-religion link has been damaged or severed’, supported by roughly one-third of the participants.

5.2.4.2 Morality-Sustainability Relationship

The following quote-like codes were provided in support of the argument that matters of environmental sustainability are also moral issues, quite often, described as being subject to duty: “To sustain and protect the environment is a moral duty” (SA1), “Improving human and environmental health a moral thing, it's about our build and values” (SA2), “Sustaining or protecting the environment is a moral duty” (KW2), “Sustaining the environment is unquestionably a moral duty” (KW3), “Preserving the natural environment is a moral duty” (UK2), or “Polluting the environment is immoral because Islamic teachings say we're the guardians of what God has given” (UK4). Cleanliness was also stressed as a moral question in relation to pollution: “Anything that harms environment is immoral as mentioned in the Hadith speaking of cleanliness” (BH2), “Humans should have *akhlaq* to themselves first, that is cleanliness, then towards people, and also nature” (QA2).

a) Environment as a Universal Moral Duty

More than three-quarters of the interviewees presented arguments that could be categorized as ‘Caring for nature is a moral duty’. The largest subcategory with almost equal commonality was ‘Caring for nature is a common or universal moral duty’. Causing coding yielded the following explanations in the eyes of the respondents as to why, from the codes with the highest frequency to the lowest: ‘Because it is a common responsibility’ as indicated in “Caring for nature is a common moral principle because it is our responsibility to take care of it” (UK3), “Caring for the environment can be called a common moral principle, in fact it is our duty, responsibility, our job” (UK4), “Caring for the environment is a common moral principle that is abused by

voraciousness of capital, by greed” (UK2), “Caring for the environment is a universal moral value” (UK1), and “Environmental responsibility for everyone” (KW1).

b) Environment as a Common Ground for Religious and Secular

‘Because it is defended by both religious and irreligious’ was another subcategory that highlighted the intersection of morals, faith, and environment: “Nature a common moral good because religious and irreligious defend it at the same time” (UK1), “Regardless of ethnic or religious background treating environment well is a common moral principle” (KW3), “Caring about nature is beyond religion, no belief would harm Earth” (AE1), “There are atheist environmentalists, they have the *rahmah* for the planet” (UK7).

c) Environment as a Cause for Interdependence

‘Because its degradation or loss will harm all humans’, conveying the message that we are all on the same boat, sharing the same fate, with a subtle anthropocentric undertone that humans should care about nature because any harm to it would also affect humans was an important subcategory: “Environment is a common moral issue because its degradation affects everyone” (AE1), “Natural environment a common moral good because it affects us all” (UK1), “Preserving the natural environment is a moral duty but beyond that an issue of survivability” (UK4), “Caring for the environment is a common moral principle since we're trying to mutualize resources for future generations” (UK6). A similar attitude was evident in ‘Because humans depend on each other for co-existence’, observable in codes such as “Environment a universal moral principle foremost because of our co-existence” or “Caring for environment can be universal morals, it is like a social contract, or Ten Commandments” (UK5), and “We care about each other (and children) because we live together and depend on each other” or “We want the next generation to have at least a planet like we do now” (GL1).

d) Environment as Something Everyone Can Agree On

The natural environment, as per analysis, also appeared as something ‘All humanity can agree on’, supported, for example, by “Protecting the environment is a moral principle all people can agree to” (BH1) or “It is your humanity that encourages you to take care of the environment” (BH2). Some attributed a moral dimension to nature by referring to the rights of others including other species, as in “Polluting is immoral and sinful because it tramples on the rights of the others” or “Humans have trampled

on the rights of other species” (UK3), as well as “The story with the Prophet and the little bird in support of nature-morals-religion relationship” (OM1).

5.2.4.3 Religion-Sustainability Relationship

Having analyzed the relationship of morality with the environment and environmental sustainability, and established ‘Caring for nature is a common or universal moral duty’, a further investigation of how sustainability and religion were related was conducted.

a) *Environmental Stewardship*

With a commonality of around three-quarters, the main argument was that the environment and religion relationship is strong, with more than half of the respondents explicitly referencing the term ‘steward’ or as sometimes named *khalifah fil ardh*: “God has created Earth for us to be the *khalifah* here not on a different planet” (KW3), “Adam was sent onto Earth to build, to *emaar* to ensure its prosperity” and “Allah calls us *khalifatul ardh*, that is not just nature, it's the Earth, it's everything” (GL1), “In order to put (environmental) *khalifah* concept into action you would need have some legal-moral background” (QA1), “Explaining the environmental duty Allah gave us with regard to verse with *fil ardhi khalifah*” (BH2), “Nature as part of our duty in this world” (UK1), “Muslims are morally obliged to protect nature due to concepts of *khilafah* and *amanah*” (UK2), “Polluting the environment is immoral because Islamic teachings say we're the guardians of what God has given” (UK4), “Being *Khalifah* on Earth, despite different linguistic interpretations of tafsir, as an example of Islam-nature relation” (UK5), “It's a moral duty to preserve the natural environment, not only ethical but also as per faith” and “*Al Khalifah fil ardh* declares my environmental responsibility as a Muslim” (UK6), and “Faith can help sustaining the environment since it's mentioned in Quran and Sunnah that we're the safeguarders” (UK7).

b) *Islam Clear About Environmental Care*

There were several additional references to the understanding of environment, nature, or *tabi'ah* in Islam, beyond stewardship: “There is more than a relationship between Islam and *tabi'ah*, a matter of being” (GL1), “Caring for nature is an integral part of Islam, like in 70 shades starting with 'shahadah' and ending with removing a rock from road” (OM1), “Islam is clear about how to care for the environment” (KW3), “Religion is central in defining our relationship to natural environment” (UK3), “Environment is

always present in public and private debates (*khutbah, mawaidha*, etc.), because it is a public topic” (QA1), “Islam is underselling itself to both its followers and a broader wider world” and “If you rephrase some *Shari'ah* articles they might look very similar to some of Greenpeace stuff” (UK5), “Islam teaches us to take care for all people and creation, prioritize the well-being of others” (UK6), “Religion-nature relationship in Islam expressed in reforming the land” (BH1).

c) *Environmental Care as No Harm*

‘Not harming’ was also an important subcategory in defining the nature and faith relationship. Some sample excerpts were as follows: “Islam prohibits harming the environment” (BH1), “As an Islamic example, the Prophet ordered not to kill or harm trees even during the war” (OM1), “Faith-nature relationship in simplest terms as not harming any creation” (BH2), “Principle of do no harm is a very good religious and Islamic principle to apply in development and environment” (QA1), “Khalid b. Walid's instructions on not cutting palm trees during campaigns as a pro-environment Islamic example” (UK5), and also was given “The *hadith-i sharif* about not harming the cats in response to the immorality of polluting” (GL1).

d) *Earth as the Only Home to Humans*

This appeared as a minor category with less than one-third commonality among the respondents. Nevertheless, as part of the process of constructing agent worldviews, it is still important to note less frequent but curious findings. Should humans care about the environment because the planet Earth is their sole and only home, in other words, should one suspect another human-centered undercurrent in these statements?: “God has created Earth for us to be the *khalifah* here not on a different planet” and “We can explore other planets for science but better be realistic and implement God's commandments here on Earth” (KW3), “Our planet and even our solar system are extremely unique to the whole universe, this compels any faith to be responsible” (UK6), “Environment is the habitat of the human being, that is why religion gives it so much attention” (QA1), “*Khalifah* means the person who tries to develop the Earth, wherever you are on Earth” (BH2), “Allah sent us to this planet to *emaar*, so we should include environment not (only) in our prayers but in our actions” or hinting at a broader understanding of home or responsibility as in “Allah calls us *khalifatul ardh*, that is not just nature, it's the Earth, it's everything” (GL1).

e) *Compassion and Rahmah Towards Non-Human Life*

The category was evidenced in the following: “On the Judgment Day you will be asked about everything, even if you caused the death of one bird” (QA2), “Our actions should reflect the values of compassion, justice and environmental care” (UK6), “Regardless of our belief we all have to take care of animals in the society or the country we're living in” (BH2), “The story with the Prophet and the little bird in support of nature-morals-religion relationship” (OM1), “You water trees and plants because they need it, you're giving them *rahmah*” and “Having *taklif* and hardship you cannot simply slaughter an animal as you wish, you have to show *rahmah*” (UK7).

f) *Praying for Nature*

The distribution of participants who claimed to be praying, either individually or collectively, for the sake of nature from time to time and those who said they would hardly do so if at all, stayed about 50-50: “Environment not present in personal prayers” (BH2), “Environmental issues not much present in personal prayers” (UK1), “Nature not directly present in personal prayers” (UK2), “Environment is not very common in Muslims' prayers” (QA1) or “Environmental issues not present in prayers or sermons” (SA1) were some sample codes.

The main reasons proposed as to why that would be the case were “Environmental issues not present in prayers because it is not part of culture” (AE1), “Main reason for not having nature in prayers is lack of importance given to it” and “Discussions about nature is a rather recent topic Islamic circles, that is why we don't hear it much in sermons” (UK1), or the critical response as “How should (or can) someone without certain level education or awareness interpret stewardship of Earth in a *khutbah*”, “Hard to hear anything about environment in sermons because at least in the UK there is a sort of secularization of religion from sciences” (UK3). Some stated that “Environmental issues indirectly addressed in personal prayers” (KW1), or likely escaped their attention, as in “I don't recall environmental issues discussed in prayers but I don't pay much attention to *khutbah*, I'm sure they do” (GL1).

About a third of respondents simply added that even though the current level of importance assigned to environmental issues within Muslim circles was not high enough they would like to see it addressed more often: “Environmental issues are present in mass prayers but not as much as required, it's like one-tenth of what it should

be” (QA2), “Environmental issues need to be addressed more in sermons” (AE1), “Environmental issues need to be touched more in sermons” (KW1), “I don't hear environmental issues discussed in sermons often, should be discussed more” (BH2), “Nature not part of personal prayers but should be part of mass prayers” (UK1), or as QA1 replied, “Including environment in personal prayers is a good idea, why not, I will do it myself”.

One-fifth of the participants stated that environment or environment-related issues were sometimes present in prayers: “Environmental issues sometimes present in sermons” (KW1), “Once I heard about recycling in a *khutbah*” or “Environmental issues like not wasting water, cleanliness, not dumping rubbish in neighbor's yard etc., are mentioned in sermons” (UK6), “Environmental issues are present in mass prayers but not as much as required, it's like one-tenth of what it should be” (QA2), and “In Oman *jumuah* prayers are centralized and we hear environmental issues mentioned from time to time” (OM1).

Among those who claimed to pray for nature, almost all subscribed to the following subcategory when making *dua*: ‘Praying for human benefit or avoidance of harm’. This, when broken down into finer subcategories, included: ‘Praying for rain’, ‘Praying for bountiful nature’, ‘Praying for health and well-being’, and ‘Praying against disasters, wars’. Example codes were: “Praying for rain as an example of praying for nature” (KW2), “Rain prayer as an example of presence of environment in personal prayers” (UK3), “Rain prayer as an example of presence of nature in personal prayers” (UK5), “Prayer for rain is a very good example to environmental issue because rain is good for animals and plants as well” (QA1), “Environment is not present in my personal prayers but I do pray 'God stop these wars!'" (UK6), “Every *jumuah* I hear *dua* like 'o Allah grow grass for us, help cows get more milk' or asking for rain” (OM1), “Health, wealth, success, or well-being of people may have a higher priority in 'dua' because you pray for your specific needs” (QA2), “Environmental issues if affecting health can be present in prayers” (KW1).

g) Lack of Attention to the Environment in Muslim Communities

Roughly half of the respondents extended a critique against Muslim communities in that, due to various reasons, there has been a lack of awareness of environmental issues. The major reasons, according to the participants, were stated as follows.

‘Because of lack of deeper reflection’: “We need a broader perspective on faith that also includes environment” (UK1), “No prayers for environment because it is seen external” (AE1).

‘Because of lack of awareness’: “Even penetration of Islamic finance is very limited, let alone the environmental aspects of it” (UK5), “Muslims, even the younger generations, lack awareness and education about environment and nature” (UK4).

‘Because of socioeconomic factors’: “Muslims may know more about *zakat* than *ta’biah* because of socioeconomic status, awareness, upbringing, community” (GL1), “As in comparing Pakistan to Germany in recycling, it's a combination of both ignorance and lack of choice” (UK5).

‘Because of lack of collective action’: “Environment is a huge moral question for Muslims, and the alienation of religious communities from academy and society caused a separation” (UK3), “Environmental awareness somehow about personal, family, society well-being, Muslim are not there yet” (UK1).

‘Because of lack of education’: “A key internal aspect is obviously the education, many scholars in the Muslim world would be not well educated” (UK5), “Mom wouldn't believe in climate change because of her upbringing but if an imam tells her about it she would definitely follow” (UK4).

‘Because of issues of modernity’: “Commercialism and convenience also trump otherwise potent Islamic teachings on the environment” (UK4).

Though a minor category with about a quarter of all respondents, ‘Instrumentalization of religion to reinforce environmentalism’ was a noteworthy group of codes. Some claimed that this could be achieved ‘Because they are naturally related’, while some believed this would render feasible ‘Because the religious would be convinced this way’. “Faith has an essential role in many communities, so we need to know what faith says about nature” (UK1) and “Religion can be instrumentalized in educating people about environmentalism, that won't be wrong anyway, it's already there” (UK4) were examples of the former. For the latter, it was said that “If religious leaders include the environment in prayers it would have a huge impact” (AE1), and “If brought up during sermons you might convince believers of environmental issues, scientific or logical explanations would not work on them” (UK4).

5.2.5 A Hypothetical Consolidated Agent

The moral character of the consolidated Muslim decision-making agent (based on commonality factors with no less than two-thirds of all participants subscribing to the same category) is shown in Table 5.1 and was found to include the following major themes: (i) Moral universalism with environmental care as a presumed principal common moral ground across all faiths and worldviews, (ii) morality as collective interdependence, (iii) morality as intergenerational accountability, (iv) faith as the primary influencer of moral behavior, (v) pro-development stance in matters of sustainability, (vi) belief that a consumerism and economism-induced environmental crisis will eventually confront mankind, (vii) optimism in believing a middle ground between economic development and environmental conservation can be achieved and sustained, and (viii) the notion of stewardship or custodianship as the strongest element in explaining the faith-nature relationship. These themes should be taken as salient in the sense-making of the interviewed agents, not necessarily representing a separate normative framework constructed beyond their responses. Uncertainty in decision-making in the eyes of the interviewees is mostly treated as a calculable risk rather than incalculable radical uncertainty and is believed to be resolvable by collecting more data, as well as resorting to faith, as in ‘leaving it in God’s hands’, which in turn led to a rather optimistic stance for the believers when pressurized with questions of uncertainty. Most participants also indicated an increase in their general feeling of uncertainty given the recent worldwide developments, and faith is claimed to be of help in coping with uncertainty. A narrative grounded in data was constructed. Conversations with the interviewees were mostly about economic development and its moral aspects, invoking the issues of sustainability and uncertainty. ‘Aiming at an attainable balance between human benefit and harm to the natural environment’, a well-known question of optimization, now a solution reconstructed within the moral domain, that is, attaining a morally acceptable equilibrium, and maintained through participants’ concurrently pro-development and pro-conservation positions, has emerged as an optimistic claim, surrounded by types of uncertainty such as ontological (e.g., unknown consequences of a climate change in living human memory), epistemic (e.g., properly accounting for needs of unborn future generations), social (e.g., unknown reactions from society to a new sustainable deal), and moral uncertainties (e.g. moral dilemmas arising in dealing with future).

Table 5.1: Late Stage Findings as Consolidated Opinions

Category	Consolidated Opinion	GCC	UK
Morality Definition	I believe morality is doing good and beneficial things for others [90%], such as helping the weak and the vulnerable [65%], or not harming any human or creature [45%], and feeling a responsibility or duty to do such good [80%].	■■■■■ ■■■ ■■ ■■■	■■■■■ ■■■ ■■ ■■■■■
Morality Purpose	Morality is also meant for organizing and sustaining society [90%], it establishes a common ground for collective agreement and interdependence [70%], and provides fairness and justice [55%].	■■■■■ ■■■ ■■■	■■■■■ ■■■■■ ■■■
Morality Value	If I were to call it a value, I would associate it foremost with respect [50%], including respecting others and self.	■■■	■■
Morality Universality	Morals are universal [100%] to the extent that all faiths, believers, and non-believers can agree on the same fundamental moral principles [75%]. I feel all humans already have built-in moral capacity [55%] that is innately moral or good [40%].	■■■■■ ■■■ ■■■ ■■	■■■■■ ■■■■■ ■■■ ■■
Morality-Environment Universality	I think caring for nature is such a universal moral duty [75%] for all people, regardless of their faith or background.	■■■	■■■■■
Morality-Religion Relationship	I believe the morality-religion relationship is salient [100%], and while religion in general is the primary influencer of moral behavior [70%], the two also complement each other [60%].	■■■■■ ■■■ ■■■	■■■■■ ■■■ ■■■
Morality-Religion Relationship	Yet, as a matter of fact, religion and morality are also not the same thing [70%], so it is possible to be religious but not necessarily moral [50%], mostly because their link has been severed [30%].	■■■ ■■ ■	■■■■■ ■■■■■ ■■■
Morality-Religion Charity	I would best describe charity as helping, caring for, and sharing with those in need [50%]. It is foremost a religious or moral duty [60%] to me, in a world that has always been an inequitable place [55%], for it is a test by God [30%].	■■ ■■ ■■ ■	■■■ ■■■■■ ■■■■■ ■■
Morality-Religion Charity	I started working in the charitable sector because of what I have experienced in my life [50%] and to fulfill my intentions (e.g., communal obligations, seeking a purpose in life, etc.) [55%].	■■■ ■■	■■ ■■■■■

Environment-Religion Role of faith	I believe that the environment-religion relationship is strong [75%], in Islam mainly due to the notion of stewardship ('khalifah fil ardh') [55%].	■■■■ ■■	■■■■■ ■■■■■
Environment-Religion Praying for nature	I hardly pray myself or recall having attended prayers specifically for nature [55%], don't exactly know why not, though, but I can give examples of prayers related to nature, such as rain prayers, prayers against natural disasters, or for a bountiful nature [50%].	■■■■ ■■■■	■■■■ ■■
Uncertainty Coping	I believe precautionary measures such as collecting more data, planning, and paying attention to warning signs [70%], along with resorting to faith [70%], including leaving it in God's hands, 'tawakkul' [50%], are important in coping with uncertainty.	■■■■ ■■■■■ ■■■■	■■■■ ■■■■ ■■
Sustainability Definition	To me, sustainability is a notion foremost about continuity and longevity [85%], in particular of our own charity operations [50%].	■■■■■ ■■■■	■■■■■ ■■
Sustainability Future generations	I believe we have a responsibility towards future generations [70%]. We should care for our 'nasl' [70%], which my own children will also be a part of [45%], and leave them a fair and equitable future [55%].	■■■■ ■■■■ ■■	■■■■■ ■■■■■ ■■■■
Sustainability Economic development	I think we should keep developing economically [70%] because to me it is either a need or right to material well-being [50%], but we should aim at a balanced midpoint [65%] between benefit and harm.	■■■■ ■■	■■■■ ■■■■
Sustainability Economic development	Personally, I don't find it promising or helpful to try to reform the current development paradigm [35%] or slow it down [5%].	■ ■	■■■■■ ■
Sustainability Environmental crisis	My own observations [50%] convinced me that there is a serious/critical environmental issue [70%], and eventually we will face its consequences [60%].	■■ ■■■■ ■■■■	■■■■ ■■■■ ■■■■
Sustainability Environmental crisis	I think the global economic system [85%] (with all its constituents, such as businesses, governments, industry, technology, etc.), due to its reliance on consumerism, economism, and profiteering [65%], is mainly to blame for this environmental crisis.	■■■■■ ■■■■	■■■■■ ■■■■
Sustainability Environmental crisis	Changing personal attitudes and volunteering for small collective efforts [50%], followed by technological innovation [40%], and political initiatives [40%], are our best shots at remedying the issue.	■■■■ ■■	■■■ ■■

Source: Author, 2025

5.2.6 Potential Cultural Influences

Table 5.1 also shows approval ratings from particular geographic/cultural groups for each consolidated statement, where colored boxes in the GCC and UK columns visualize the ratio of participants from the corresponding groups who agree with the assertion. Each box can be assumed to represent about a quarter of the total number of participants in that group; as such, consolidated statements where the difference between the two groups seems largest (e.g., 1 versus 4) hint at significant divergence between the two. No substantial disagreement between the GCC and the UK profiles was visible in the table, except on reforming the existing development paradigm, where UK-based interviewees exhibited a pro-reform stance in contrast to the GCC respondents, who did not agree with reforming and instead preferred a pro-development stance. Despite a general agreement between the two on almost all of the matters in question, UK participants might have exercised a proportionally stronger sway on the narrative; that is, many consolidated statements were constructed due to contributions from the UK-based interviewees with relatively higher commonality, which also implies greater homogeneity among UK participants themselves. Having noted these somewhat interesting findings, given the rather small sample size and limited number of inquiries into the collective aspects, no statistical inference should be made, and instead, these should be attributed to various indistinct cultural and organizational factors as they are.

Further analysis of the perspectives of respondents from the GCC and UK confirmed a significant foundation of shared values and approaches, likely rooted in common Islamic faith and professional roles. Strong convergences were evident across several core domains. For instance, the belief in universal moral principles and that fundamental morals are the same everywhere received support from participants in both regions, as reflected by the extensive representation of both GCC and UK contributors for these consolidated opinions. Similarly, the faith-environment link was predominantly understood through the shared Islamic concept of stewardship (*khalifah fil ardh*), with participants like KW3 (GCC), GL1 (GCC), and UK1, UK4, UK6 all referencing this principle as central to their responsibility, a view strongly supported by both groups. Furthermore, a similarity appeared in uncertainty coping mechanisms; the dual strategy of relying on pragmatic preparedness (data collection, planning) alongside deep faith-based resilience (trust in God, *tawakkul*) was a highly prevalent

approach across both GCC participants (e.g., SA1, QA1, OM1) and UK participants (e.g., UK1, UK4, UK6, UK7), and supported by numerous quotes. Favoring continued development while aiming for a ‘balanced midpoint’ with environmental concerns also showed strong, shared support from both cohorts, with participants like OM1 (GCC), UK6, and KW1 (GCC) all articulating this balance. Both groups also largely converged on attributing the environmental crisis primarily to the global economic system and proposed a similar range of remedies.

Despite these strong commonalities, subtle but potentially significant differences in emphasis and framing suggested the influence of distinct cultural and geographical contexts. It was explicitly noted that the conceptualization of ‘Religion as a social element’, highlighting its role in social capital, trust, and as a motivator in a pluralistic sense, was predominantly contributed by the UK-based participants (UK1-UK7). To speculate, this may reflect the experience of operating as a Muslim minority within the UK's secular, multicultural society, where religion is perhaps more consciously articulated as a distinct social identity. Similarly, proactive arguments for charity involvement, such as fulfilling a personal philosophical worldview or seeking deeper, self-defined meaning beyond direct religious obligation, were also dominated by the UK-based interviewees, such as UK5, UK3, and UK1, potentially indicating an intersection of faith-based duty with Western cultural narratives around individual purpose and self-actualization. In contrast, GCC-based participants (e.g., SA1, AE1, KW2) were more likely to frame environmental and sustainability concerns through the lens of specific regional challenges, development realities, and resource management pertinent to the Gulf, reflecting how universal principles of stewardship are applied to immediate, localized contexts. These nuanced differences underscore that while a shared Islamic ethical framework provides a powerful unifying core for these executives, their diverse lived experiences in the GCC and the UK determine the expression, prioritization, and application of these shared principles, that is, how they are operationalized, in their professional lives.

5.2.7 Potential Tensions

An implicit tension between two intertwined positions was also investigated, an environmental pro-stewardship stance (e.g., explicit and implicit references to the concept of stewardship, or *khalifah*) and a non-environmental anthropocentric attitude

that primarily focuses on humans without treating nature as a separate entity, seeing it rather as a source to incur benefit, without any sacredness assigned to it (Table 5.2).

Table 5.2: Pro-Stewardship vs. Anthropocentric Attitudes

Participants by Large Claim To	Incline Toward
Believe in a global environmental crisis to the point of expecting some kind of catastrophe in the future for certain.	Pro-Stewardship
Accredit the environmental crisis to the global economic system and overconsumption.	Pro-Stewardship
Yet defend the further pursuit of economic growth, seeing it as a right, refute slowing down or reform, and optimistically claim that a balance between development and preservation can be achieved.	Anthropocentric
And while they consider the notion of <i>khalifah</i> the most important environmental term in their faith, evidencing the strong relationship between the two...	Pro-Stewardship
...nature is hardly present in prayers or meetings (and when it is, that is mostly to incur some benefit or avoid harm to human life), and neither is the idea of stewardship elaborated beyond a religious ideal.	Anthropocentric
Despite the fact that they claim nature to be ‘the’ universal moral ground for the globe and believe in liability to future generations...	Pro-Stewardship
...hardly any intergenerational solutions to the crisis are offered; thus, the focus remains on the present.	Anthropocentric

Source: Author, 2025

These findings also resemble some of the recent literature on religiosity and environmentalism (Shehu, 2023) and, as such, should not be taken as exclusive or exhaustive categories of opinion among Muslim participants, instead, they are better seen as intertwined and overlapping attitudes, and neither of them necessarily implying devaluation of nature as claimed in Dominion Thesis by White (1967). To highlight, White argues that Western Judeo-Christian interpretations of humans having dominion over creation fostered an anthropocentric worldview that desacralized nature, viewing it as existing solely for human use, thereby contributing significantly to the historical roots of the modern ecological crisis. While a stewardship/*khalifah* approach can be described as a form of human exceptionalism, the two major elements that, in the statements of participants, almost always appeared attached to it, trust (*amanah*) and responsibility (*mas'uliyah*), establish somewhat of a distance from the bare

domination logic. This is not to say that Christianity (or its practices) is (are) pro-dominion and Islam (and its practices) is (are) not. This is simply to imply that a relevant Islamic vocabulary, according to the participants, exists to account for the natural environment and creation in a broad sense, and while human-centered, it is not exploitation-endorsing. But its operationalization (or lack of it), on the other hand, can be and thus deserves dedicated focus in a different study. Similarly, another distinction in attitudes, this time in the faith-morality relationship, among participants was felt to be about ‘intrinsic’ vs. ‘extrinsic religiosity’ (Allport & Ross, 1967; Vitell et al., 2009), where agents inclined towards the former typically exhibit greater self-awareness in relating their faith to the moral context. It is an internalized motive in life. The latter is associated with frequent external references to religious sources and represents a more utilitarian approach to religion where religion is instrumentalized to achieve other ends, such as social connection, comfort, security, or personal status. A possible link between intrinsic religiosity and pro-stewardship attitude in the case of Muslim decision-makers should be further studied.

5.2.8 Expansion of Initial Findings

The initial analysis documented earlier progressed significantly from a preliminary initial analysis based on the first seven interviews to a more methodologically rigorous, GT-informed approach applied to the full dataset of 21 interviews in the later stage. This also led to substantial development across key concepts. ‘Moral Universalism’, identified as a theme initially, was confirmed and explored with greater depth in the later findings, which also detailed nuances regarding specific Islamic moral frameworks and community critiques. The later stage also detailed the ‘Religion-Morality Relationship’, exploring arguments for religion’s primary influence versus morality’s precedence (*akhlaq* before *ibadah*), their complementarity, their distinctness (possibility of being religious but not moral), and specific features of Islamic morality, such as *muamalat*.

The definition of ‘Morality’, discussed superficially earlier, was later systematically categorized through multiple participant perceptions: ‘Organizing Society’, ‘Goodness and Beneficence’, ‘No Harm’, and ‘Respect’. Similarly, the initially noted ‘Faith-Morality Relationship’ was analyzed in detail in the later stage, revealing complex participant views on primacy, complementarity, and distinctness.

The initial theme of 'Human First or Anthropocentrism' transitioned into more specific, detailed findings in the second stage; while less explicitly labeled, its underlying tendencies were confirmed through the analysis of the dominant 'Keep Developing' stance, the human-benefit orientation of nature-related prayers, and sustainability definitions emphasizing continuity. The initial framing of faith's role concerning the environment as 'Faith-based Constructive Criticism' evolved remarkably; the later analysis centered this relationship on the Islamic concept of 'Stewardship' (*khalifah* with *amanah*), detailed relevant principles like 'No Harm', and critically examined the observed lack of community focus on environmental issues.

A number of concepts mentioned briefly initially saw major expansion. Uncertainty coping, touched upon with references to preparedness and faith, became a major analytical category in the later stage, detailing multiple coping strategies such as *tawakkul*, preparedness, and embracing, likely due to the refined focus on uncertainty during data collection. Sustainability, implied initially, received an explicit definition and analysis later, emphasizing continuity, responsibility towards future generations (*nasl*), and its multidimensional nature. The stance on 'Development', hinted at earlier, was explicitly investigated in the later phase, confirming the 'Keep Developing' and 'Aiming at a Middle Ground' preferences. 'Charity', also, was later analyzed in depth regarding its definitions, motivations, and perceived causes of need.

Methodologically, the later stage introduced explicit relationship analysis between core concepts, moving beyond thematic description. This culminated in a more robust synthesis output, the consolidated opinions in Table 5.1, which offered a more detailed and empirically grounded summary across the full dataset compared to the initial preliminary conceptual map in Figure 5.1. Overall, the late findings represented a significant deepening, refinement, and expansion based on a larger dataset and a more structured analytical process. The late analysis also introduced comprehensive definitions and explorations of key terms (charity, sustainability, development) and a multi-faceted investigation into unsustainability (causes, consequences, remedies, challenges) that went far beyond the scope of the initial findings.

5.2.9 Emerging Themes

In addition to the participant-provided definitions and relationships between key themes and concepts, a thorough cross-comparative analysis enabled the emergence of the following themes among different categories and codes.

a) *Influence of Worldview on Problem Framing*

Viewing religion, Islam, as a distinct worldview, emphasizing *akhirah*, God's will, *amanah*, or non-material values in general, likely shapes how problems like the environmental crisis or inequality are understood, potentially differently than viewing religion as a social element. This distinct worldview attitude might provide alternative frames for critiquing consumerism or valuing nature beyond human utility, although the latter seemed less prominent than stewardship. It could also underpin the 'Resorting to Faith' coping strategy for uncertainty.

b) *Charity Concepts Relating to Sustainability Goals*

The definitions of charity as a religious duty, human duty, or choice/volition seem to inform the understanding of sustainability. Specifically, 'Sustainability as responsibility towards future generations' (*nasl*) strongly resembles the themes of duty found in charity definitions. The care for future generations appears framed as an extension of the moral/religious obligation to care for others. 'Sustainability as Continuity' (especially organizational) can be seen as the operational imperative stemming from the commitment to the charitable mission described, needing the organization to survive to fulfill its duty/purpose.

c) *Environmental Crisis as a Moral Failure*

The strong critiques of the global economic system, blamed for consumerism, profiteering, and exploitation, suggest that the environmental crisis, caused by the economic system, was perceived not just as a practical problem but fundamentally as a moral failing according to the participants' own ethical frameworks. The call for balance in development can thus be interpreted as a call for a 'morally acceptable equilibrium'.

d) *Tension between Stewardship Ideal vs. Observed Practices*

There was a strong affirmation of the religious ideal of environmental stewardship, pronounced as *khalifah fil ardh*, and also expressed through *amanah*. However, this

coexisted with observations of a lack of attention to the environment in Muslim communities (e.g., nature uncommon in prayers, lack of awareness/education, etc.). This potential gap suggests a relationship where the rather abstract religious principle of *khalifah* might struggle to translate into consistent practice due to intervening factors identified as challenges (e.g., socio-political issues, ignorance, socio-economic pressures, and pure focus on development). The concept of *khalifah*, while central, may be interpreted or prioritized differently when faced with competing demands.

e) Universalism in Aspiration vs. Particularism in Practice

A strong theme of moral universalism emerges, particularly in regard to environmental care as a shared duty. Simultaneously, critiques were raised about the actual practices within Muslim communities, while some argued for a distinctly Islamic morality. This points to a nuanced relationship where participants may hold universal ideals but perceive particular challenges or distinctions in their own communities or Muslim circles. The way participants navigate this, as in ‘blaming external systems vs. internal failings’, was significant.

f) Blaming External Systems vs. Internal Failings

This distinction is significant because it sheds light on how the agents frame problems, where they locate responsibility, and consequently, what kinds of solutions or actions they prioritize. Based on the findings, there is evidence for both types of attribution.

Attributing the Gap/Problems to External Systems:

Participants frequently pointed to forces outside or those beyond their individual control as reasons why universal or Islamic ideals, especially regarding sustainability and justice, were not fully realized. The global economic system was overwhelmingly identified as the primary driver of the environmental crisis. Specific blame was placed on its reliance on consumerism, economism, and profiteering, which leads to unsustainable consumption, prioritizes growth over all else, encourages greed, and exploits resources. Framing the problem this way externalizes the root cause to a dominant global structure. Bad governance, corruption, injustice, lack of political will, the concentration of power, wars, and conflicts were other such categories, again externalizing the cause of inequality to political and systemic failures. Attributing problems primarily to external systems often implies that solutions require large-scale, systemic change such as reforming capitalism, improving global governance, or

political advocacy. It can frame the agent's role as one of resistance, advocacy for systemic change, or finding ways to operate ethically within the flawed system.

Attributing the Gap/Problems to Internal Failings:

Simultaneously, participants also identified factors within individuals, the Muslim community, or human nature itself as contributing to the gap between ideals and practice. Lack of awareness, education, and reflection was frequently cited regarding environmental issues. Participants noted a lack of awareness within the community as a major barrier, suggested environmental problems result from human misconduct due to this lack, and observed a lack of deep engagement with environmental teachings within Islamic circles or sermons. This internalizes the issue as a deficit within the community's understanding or priorities. Some attributed problems like environmental degradation partly to human errors, insensitivity, or being prone to temptations, or saw human nature itself (e.g., unwillingness to slow down) as a challenge. This internalizes the problem at a more fundamental human level. The significant finding that many participants acknowledged was that it is 'possible to be religious but not necessarily moral', which points directly to internal failings. The reasons cited, ignoring the essence of religion, alienation of scholars, societal corruption within Muslim contexts, greed replacing morals, and preferring ritual over practiced ethics (*muamalat*), all locate the problem within the interpretation or practice of faith and morality by individuals and communities. Attributing problems internally often implies that solutions require changes within the individual or community, such as increased education, awareness campaigns, spiritual development, moral reform, better religious leadership, and grassroots efforts. It places a stronger emphasis on personal and communal responsibility for closing the gap between ideals and reality.

The fact that participants utilize both external and internal attributions is significant for understanding their moral agency. It shows they recognize the multi-causal nature of complex problems like environmental degradation and social inequality, acknowledging both systemic pressures and individual/communal responsibilities.

Attributing blame externally can help maintain faith in the ideals or the potential of the community by locating the problem elsewhere. Attributing blame internally allows for self-critique and motivates efforts towards improvement from within. Using both helps manage the 'cognitive dissonance' between high ideals and imperfect realities.

This dual attribution supports the finding that participants propose multifaceted solutions, including systemic changes (political action, tech innovation) and internal changes (individual efforts, education, awareness). Their perceived causes inform their proposed remedies. This suggests a complex view of agency. They see themselves as agents who must act responsibly at personal/community levels (addressing internal failings) while also navigating and potentially challenging flawed external systems.

In summary, the way participants attribute the gap between universal/religious ideals and observed practices, sometimes blaming external systems (economic, political) and sometimes pointing to internal failings (lack of awareness, moral lapses, human nature), is significant because it reflects their complex understanding of causality, shapes their proposed solutions, helps them manage cognitive dissonance, and defines the multifaceted nature of their own moral agency in navigating these issues.

5.2.10 Potential Core Categories

The key emerging themes reported above led to the identification of the respective major categories below.

a) Navigating Competing Imperatives

This duality-informed theme appeared central because the participants consistently described situations where they must balance conflicting demands, values, or realities. As such, it integrated many categories across the findings.

To illustrate, the need to balance economic development, seen as a need or right, with environmental preservation, seen as a moral duty, or part of stewardship, often resulted in seeking a 'middle ground'. Balancing pragmatic concerns (e.g., organizational continuity, meeting immediate needs) with moral or religious ideals (e.g., justice, *amanah*, *nasl*, compassion) hinted at a similar tension. Navigating between universal moral principles (belief in shared morals, common duty for nature) and the perceived realities or particularities of the local, as shown by critiques of certain Muslim practices, or the search for a distinct Islamic morality, also implied a similar division. The dual approach to uncertainty coping, that is, balancing reliance on faith (*tawakkul*) with proactive preparedness, appeared as another example. Yet, blaming external systems vs. internal failings probably emerged as the most prevalent of them all.

b) Faith-Informed Moral Agency Under Pressure

This theme highlighted the specific role of the Islamic faith as the primary lens and resource through which Muslim decision-makers exercise their moral agency, especially when facing contemporary pressures such as uncertainty and unsustainability.

The majority viewed that religion shapes morals or is primary in the relationship. Faith also provides key coping mechanisms for uncertainty (*tawakkul*, hope, viewing challenges as tests, etc.). Islamic concepts like stewardship (*khalifah*, *amanah*), responsibility towards lineage (*nasl*), compassion (*rahmah*), and morals in general (*akhlaq*) were explicitly used to frame duties and relationships concerning society, the environment, and the future. The definition of charity was heavily framed by religious duty. It also incorporated the self-critique and perceived gap between religious ideals and current community practices, particularly regarding the environment, showing that agency includes reflexivity.

c) Extended Stewardship: Integrating Present Needs and Future Obligations

This theme was built specifically on the frequently cited religious concept of stewardship (*khalifah*) but extended it to encompass the strong emphasis the participants placed on immediate responsibilities such as charitable aid, humanitarian relief, and also economic development, alongside future-oriented duties (environment, *nasl*). It reflected the practical application and potential modification of the stewardship concept in their context, an extension that also implies dichotomy.

It connected the core religious concept of stewardship (*khalifah* with *amanah*) with the moral/religious duty towards future generations (*nasl*), acknowledged the simultaneous, strong emphasis on meeting present needs through charity and necessary economic development, and reflected the definition of sustainability as both continuity (meeting present operational needs) and intergenerational equity. This concept of extended stewardship situated the pursuit of a 'middle ground' as the practical outcome of trying to enact itself under conditions of scarcity or competing goals.

5.2.11 Theoretical Propositions

Once the key emerging themes were translated into three major categories, that is, 'Navigating Competing Imperatives', 'Faith-Informed Moral Agency Under

Pressure’, and ‘Extended Stewardship: Integrating Present Needs and Future Obligations’, with the first one acting as the center of the narrative, a set of propositions was defined to progress towards a theoretical framework. Since this study aims for a decision-making process as a deliverable, it was decided to exercise some liberty in borrowing the rather structured axial coding approach from the Strauss and Corbin (1998) paradigm, that is the arrangement for presenting the theoretical propositions to explain the core category, the central process, in terms of its causal conditions, nature, strategies, influencing factors, and consequences, the respective propositions.

a) Navigating Competing Imperatives (Central Process)

Causal and Contextual Conditions:

Proposition 1 (P.1): The simultaneous recognition of (i) a moral/religious duty towards present human needs (manifested in charity and developmental goals) and (ii) a moral/religious duty towards future generations and the environment (*nasl*, stewardship) establishes the fundamental context of competing imperatives requiring navigation.

Proposition 2 (P.2): Perceiving a serious environmental crisis, attributed largely to a morally questionable economic system (consumerism, injustice, etc.), while simultaneously valuing economic development as a need or right, intensifies the need to navigate between conservation and development goals.

Proposition 3 (P.3): The presence of uncertainty regarding future outcomes (environmental consequences, development impacts, efficacy of actions) necessitates adaptive strategies within this navigation process.

Nature of the Process:

Proposition 4 (P.4): The main strategy in navigating competing imperatives is the pursuit of a middle ground or balance, attempting to optimize outcomes across conflicting domains (e.g., human benefit vs. environmental harm).

Proposition 5 (P.5): This navigation is guided by a blend of perceived universal moral principles (fairness, common good, shared responsibility) and specific Islamic principles (*khalifah*, *amanah*, *akhlaq*, *wasatiyyah*), which provide the framework for evaluating trade-offs.

Other Strategies Employed During Process:

Proposition 6 (P.6): Agents manage the inherent uncertainty in navigation by concurrently employing faith-based coping mechanisms (*tawakkul*, seeking hope or meaning) and pragmatic preparedness strategies (planning, data gathering, risk mitigation, etc.).

Proposition 7 (P.7): Solutions to reconcile environmental and developmental imperatives are sought through a multifaceted approach involving individual/moral adjustments, reliance on technology/innovation, and calls for political/legal action.

Factors Influencing the Process:

Proposition 8 (P.8): The specific strategies and perceived success of navigating imperatives are likely influenced by contextual factors such as socio-political environment (GCC vs. UK hinting at variations, albeit limited), available resources, and perceived systemic barriers (governance failures, economic pressures).

Proposition 9 (P.9): Individual factors like life experiences, level of awareness, and education shape how agents perceive the imperatives and the possibilities for navigation.

Outcomes of the Process:

Proposition 10 (P.10): A primary outcome is a tendency towards an optimistic, concurrently pro-development and pro-conservation stance, reflecting an attempt to synthesize competing values rather than choosing one over the other.

Proposition 11 (P.11): This navigation process reinforces a sense of faith-informed moral agency (see detailed description below), where decisions across various domains (economic, social, environmental) are interpreted and justified through a religious and moral lens.

Proposition 12 (P.12): The process may also surface a perceived gap between aspired ideals (e.g., comprehensive stewardship) and achievable practices, leading to critiques or calls for reform within the community.

b) Faith-Informed Moral Agency Under Pressure

Proposition 13 (P.13): Islamic faith serves as the primary interpretive framework for understanding contemporary pressures like uncertainty and unsustainability, often

framing them as divine tests, consequences of human action, or contexts for enacting stewardship.

Proposition 14 (P.14): Core Islamic concepts (*khalifah, amanah, nasl, akhlaq, rahmah, tawakkul*) provide the essential moral vocabulary, justification, and coping resources for decision-making and action concerning charity, environmental responsibility, development, and uncertainty.

Proposition 15 (P.15): This faith-informed agency includes a reflexive dimension, allowing for the critique of current practices within the Muslim community against religious ideals, particularly regarding environmental engagement and the balance between ritual and transactional morality (*muamalat*).

c) Extended Stewardship: Integrating Present Needs and Future Obligations

Proposition 16 (P.16): Stewardship (*khalifah, amanah*), as interpreted by the agents, involves a dual responsibility: addressing the immediate material and operational needs of the present (e.g., organizational continuity, beneficiary support, development for current well-being) and safeguarding the environment and resources for future generations (*nasl*). This was evidenced by a strong emphasis on 'Sustainability as Continuity', especially for charity operations, alongside 'Sustainability as responsibility towards future generations'. Stewardship was a key element in the Religion-Sustainability relationship.

Proposition 17 (P.17): The practical enactment of this Extended Stewardship often translates into seeking a middle ground or balance in decision-making (similar to P.4), particularly between developmental activities aimed at present needs and environmental conservation efforts aimed at future obligations. The majority stance of 'Keep Developing' but by 'Aiming at a Middle Ground', and the conceptualization of trying to achieve a balance between human benefit and harm to nature, were evident in the data.

Proposition 18 (P.18): While future obligations and environmental care are acknowledged as crucial moral/religious duties under stewardship, the urgency and tangibility of present human needs (linked to their roles as charity executives) often lead to practical decisions that prioritize immediate concerns, with long-term sustainability integrated where feasible. For example, as in the 'Human First' initial theme, the focus on operational continuity for charities, the human-benefit orientation

of prayers for nature, and the pro-development stance are often justified by jobs and needs.

Proposition 19 (P.19): The motivation to extend stewardship responsibilities to abstract future generations and the broader environment (beyond immediate human utility) is strongly rooted in and justified by Islamic faith principles (*khalifah*, *amanah*, care for *nasl*, divine accountability). This is evidenced by the linking of caring for future generations to religious duty (*maqasid*, *sadaqah jariyah*) and stewardship (*khalifah*) as the primary religious concept cited for environmental responsibility.

5.2.12 The Emergent Narrative

The core experience for the Muslim decision-makers in this research, when confronted with uncertainty and unsustainability, can be understood as a process of ‘Navigating Competing Imperatives’, guided and resourced by the ‘Faith-Informed Moral Agency’.

This navigation arises from a context where agents perceive simultaneous, deeply felt duties derived from both their moral understanding and their Islamic faith. They feel a strong responsibility towards present human needs, evident in their commitment to charitable work and their general support for continued economic development, which they often view as a necessity or right. Concurrently, they recognize an equally significant obligation towards the future, framed by Islamic concepts of stewardship (*khalifah*, *amanah*) over creation and care for lineage/posterity (*nasl*).

This inherent tension is amplified by their awareness of a serious environmental crisis, which many attribute to the failings of a global economic system perceived as morally problematic due to its emphasis on consumerism, profit, and the potential for injustice. Yet, the perceived need for development persists. Adding complexity is the pervasive sense of uncertainty about future outcomes and the efficacy of actions.

Faced with these competing demands, the primary strategy is not outright prioritization but a continuous effort to seek balance or a middle ground. This involves attempting to harmonize economic development with environmental preservation, and human benefit with ecological limits. This balancing act is interpreted and justified through a blend of moral frameworks: perceived universal principles like fairness and shared responsibility, interwoven with specific Islamic values such as moderation (*wasatiyyah*), good morals (*akhlaq*), and the overarching concept of stewardship.

Faith serves as the central interpretive lens and resource throughout this process. It frames challenges (e.g., as tests from God), provides core principles for guidance (*khalifah, amanah*), and offers crucial coping mechanisms for managing the inherent uncertainty. Agents employ a dual approach to uncertainty: engaging in pragmatic preparedness (planning, data collection, risk assessment) while simultaneously drawing resilience from faith-based reliance (*tawakkul*, hope, finding meaning).

This 'Faith-Informed Moral Agency' is dynamic. While ideals like stewardship are strongly affirmed, participants also exhibit reflexivity, acknowledging a potential gap between these ideals and the observed practices or priorities within Muslim communities, particularly concerning environmental engagement. This suggests an ongoing negotiation between principle and practice, influenced by context.

The outcome of this navigation process tends towards a stance that is simultaneously pro-development and pro-conservation, underpinned by a persistent optimism that balance is achievable, sustained significantly by faith. Even pragmatic decisions concerning organizational continuity or development strategies are consistently framed and justified through this intertwined religio-moral perspective, reaffirming their agency as faith-informed actors navigating a complex and uncertain world.

5.2.13 Mapping of Key Themes and Propositions

The core category and the central process of Navigating Competing Imperatives (dark blue), the guiding secondary process of Faith-Informed Moral Agency (dark blue), and other process elements such as faith and religio-moral factors (yellow), universal moral principles (green), external stressors (red), uncertainty (gray), contextual and individual factors (purple), strategies employed by the agent (blue), and process outcomes (orange) have been illustrated, using Graphviz, in Figure 5.2. The third important category, Extended Stewardship, is not represented separately as an entity but embedded through its propositions, P.16-P.19. The propositions serve as identifiers of the relationships between process elements, labeled as described in Chapter 3. The cyclical relationship between the central process of Navigating Competing Imperatives and Faith-Informed Moral Agency is shown in dark blue connectors. This concludes the Researcher-Developed Theoretical Framework (RDF) with its core category and propositions established, accompanied by influencing factors, stressors/triggers, cognitive strategies, outputs, inputs, and the central mechanisms.

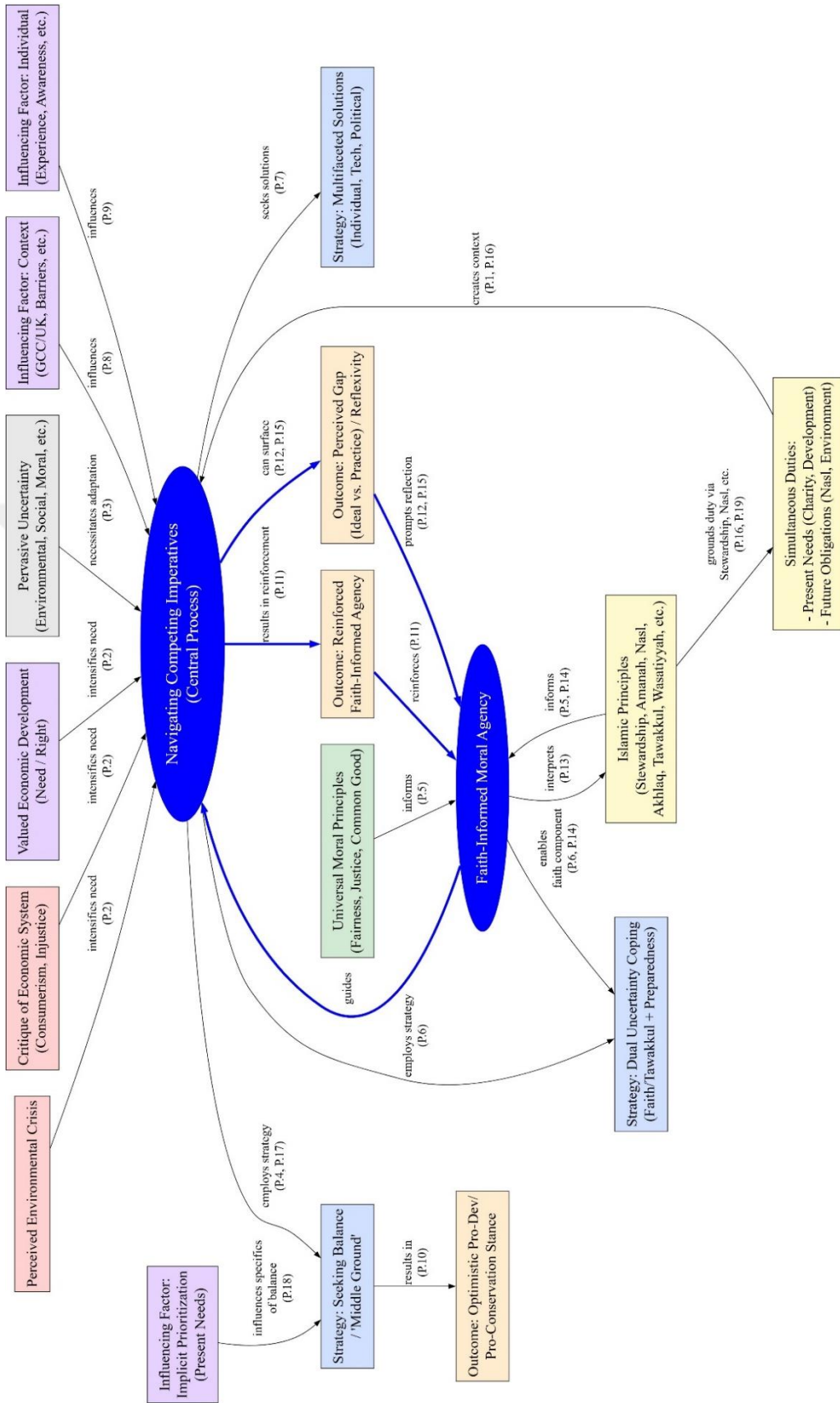


Figure 5.2: RDF Diagram

Source: Author, 2025

5.3 LLM-Assisted Findings

Once the manual analysis was completed, I turned to the LLM-assisted part, as explained in detail in Chapter 3: Methodology, to provide more details and nuances to the decision-making process and discover more subtle undertones in the narrative, all through a multi-disciplinary perspective that introduces vocabulary from psychology and sociology to the study in addition to the Islamic lexicon that was to some extent familiar to both the researcher and the research participants. The research plan for LLM-assisted analysis can be seen in Figure 4.1.

5.3.1 First and Second Cycle Coding

The raw interview data, that is, the transcripts, were fed into the respective LLM for the generation of the 885 initial codes. This meant that each one of the 885 initial codes had a corresponding disciplinary interpretation called ‘insight’ (e.g., psychological insight, sociological insight, religious/Islamic insight) in the coding output table, in addition to a descriptive account of the coded quote based on which the code name was produced (see Appendix). Sample excerpts from the LLM-generated initial codes can be seen in Table 4.4. Due to context window limitations of the LLMs and advanced reasoning requirements for in-depth analysis, each disciplinary lens was separately applied during the focused coding, i.e., if the process was that of the focused coding through the psychological lens, then the focused coding analysis would be conducted on the psychological insights from the previous (initial) coding phase only, with the descriptive account kept as part of the input as the common element regardless of the disciplinary lens that was employed. As a result, roughly 200 focused codes from each lens (see Table 4.2 for the exact numbers) were generated by the LLM and organized into parent and child categories (see Appendix). Once the lens-based focused codes and categories were created to the largest coverage possible, a thread for axial and theoretical coding was initiated, and lens-based coding tables were uploaded one by one for the cross-lens analysis. The themes or concepts that were reinforced by all three lenses were assumed to be the most representative of an integrated theoretical framework. The LLM was instructed to follow the plan in Figure 4.1 and produce the common (among all disciplinary lenses) and unique (to a lens) themes first. During initial coding, codes were named in the format of C.[Interview Number].[Serial Number], while categories were formed in the focused coding as per CAT.[Lens

Code].[Hierarchical Category Number] naming scheme, where Lens Code was one of ‘R’, ‘S’, or ‘P’, for the religious, sociological, or psychological lens, respectively. The complete list of produced codes and categories can be seen in the Appendix.

5.3.2 Integration of Disciplinary Frameworks

Once the first and second cycle coding was completed, in the following step, the psychological, religious, and sociological framework outputs generated in the axial and theoretical coding were integrated. Each framework effectively examined Muslim moral agency under uncertainty from a distinct disciplinary perspective while analyzing the same underlying interview data from 21 Muslim charity executives. The LLM was instructed to maintain the integration process strictly data-driven, identifying patterns of convergence and divergence across the three analytical lenses without imposing external hypotheses.

5.3.2.1 Common Themes and Concepts Across All Three Lenses

The following themes and concepts were observed, albeit under different category names and in line with different terminology from each lens-based focus coding, across all three lenses.

a) Faith as Both Resource and Framework for Uncertainty Management

This was the first common theme discovered by the LLM, in this case, Claude 3.7 Sonnet, a model with good reasoning capabilities. As such, all three lenses identified a dual function of faith in relation to uncertainty.

Psychological Lens: Faith serves as a psychological coping mechanism under uncertainty (CAT.P.2-3-1-1), providing resilience through religious concepts like *tawakkul*. Rather than leading to fatalism, religious coping enables a distinctive form of moral agency characterized by stable ethical principles.

Religious Lens: Faith transforms uncertainty from a paralyzing force into a catalyst for moral action through the faith-uncertainty dialectic (CAT.R.1-4-1-1). When confronted with environmental uncertainties, Muslim decision-makers employ faith as a coping mechanism that reduces anxiety without diminishing moral responsibility.

Sociological Lens: Faith functions as a meaning-making system that is activated by uncertainty (CAT.S.4-1-1-1 affects CAT.S.3-3-1-2-1). Experiences of pervasive

uncertainty in contemporary life function as catalysts that activate religious frameworks for meaning-making and resilience.

b) Systems Thinking and Holistic Approaches to Sustainability

All three lenses recognized systems thinking as a key cognitive approach to sustainability challenges.

Psychological Lens: Systems thinking (CAT.P.1-1-1-1-1) enhances cognitive flexibility and acceptance of uncertainty (CAT.P.4-2-3-1-1) by providing mental frameworks for comprehending complexity.

Religious Lens: Islamic environmental ethics forms a coherent ethical framework for environmental care that integrates spiritual, moral, and practical dimensions through concepts like *mizan* (balance) and *khalifah* (stewardship) (CAT.R.4-2-5-1).

Sociological Lens: Multi-level engagement across individual (CAT.S.5-1-1-2-1), organizational (CAT.S.4-1-2-1-1), and systemic (CAT.S.8-1-1-1-1) levels demonstrates a systems approach to environmental challenges.

c) Integration of Religious Principles into Professional Practice

All lenses recognized the active integration of faith into professional decision-making.

Psychological Lens: Religious identity (CAT.P.2-1-1-1) provides cognitive foundations for moral agency, creating parallel cognitive processing where religious principles and practical considerations are simultaneously evaluated.

Religious Lens: Islamic moral principles function as a crucial mediator between abstract faith and concrete environmental action, with religious principles (CAT.R.3-1-1-1) providing moral certainty amid environmental uncertainty.

Sociological Lens: Faith-based organizations function as institutional mediators that translate abstract religious principles into concrete professional practices (CAT.S.3-3-1-1-1, CAT.S.1-1-1-2-1).

d) Critique of Materialism and Consumerism as Religious-Environmental Position

This was another LLM-identified common theme in that all lenses addressed anti-materialism as central to Muslim environmental ethics.

Psychological Lens: Moral condemnation of harm (CAT.P.3-2-1-1-2) drives critique of systems related to industrialization and consumerism (CAT.P.10-1-2-1-1).

Religious Lens: The Islamic critique of overconsumption and materialism (CAT.R.7-1-1-1) is not secondary but essential to Muslim environmental ethics.

Sociological Lens: Cultural attitudes toward consumerism provide the context for sustainability conceptualization (CAT.S.6-3-1-1-1 influences CAT.S.7-1-1-1-1).

e) Intergenerational Ethics as Temporal Extension of Responsibility

This was the last of the five common themes identified by the LLM. Concern for future generations emerged as a key moral driver across all three lenses.

Psychological Lens: Intergenerational equity (CAT.P.1-1-2) involves moral cosmopolitanism that drives long-term prioritization.

Religious Lens: Concern for future generations (CAT.R.4-1-2-1) serves as a powerful moral motivator for Muslim agents creating transgenerational agency.

Sociological Lens: Sustainability is conceptualized through intergenerational equity (CAT.S.7-1-1-1-1) with responsibility extending across time.

5.3.2.2 Unique Contributions from the Psychological Lens

In addition to the five major common themes above, the following themes were detected during the LLM-assisted process as unique contributions from the psychological, religious, and sociological lenses.

a) Cognitive Dissonance as Engine for Moral Growth

Cognitive dissonance, according to the LLM-assisted investigation, was found to be a productive mechanism for moral development under uncertainty.

The perception of religion as a moral authority (CAT.P.6-2-1-1-4) heightens awareness of gaps between beliefs and actions (CAT.P.11-2-2-1-1), creating a cognitive dissonance that requires ongoing psychological navigation (CAT.P.11-2-3-1-1). This tension between Islamic ideals and practical realities functions as a productive psychological mechanism that promotes moral growth rather than paralysis.

b) Emotional Catalysts for Environmental Action

The role of emotions in bridging abstract principles and concrete environmental behavior was found to be a major theme unique to the psychological lens.

Emotional engagement with environmental issues (CAT.P.5-1-2-1-2) drives moral condemnation of harm (CAT.P.3-2-1-1-2) and catalyzes pro-environmental behavior (CAT.P.11-2-1-1-1). These affective responses, ranging from moral outrage at environmental destruction to compassion for vulnerable populations affected by climate change, transform abstract environmental concerns into personal moral imperatives.

5.3.2.3 Unique Contributions from the Religious Lens

a) Faith-Uncertainty Dialectic as Transformative Process

The interaction between faith and uncertainty, in accordance with the Islamic lens, was conceptualized as a dialectical process that transforms uncertainty.

Muslim moral agency in the face of uncertainty emerges from a dynamic dialectic between faith and uncertainty that creates a unique cognitive and behavioral approach to sustainability challenges. Uncertainty, particularly regarding environmental futures, does not paralyze Muslim agents but rather activates specific religious mechanisms that enable decisive moral action.

b) Dual-Track Environmental Agency: Critique and Construction

The simultaneous operation of critical and constructive trajectories, or tracks, in Muslim environmental agency, happened to be another unique religious/Islamic theme.

Effective Muslim moral agency operates on two simultaneous tracks: critical (identifying and opposing harmful practices) and constructive (creating positive alternatives based on Islamic principles). These tracks are complementary rather than competing, with each reinforcing the other.

5.3.2.4 Unique Contributions from the Sociological Lens

a) Organizational Mediation of Religious Values

A unique sociological lens finding by Claude 3.7 Sonnet was that the organizations, Islamic charities, had a role as mediators of religious values.

Faith-based organizations function as crucial institutional mediators that translate abstract religious principles into concrete professional practices. These organizations

do not simply apply religious principles but actively interpret them within specific operational contexts, creating what might be called ‘applied religious ethics’.

b) Educational Initiatives as Transformative Vectors

The sociological lens also uniquely identified the role of education as a compensatory mechanism when traditional religious institutions fail to address contemporary issues.

When traditional religious institutions inadequately address contemporary environmental concerns, educational initiatives emerge as critical vectors for translating religious and sustainability concepts into social change. The parallel high commonality of both CAT.S.6-1-2-1-1 (Identifying Shortcomings in Religious Leadership and Education) and CAT.S.5-1-1-2-4 (Supporting Education and Awareness-Raising Initiatives) demonstrates this compensatory relationship.

5.3.2.5 Matrix of Overlapping Concepts

Out of 5 common-across-lenses and 6 unique-to-lens themes that emerged during the LLM-assisted examination, the following 7 core concepts, along with their relationships with other concepts, were identified to provide common ground among disciplinary perspectives, despite interpretational variations (Table 5.3).

Table 5.3: Matrix of Overlapping Concepts and Their Varying Interpretations

Core Concept	Psychological Interpretation	Religious Interpretation	Sociological Interpretation
Faith-Based Coping with Uncertainty	Religious coping (CAT.P.2-3-1-1) provides psychological resilience and cognitive anchors for decision-making under uncertainty.	The faith-uncertainty dialectic (CAT.R.1-4-1-1) transforms uncertainty from a barrier to a catalyst for environmental stewardship.	Uncertainty as catalyst for religious meaning-making (CAT.S.4-1-1-1-1 → CAT.S.3-3-1-2-1).
Integration of Faith and Professional Practice	Religious identity (CAT.P.2-1-1-1) provides cognitive schemas for moral internalization (CAT.P.3-2-1-1-1).	Islamic ethical framework mediates between faith and action, providing moral clarity amid uncertainty (CAT.R.3-1-1-1).	Organizational mediation of religious values (CAT.S.3-3-1-1-1) institutionalizes faith principles in professional contexts.

Systems Thinking for Sustainability	Systems thinking (CAT.P.1-1-1-1) enhances cognitive flexibility and connects environmental to social dimensions.	Islamic environmental ethics forms a coherent framework integrating spiritual, moral, and practical dimensions (CAT.R.4-2-5-1).	Multi-level engagement across individual, organizational, and systemic levels (CAT.S.5-1-1-2-1, CAT.S.4-1-2-1-1, CAT.S.8-1-1-1-1).
Critique of Materialism	Moral condemnation of harm (CAT.P.3-2-1-1-2) drives critique of consumerism (CAT.P.10-1-2-1-1).	Islamic critique of overconsumption (CAT.R.7-1-1-1) is essential to Muslim environmental ethics.	Cultural attitudes toward consumerism (CAT.S.6-3-1-1-1) shape sustainability conceptualizations.
Intergenerational Ethics	Intergenerational equity (CAT.P.1-1-2) involves moral cosmopolitanism driving long-term prioritization.	Concern for future generations (CAT.R.4-1-2-1) creates a 'transgenerational agency'.	Sustainability is conceptualized through intergenerational equity (CAT.S.7-1-1-1-1).
Faith-Morality Integration	Religious schemas guide moral internalization and self-regulation (CAT.P.2-1-1 → CAT.P.3-2-1-1-1).	Islamic moral principles provide stable guidelines despite situational ambiguity.	Dialectical integration of faith and contemporary challenges (CAT.S.6-1-1-1-1).
Environmental Responsibility	Eco-centric moral reasoning (CAT.P.3-1-1-2-1) contributes to resource preservation.	Stewardship (<i>khalifah</i>) forms the cornerstone of Islamic environmental ethics (CAT.R.4-2-5-1).	Environmental stewardship as a religious duty (CAT.S.3-3-2-1-1).

Source: Author, generated by Claude 3.7 Sonnet, 2025

5.3.2.6 Integrated Framework Foundations

Based on this comprehensive LLM-assisted analysis of common themes, unique contributions, and concept variations across the three analytical lenses, five foundational elements emerged that constituted an integrated framework of Muslim moral agency under uncertainty.

a) *Faith-Uncertainty Dialectic as Core Process*

All three lenses addressed a fundamental process where faith and uncertainty interact productively rather than antagonistically. This dialectic forms the core of Muslim moral agency, providing both psychological resilience and moral clarity amid ambiguity.

Evidence: The high commonality of uncertainty framing (CAT.S.4-1-1-1-1) and faith-based coping (CAT.P.2-3-1-1, CAT.R.1-4-1-1) across frameworks demonstrated this central dialectic.

b) Multi-Level Moral Integration

All lenses identified the integration of faith into multiple levels of moral operation, that is, cognitive, behavioral, and institutional. Religious principles shape individual psychology, professional behavior, and organizational structures in an integrated manner.

Evidence: Categories related to faith integration appeared with high commonality across psychological (CAT.P.2-1-1-1), religious (CAT.R.3-1-1-1), and sociological frameworks (CAT.S.3-3-1-1-1).

c) Systemic-Holistic Sustainability Conception

According to all three lenses, systems thinking and holistic approaches to sustainability were evident in data that integrate environmental, social, and economic dimensions through religious concepts like *mizan* (balance) and *khalifah* (stewardship).

Evidence: Systems thinking categories appeared with high commonality across psychological (CAT.P.1-1-1-1-1), religious (CAT.R.4-2-5-1), and sociological frameworks (CAT.S.7-1-1-1-1).

d) Dual-Track Environmental Engagement

All lenses highlighted both critical and constructive dimensions of Muslim environmental agency, which could be translated as critiquing harmful practices while developing alternatives based on Islamic principles.

Evidence: Categories related to criticism of harmful practices (CAT.P.10-1-2-1-1, CAT.R.3-2-1-1, CAT.S.5-1-1-1-1) and construction of alternatives appeared consistently across frameworks.

e) Intergenerational Moral Extension

All disciplinary frameworks identified the temporal extension of moral responsibility to future generations as a key element of Muslim sustainability ethics.

Evidence: Intergenerational categories emerged with high commonality rates across psychological (CAT.P.1-1-2), religious (CAT.R.4-1-2-1), and sociological lenses (CAT.S.7-1-1-1-1).

5.3.2.7 Conclusion

This comprehensive integration of findings from psychological, religious, and sociological disciplinary lenses revealed a coherent but multifaceted picture of Muslim moral agency under uncertainty. While each analytical lens contributed unique insights, there were remarkable convergences around core processes of faith-uncertainty interaction, multi-level moral integration, systemic sustainability approaches, dual-track environmental engagement, and intergenerational ethics.

This integrated LLM-assisted analysis provided a solid foundation for developing a comprehensive meta-theoretical framework.

5.3.3 Meta-Theoretical Framework Development

The meta-theoretical framework synthesized findings from psychological, religious, and sociological analyses of Muslim charity executives' moral agency under uncertainty. It integrated all three analytical lenses to create a comprehensive understanding of how Muslim agents interpret and navigate the complex relationships between faith, morality, sustainability, and uncertainty. The framework was grounded in empirical data from the 21 interviews, with high commonality ratings across participants to evidence its representativeness. The five foundations identified in the previous section were developed into seven core components of this integrated framework.

5.3.3.1 Core Components of the Integrated Framework

a) The Faith-Uncertainty Dialectic: Central Dynamic of Muslim Moral Agency

The central dynamic driving Muslim moral agency emerged as a dialectical relationship between faith and uncertainty, where uncertainty activates rather than paralyzes religious frameworks. This dialectic happens to function as the generative core from which other dimensions of moral agency emerge.

Psychological Lens: Faith provides cognitive schemas that facilitate ethical decision-making and serve as psychological resilience through religious coping mechanisms (CAT.P.2-3-1-1).

Religious Lens: The faith-uncertainty dialectic transforms uncertainty from a paralyzing force into a catalyst for moral action (CAT.R.1-4-1-1).

Sociological Lens: Uncertainty as catalyst for religious meaning-making (CAT.S.4-1-1-1-1 → CAT.S.3-3-1-2-1).

Evidence: Multiple codes appeared across all three frameworks (C.9.48, C.10.48, C.13.39, C.19.45, C.23.35), demonstrating that this dialectic emerges consistently regardless of the analytical perspective. The convergence of psychological coping mechanisms, religious dialectical processes, and sociological meaning-making systems revealed this as a fundamental mechanism of Muslim moral agency.

b) Multi-Level Integration: Faith as Cognitive, Institutional, and Cultural System

The framework revealed that faith operates simultaneously across multiple levels, providing cognitive schemas for individual moral reasoning, institutionalized practices for organizational decision-making, and cultural frameworks for communal identity. This multi-level integration creates coherence across domains of action.

Psychological Lens: Religious identity provides cognitive schemas for moral internalization (CAT.P.2-1-1 → CAT.P.3-2-1-1-1).

Religious Lens: Islamic moral principles function as a crucial mediator between abstract faith and concrete environmental action (CAT.R.3-1-1-1).

Sociological Lens: Faith-based organizations function as institutional mediators that translate abstract religious principles into concrete professional practices (CAT.S.3-3-1-1-1).

Evidence: Supporting codes (C.19.13, C.20.17) appeared across psychological and sociological frameworks, with religious codes (CAT.R.3-1-1-1) showing parallel processes, demonstrating the cross-level integration of faith as a comprehensive system affecting cognition, institutions, and culture.

c) Systemic Sustainability Conception: Holistic Framework for Environmental Ethics

Muslim agents conceptualize sustainability through a distinctive systems thinking approach that integrates environmental, social, and economic dimensions within a religious framework. This creates a holistic conception that differs from purely secular or economic approaches.

Psychological Lens: Systems thinking (CAT.P.1-1-1-1-1) enhances cognitive flexibility and acceptance of uncertainty and connects environmental to social dimensions.

Religious Lens: Islamic environmental ethics forms a coherent framework for environmental care that integrates spiritual, moral, and practical dimensions (CAT.R.4-2-5-1).

Sociological Lens: Multi-level engagement across individual, organizational, and systemic levels (CAT.S.5-1-1-2-1, CAT.S.4-1-2-1-1, CAT.S.8-1-1-1-1).

Evidence: Consistently high commonality ratings for systems thinking categories across frameworks demonstrated that this is not isolated but represents a shared cognitive approach. The integration of psychological flexibility, religious ethics, and sociological multi-level engagement created a distinctive systemic approach to sustainability.

d) Dual-Process Moral Response: Critique and Construction

Muslim moral agency operates through two complementary processes: critical (identifying and opposing environmentally harmful practices) and constructive (developing positive alternatives based on Islamic principles). These operate in tandem rather than sequentially.

Psychological Lens: Moral condemnation of harm (CAT.P.3-2-1-1-2) drives the critique of systems, and moral internalization (CAT.P.3-2-1-1-1) guides the development of alternatives.

Religious Lens: Effective Muslim moral agency operates on two simultaneous tracks: critical (identifying and opposing harmful practices) and constructive (creating positive alternatives based on Islamic principles) (CAT.R.3-2-1-1, CAT.R.4-2-3-1).

Sociological Lens: Recognition of systemic barriers to sustainable practices (CAT.S.7-1-2-1-1) drives collaborative approaches (CAT.S.8-1-1-2-2).

Evidence: Supporting codes (C.16.12, C.17.7, C.18.18) demonstrated how the critique of harmful practices (CAT.R.3-2-1-1) and the construction of alternatives (CAT.R.4-2-3-1) operate simultaneously. The consistent appearance of both dimensions across all three frameworks confirmed this dual-process pattern.

e) Intergenerational Ethics: Temporal Extension of Moral Responsibility

Concern for future generations operates as a powerful moral driver that extends ethical consideration across time, creating a distinctive temporal dimension to Muslim moral agency under uncertainty.

Psychological Lens: Intergenerational equity (CAT.P.1-1-2) involves moral cosmopolitanism that drives long-term prioritization.

Religious Lens: Concern for future generations (CAT.R.4-1-2-1) serves as a powerful moral motivator for Muslim agents creating transgenerational agency.

Sociological Lens: Sustainability is conceptualized through intergenerational equity (CAT.S.7-1-1-1-1).

Evidence: Supporting codes (C.3.5, C.4.8, C.8.23, C.9.25) consistently showed intergenerational concern across multiple participants. This temporal extension of moral responsibility appeared with high commonality across all frameworks, demonstrating its centrality to Muslim moral agency.

f) Institutional and Educational Vectors: Operationalizing Religious Morality

Religious principles are translated into practice through two primary vectors: institutional mediation (via faith-based organizations) and educational initiatives (particularly when traditional religious institutions fail to address contemporary issues).

Psychological Lens: Community initiatives and interfaith collaboration (CAT.P.5-2-3-1-1) amplify individual moral agency.

Religious Lens: Individual religious conviction leads to personal moral critique (CAT.R.3-2-1-1), which creates motivation for collective action (CAT.R.6-2-1-1).

Sociological Lens: Organizational mediation of religious values (CAT.S.3-3-1-1-1) and educational initiatives as transformative vectors (CAT.S.5-1-1-2-4).

Evidence: The parallel high commonality of both CAT.S.6-1-2-1-1, identifying shortcomings in religious leadership and education, and CAT.S.5-1-1-2-4 supporting education and awareness-raising initiatives, demonstrated this institutional-educational relationship. Supporting codes showed consistent patterns of organizational mediation and educational initiatives across participants.

g) Resource-Affective Dynamic: Emotional Dimensions of Environmental Agency

Emotional engagement functions as a critical bridge between abstract moral principles and concrete environmental behavior, creating a distinctive resource-affective dynamic where emotional responses both drive and sustain moral action.

Psychological Lens: Emotional engagement with environmental issues (CAT.P.5-1-2-1-2) drives moral condemnation of harm (CAT.P.3-2-1-1-2) and catalyzes pro-environmental behavior (CAT.P.11-2-1-1-1).

Religious Lens: Compassion (*rahmah*) and moral outrage against injustice provide emotional foundations for environmental commitment (CAT.R.3-2-1-2).

Sociological Lens: Personal experiences create emotional connections to environmental issues (CAT.S.9-1-1-1-1).

Evidence: A high commonality rating for emotional engagement categories demonstrated widespread emotional drivers for environmental action. The integration of psychological affective processes, religious moral emotions, and sociological experiential connections created a comprehensive resource-affective dynamic.

5.3.3.2 Integrated Framework: Dynamic Faith-Based Moral Agency

The synthesis of these seven core components produced an integrated meta-theoretical framework explaining Muslim moral agency under uncertainty, particularly regarding sustainability challenges. This framework explains both the cognitive and behavioral aspects of agency specified in the research objectives.

The Dynamic Faith-Based Moral Agency Model operates through the following integrated process:

1. Activation Phase: Environmental uncertainty functions as a catalyst that activates the faith-uncertainty dialectic, triggering religious meaning-making processes.

2. Integration Phase: Faith provides multi-level frameworks (cognitive, institutional, cultural) that integrate sustainability challenges into religious moral systems.

3. Conceptualization Phase: Systemic sustainability conceptions develop that holistically address environmental challenges within religious frameworks.

4. Response Phase: Dual-process moral responses emerge (critique and construction) that simultaneously address harmful practices and develop alternatives.

5. Extension Phase: Moral consideration extends temporally through intergenerational ethics, creating transgenerational agency.

6. Implementation Phase: Institutional mediation and educational initiatives translate religious principles into operational practices.

7. Sustenance Phase: Resource-affective dynamics provide emotional foundations that sustain environmental commitment.

This model explains Muslim moral agency as a dynamic, multi-dimensional process rather than a static application of predetermined rules. The process functions as a cycle where each phase reinforces the others, creating resilient moral agency under conditions of uncertainty.

5.3.3.3 Theoretical Propositions from the Integrated Framework

The meta-theoretical framework generated the following integrated propositions that explain key dynamics of Muslim moral agency under uncertainty:

a) Proposition 1: The Faith-Uncertainty Activation Proposition

When Muslim agents experience heightened uncertainty regarding environmental futures, religious meaning-making systems are activated that transform uncertainty from a paralyzing force into a catalyst for moral action through the faith-uncertainty dialectic.

Evidence: The consistently high commonality of uncertainty framing (CAT.S.4-1-1-1-1) and faith-based coping (CAT.P.2-3-1-1, CAT.R.1-4-1-1) demonstrated this activation pattern. Supporting codes C.9.48, C.10.48, C.13.39, and C.19.45 appeared across frameworks, showing consistent patterns.

b) Proposition 2: The Multi-Level Integration Proposition

Muslim moral agency achieves coherence through the integration of religious principles across cognitive, institutional, and cultural levels, creating alignment between individual moral reasoning, organizational practices, and communal values.

Evidence: Categories related to faith integration appeared with high commonality across psychological (CAT.P.2-1-1-1), religious (CAT.R.3-1-1-1), and sociological frameworks (CAT.S.3-3-1-1-1). Supporting codes C.19.13 and C.20.17 exhibited this multi-level integration.

c) Proposition 3: The Systemic Environmental Ethics Proposition

Islamic environmental ethics produces a distinctive systems thinking approach that integrates spiritual, moral, and practical dimensions, enabling Muslim agents to comprehend complex sustainability challenges holistically rather than reductively.

Evidence: Systems thinking categories appeared with high commonality across psychological (CAT.P.1-1-1-1-1), religious (CAT.R.4-2-5-1), and sociological frameworks (CAT.S.7-1-1-1-1). The consistent integration of spiritual concepts with practical approaches illustrated this systemic approach.

d) Proposition 4: The Dual-Process Moral Response Proposition

An effective Muslim environmental agency requires both critical processes (identifying and opposing harmful practices) and constructive processes (developing alternatives based on Islamic principles), with these operating simultaneously rather than sequentially.

Evidence: Categories related to criticism of harmful practices (CAT.P.10-1-2-1-1, CAT.R.3-2-1-1, CAT.S.5-1-1-1-1) and construction of alternatives appeared consistently across frameworks. Supporting codes C.16.12, C.17.7, and C.18.18 demonstrated this dual-process approach.

e) Proposition 5: The Intergenerational Ethics Proposition

Muslim moral agency extends ethical consideration across time through religiously grounded intergenerational ethics, creating a distinctive form of transgenerational agency that motivates sustainable action despite outcome uncertainty.

Evidence: Intergenerational categories appeared with high commonality across psychological (CAT.P.1-1-2), religious (CAT.R.4-1-2-1), and sociological frameworks (CAT.S.7-1-1-1-1). Supporting codes C.3.5, C.4.8, C.8.23, and C.9.25 consistently displayed this temporal extension.

f) Proposition 6: The Institutional-Educational Implementation Proposition

When traditional religious institutions inadequately address contemporary environmental challenges, Muslim agents develop parallel institutional and educational vectors that translate religious principles into operational practices and social initiatives.

Evidence: The identical high commonality of both CAT.S.6-1-2-1-1 (Identifying Shortcomings in Religious Leadership and Education) and CAT.S.5-1-1-2-4 (Supporting Education and Awareness-Raising Initiatives) evidenced this compensatory relationship. Supporting codes showed consistent patterns of organizational mediation and educational initiatives.

g) Proposition 7: The Resource-Affective Dynamic Proposition

Emotional engagement with environmental issues functions as a psychological bridge that connects abstract religious principles to concrete environmental behaviors, with emotions both triggering and sustaining moral commitment.

Evidence: A high commonality rating was evident for emotional engagement categories across frameworks. Supporting codes exhibited how emotions transform abstract concerns into personal moral imperatives, providing both initial motivation and sustained commitment.

5.3.3.4 Addressing Research Questions Through the Framework

The meta-theoretical framework directly addresses all six research questions by explaining the relationships between faith, morality, sustainability, and uncertainty:

a) Faith-Morality Relationship

The framework shows that faith provides multi-level integration (cognitive, institutional, cultural) that shapes moral understanding and practice. Religious principles offer not rigid rules but interpretive frameworks that guide moral reasoning

through processes of dialectical integration between traditional concepts and contemporary challenges.

Evidence: The relationship between CAT.P.2-1-1-1-1 (Religious Identity) and CAT.P.3-2-1-1-1 (Moral Internalization), along with CAT.S.6-1-1-1-1 (Exploring the Interplay of Faith, Culture, and Morality), demonstrates this relationship.

b) Faith-Sustainability Relationship

The framework reveals that faith shapes distinctive systemic sustainability conceptions that integrate spiritual, moral, and practical dimensions. Islamic eco-theology and religious environmental concepts provide both a critique of harmful practices and the construction of alternatives through concepts like *khalifah* (stewardship), *mizan* (balance), and avoidance of *israf* (waste).

Evidence: CAT.R.4-2-5-1 (Explicitly Linking Environmental Care to Islam) and CAT.P.2-1-2-1-1 (Islamic Eco-Theology) demonstrate this relationship.

c) Morality-Sustainability Relationship

The framework shows moral universalism extends ethical consideration to nature and future generations, creating intergenerational ethics that drive sustainable practices. Moral condemnation of harm drives critique of unsustainable systems while moral internalization guides the development of alternatives.

Evidence: CAT.P.3-1-1-2-1 (Eco-Centric Moral Reasoning) and its relationship to CAT.P.1-2-1-1-1 (Resource Preservation), along with CAT.R.4-1-2-1 (Emphasizing Needs of Future Generations), with about two-thirds commonality demonstrate this relationship.

d) Sustainability-Uncertainty Relationship

The framework demonstrates that systems thinking enhances cognitive flexibility and acceptance of uncertainty by providing mental frameworks for comprehending complexity. Sustainability challenges are understood as inherently uncertain but manageable through proactive planning informed by religious principles.

Evidence: CAT.P.1-1-1-1-1 (Systems Thinking) enhances CAT.P.4-2-3-1-1 (Cognitive Flexibility and Acceptance of Uncertainty), while CAT.S.4-1-1-1-1 (Framing Uncertainty as Inherent to Life) shapes CAT.S.7-1-1-1-1 (Conceptualizing Sustainability in Diverse Contexts).

e) Uncertainty-Faith Relationship

The framework reveals that the faith-uncertainty dialectic transforms uncertainty from threat to meaningful challenge through religious meaning-making systems. Faith provides both psychological resilience and interpretive frameworks that give meaning to uncertainty without dissolving it.

Evidence: CAT.R.1-4-1-1 (Using Faith as Coping Mechanism for Uncertainty) and CAT.S.4-1-1-1-1 (Framing Uncertainty as Inherent to Life) trigger CAT.S.3-3-1-2-1 (Finding Solace and Strength in Faith).

f) Uncertainty-Morality Relationship

The framework demonstrates that religious moral frameworks provide stability and direction despite situational ambiguity, creating moral clarity amid environmental complexity. Uncertainty does not diminish moral responsibility but activates moral agency through religious principles that remain applicable despite outcome uncertainty.

Evidence: CAT.R.3-1-1-1 (Religious Moral Principles) provides moral certainty amid environmental uncertainty, while CAT.P.4-2-3-1-1 (Cognitive Flexibility and Acceptance of Uncertainty) enhances rather than diminishes moral agency.

5.3.3.5 Conclusion

The Dynamic Faith-Based Moral Agency Model provides an integrated meta-theoretical framework that comprehensively explains how Muslim agents make sense of and make decisions in an increasingly uncertain and unsustainable world. By synthesizing psychological, religious, and sociological perspectives, this framework captures both cognitive aspects (how Muslim agents interpret key relationships) and behavioral aspects (how they act upon these interpretations) of moral agency under uncertainty.

The model moves beyond simplistic understandings of religious agency as rule-following to demonstrate a dynamic, interpretive process that actively engages with contemporary challenges while maintaining religious coherence. The high commonality ratings for key categories across all three analytical perspectives provide strong empirical validation for this integrated framework.

This comprehensive meta-theoretical framework produces the conceptual foundation for the subsequent ABM phase of the research, offering clear parameters for simulating the interaction of Muslim agents making decisions under uncertainty.

5.3.4 Visual Model Creation

Once this 7-proposition theoretical framework for Muslim moral agency was established, LLM was provided with detailed instructions to generate a categorical diagram that shows all the major categories from three lenses, which also served as visual synthesis of evidentiary categories and relations for the theory developed, including their relationships and feedback loops between them. The process flow for decision-making was also positioned within the diagram to show how moral agency under unsustainability-induced uncertainty operates (Figure 5.3).

5.3.4.1 Religio-Moral Decision-Making Process

The seven sequential phases of Muslim moral agency in decision-making under uncertainty, based on empirical research across psychological, religious, and sociological dimensions, are documented below. Each phase description includes inputs, internal mechanisms, and outputs derived directly from research data.

a) Activation Phase: Uncertainty Trigger

Description: The initial phase, where environmental or social sustainability challenges activate the decision-making process by creating conditions of uncertainty.

Inputs:

- Environmental or social challenges requiring moral decisions
- Awareness of limited information (uncertainty)
- Risk perception regarding sustainability issues

Supporting Categories:

- Framing Uncertainty as Inherent to Life (CAT.S.4-1-1-1-1)
- Risk Perception (CAT.P.4-1-1-2-1)
- Epistemic Humility (CAT.P.4-1-1-1-1)

Internal Mechanisms:

- Recognition that unpredictability is a fundamental condition of existence

- Acknowledgment of the limitations of human knowledge in complex systems
- Perception of environmental risks as morally significant
- Transformation of uncertainty from a paralyzing force into a catalyst for action

Outputs:

- Recognition of decision necessity amid uncertainty
- Activation of moral decision-making processes
- Triggering of religious identity as a resource for navigating uncertainty

b) Integration Phase: Religious Identity Activation

Description: The phase where Muslim identity becomes salient as the cognitive and moral framework through which uncertainty is interpreted.

Inputs:

- Uncertainty trigger from the previous phase
- Existing religious identity and knowledge
- Internalized religious moral principles

Supporting Categories:

- Religious Identity (CAT.P.2-1-1-1)
- Using Faith as Coping Mechanism for Uncertainty (CAT.R.1-4-1-1)
- Finding Solace and Strength in Faith (CAT.S.3-3-1-2-1)
- Religious Moral Principles (CAT.R.3-1-1-1)
- Exploring the Interplay of Faith, Culture, and Morality (CAT.S.6-1-1-1-1)

Internal Mechanisms:

- Activation of religious cognitive schemas for interpreting uncertainty
- Faith-based meaning-making of uncertain situations
- Application of Islamic principles (e.g., *khalifah*/stewardship, *amanah*/trust)
- Integration of faith with moral frameworks for decision guidance
- Reduction of anxiety through religious coping mechanisms (*tawakkul*)

Outputs:

- Faith-based cognitive framework for interpreting uncertainty
- Activation of moral principles derived from religious teachings
- Enhanced resilience through religious coping resources

- Stable ethical foundation despite situational ambiguity

c) Conceptualization Phase: Systems Thinking Integration

Description: The phase where agents develop a holistic understanding of the sustainability issue by integrating environmental, social, and economic dimensions through religious frameworks.

Inputs:

- Activated religious identity from the previous phase
- Information about the sustainability challenge
- Islamic ethical principles relevant to the issue

Supporting Categories:

- Systems Thinking (CAT.P.1-1-1-1-1)
- Explicitly Linking Environmental Care to Islam (CAT.R.4-2-5-1)
- Conceptualizing Sustainability in Diverse Contexts (CAT.S.7-1-1-1-1)

Internal Mechanisms:

- Holistic analysis connecting environmental, social, and economic dimensions
- Explicit application of Islamic principles to sustainability challenges
- Integration of environmental science with religious frameworks
- Recognition of interconnections between multiple sustainability factors
- Application of concepts like *mizan* (balance) to complex systems

Outputs:

- Comprehensive understanding of the sustainability issue through the Islamic lens
- Recognition of interconnections between different dimensions of the problem
- Faith-integrated sustainability framework for decision-making
- Clear moral positioning regarding the sustainability challenge

d) Response Phase: Dual-Track Assessment

Description: The decision point where agents simultaneously evaluate both critical (harm identification) and constructive (alternative development) dimensions of their potential response.

Inputs:

- Comprehensive systems understanding from the previous phase

- Islamic moral principles and frameworks
- Knowledge of harmful practices and potential alternatives

Supporting Categories:

- Criticizing Harmful Practices (CAT.R.3-2-1-1)
- Creating Alternatives Based on Islamic Principles (CAT.R.4-2-3-1)
- Moral Condemnation of Harm (CAT.P.3-2-1-1-2)
- Criticizing Overconsumption and Materialism (CAT.R.7-1-1-1)

Internal Mechanisms:

- Simultaneous evaluation of both critical and constructive approaches
- Application of Islamic principles to identify harmful practices
- Development of alternatives based on the same religious principles
- Moral evaluation based on religious concepts of harm (*darar*) prevention
- Integration of anti-materialist critique with positive alternatives

Outputs: Dual paths that operate simultaneously:

- Critical Response: Clear identification of harmful practices to oppose
- Constructive Response: Development of alternatives based on Islamic principles
- Complementary integration of both responses rather than choosing between them

e) Extension Phase: Intergenerational Ethics

Description: The phase where moral consideration is extended temporally to include future generations, creating a transgenerational ethical framework.

Inputs:

- Critical and constructive responses from the previous phase
- Islamic concepts of intergenerational responsibility
- Temporal extension of moral consideration

Supporting Categories:

- Intergenerational Equity (CAT.P.1-1-2)
- Future Generations (CAT.R.4-1-2-1)

Internal Mechanisms:

- Extension of moral responsibility across time to include future generations
- Application of *amanah* (trust) and *adl* (justice) to intergenerational contexts

- Temporal reframing of sustainability issues as religious duties toward future Muslims
- Balancing present needs with future well-being based on Islamic principles

Outputs:

- Intergenerationally-extended moral framework for decision implementation
- Temporal extension of responsibility beyond present concerns
- Reconciliation of immediate actions with long-term consequences
- Faith-based commitment to future generations' well-being

f) Implementation Phase: Multi-Level Implementation

Description: The phase where moral decisions are implemented across individual, organizational, and systemic levels with faith-based approaches.

Inputs:

- Extended intergenerational framework from the previous phase
- Critical responses to harmful practices
- Constructive alternatives based on Islamic principles

Supporting Categories:

- Integrating Faith into Professional Life (CAT.S.3-3-1-1-1)
- Strengthening Governance for Sustainability (CAT.S.8-1-1-1-1)
- Emphasizing Personal Responsibility (CAT.S.5-1-1-2-1)
- Supporting Education and Awareness-Raising Initiatives (CAT.S.5-1-1-2-4)

Internal Mechanisms:

- Translation of religious principles into concrete actions
- Multi-level implementation across individual, organizational, and systemic domains
- Application of faith frameworks to professional and institutional contexts
- Integration of personal responsibility with collective action approaches
- Utilization of educational initiatives to promote sustainable practices

Outputs:

- Concrete actions implemented at the individual level (personal practices)
- Organizational programs and policies reflecting Islamic principles

- Systemic advocacy and governance initiatives
- Integration of both critical and constructive approaches in implementation

g) Sustenance Phase: Emotional Engagement

Description: The phase where emotional connection to the issue and reflection on gaps between ideals and actions create ongoing motivation and refinement.

Inputs:

- Implementation experiences from the previous phase
- Emotional responses to sustainability challenges
- Awareness of gaps between ideals and practices

Supporting Categories:

- Emotional Engagement with Environmental Issues (CAT.P.5-1-2-1-2)
- Gaps Between Beliefs and Actions (CAT.P.11-2-2-1-1)
- Cognitive Dissonance (CAT.P.11-2-3-1-1)
- Compassion and Moral Outrage (CAT.R.3-2-1-2)

Internal Mechanisms:

- Development of emotional connection to environmental and social issues
- Recognition of inconsistencies between religious ideals and actual practices
- Experience of cognitive dissonance as motivating rather than debilitating
- Cultivation of compassion and moral concern for affected communities
- Reflection on implementation effectiveness and areas for improvement

Outputs:

- Sustained commitment to moral action despite challenges
- Refinement of approaches based on implementation experience
- Motivation to address gaps between ideals and practices
- Feedback to religious identity (returning to Integration Phase)
- Creation of a continuous learning and improvement cycle

5.3.4.2 Conclusion

This process also appeared to be cyclical, with the Sustenance Phase feeding back into the Integration Phase, creating a continuous loop of moral decision-making that evolves through experience while remaining grounded in religious principles.

As shown in Figure 5.3, a simple color-coding scheme was adopted where psychological categories were colored blue, religious categories green, and sociological categories red. Categorical relationships were shown, in short form (e.g., ‘drives’, ‘supports’, ‘influences’, etc.), on the connector lines, and the lines themselves were colored as per the coloring scheme for category nodes. Inter-lens relationships were colored in purple, and dashed lines were used instead to distinguish them from the within-lens relations. Connections between categories and process steps were shown in solid black lines with arrowheads indicating the direction of the relationship. Categories that belong to common themes, as defined earlier, were illustrated in solid rectangles while unique-to-lens categories were printed in dashed borders. Each phase along the decision-making flow was colored in dark blue and connected to the specific categories that comprise it, showing how psychological, religious, and sociological elements integrate within each phase. A process flow that starts with the Activation Phase and ends with the Sustenance Phase (with feedback into the Integration Phase) could be traced along the dark blue lines connecting all the process steps. This visual model effectively integrated the RSP disciplinary lenses by illustrating key parameters, rules, and mechanisms in the operationalized agency, concluding the LLM-Assisted Theoretical Framework (LAF).

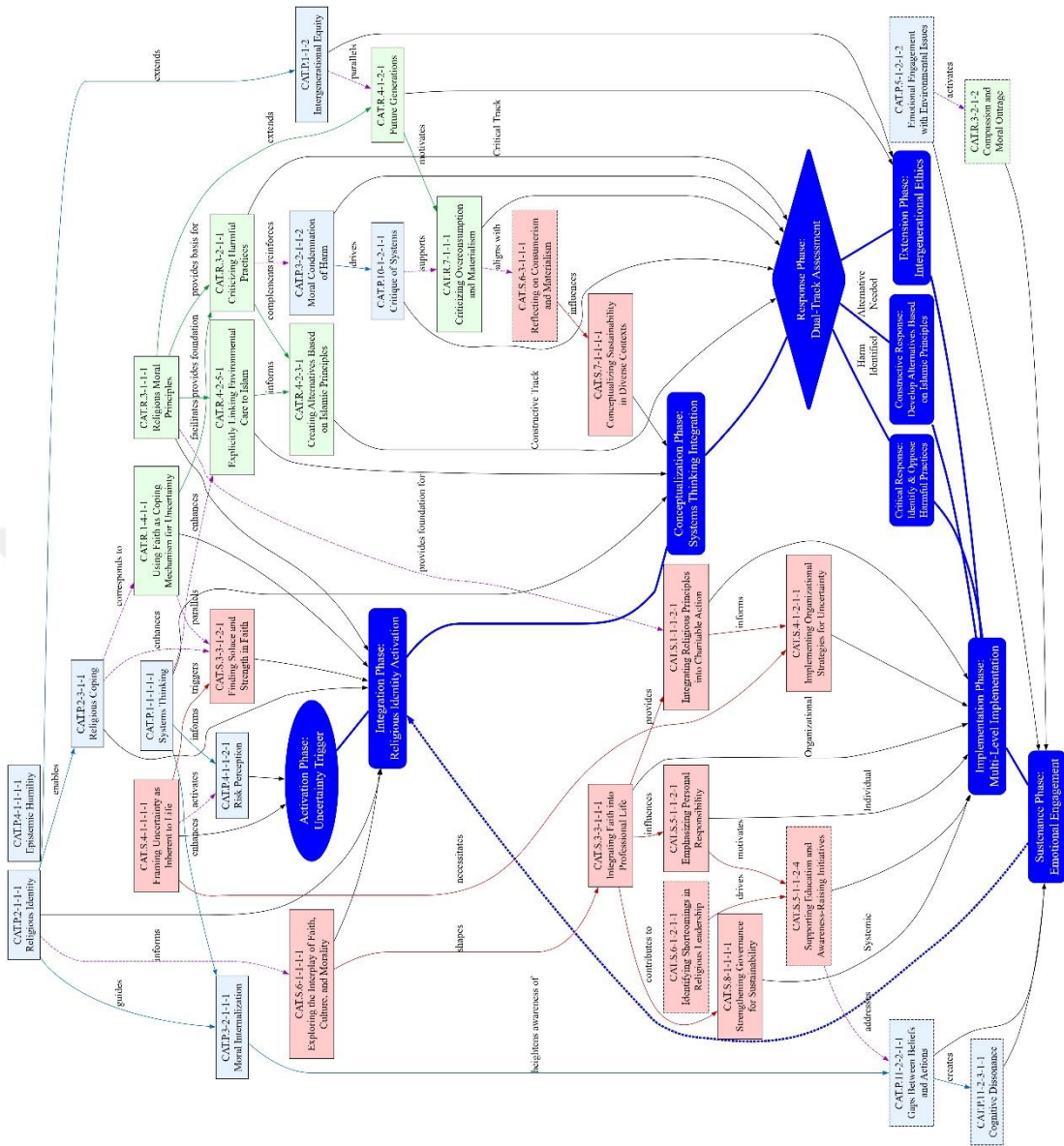


Figure 5.3: LAF Diagram

Source: Author, generated by Claude 3.7 Sonnet, 2025

CHAPTER VI

DISCUSSION

In this chapter, the harmonization of findings from two theoretical frameworks is discussed, the Researcher-Developed Framework (RDF) that was researcher developed starting with the initial coding of transcript data and ending with a theoretical framework for religio-moral agency, and the LLM-Assisted Framework (LAF), for which the detailed instructional procedures for the LLM to follow were authored but the qualitative analysis was conducted by a set of LLMs according to instructions. The chapter includes their comparison and a sample scenario to illustrate the operationalization of the integrated framework.

6.1 Harmonization of Findings

The harmonization effort comprises a detailed comparison to identify the unique contributions, convergences, and divergences from the two frameworks, and integrating their respective strengths. The goal is to construct a single, reconciled theoretical framework that offers a richer, more comprehensive, and robust understanding of the complex processes involved, leveraging both the deep empirical grounding of RDF and the structural and mechanistic insights provided by LAF.

6.1.1 Comparison of RDF and LAF

This section compares the two theoretical frameworks developed from the same dataset of 21 interviews with Muslim charity executives regarding their faith-informed moral agency under uncertainty. The RDF centers on ‘Navigating Competing Imperatives’ guided by ‘Faith-Informed Moral Agency’, with propositions derived from the GT-informed analysis with 3 core components and 19 propositions. The LAF is built on the ‘Dynamic Faith-Based Moral Agency Model’, derived from integrating religious, sociological, and psychological (RSP) analyses, with 7 core components and corresponding propositions. The comparison focuses on their structure, core concepts, proposed mechanisms, and propositions, as shown in Table 6.1, below.

Table 6.1: Comparison of RDF and LAF

Element	RDF	LAF
Overall Framework Name / Focus	'Navigating Competing Imperatives' guided by 'Faith-Informed Moral Agency' and 'Extended Stewardship'. Focus on the experience and strategies of balancing.	'Dynamic Faith-Based Moral Agency Model'. Focus on mechanisms, structure, and a multi-lens integrated process.
Core Category / Central Phenomenon	1. Navigating Competing Imperatives: Central process of balancing conflicting demands (present vs. future, development vs. environment, etc.).	1. Faith-Uncertainty Dialectic: Central dynamic where uncertainty activates faith-based meaning-making and moral agency, transforming uncertainty into a catalyst.
Secondary Core Categories / Key Principles	2. Faith-Informed Moral Agency: Overarching guide for perception, strategy, and justification. 3. Extended Stewardship: Integrating present needs and future obligations.	2. Multi-Level Integration: Faith operating across cognitive, institutional, and cultural levels. 3. Systemic Sustainability Conception: Holistic view. 4. Dual-Process Moral Response: Critique + Construction. 5. Intergenerational Ethics: Temporal extension. 6. Institutional-Educational Vectors: Implementation pathways. 7. Resource-Affective Dynamic: Role of emotion.
Main Themes		
Faith-Uncertainty Interaction	Dual Coping Strategy: Faith (<i>tawakkul</i> , hope, test) + Pragmatic Preparedness. Faith as an interpretive framework and resilience resource.	Faith-Uncertainty Dialectic: Uncertainty activates faith, and transforms it. Faith provides resilience, cognitive anchors, and moral clarity.
Integration of Faith and Morality / Practice	Faith is the primary influencer of morals; guides navigation; principles inform agency; morality is interpreted through faith lens; reflexivity on practice.	Multi-level integration of faith (cognitive, institutional, cultural) ensures coherence; and integration of faith into professional practice.
Sustainability Conception / Environmental Ethics	'Balancing' human benefit/harm to nature as the central goal; Stewardship (<i>khalifah</i>) as key; Multidimensional view; Responsibility to future.	Systemic Sustainability Conception / Systemic Environmental Ethics: Holistic, integrates spiritual, moral, practical, social, environmental, and economic dimensions via concepts like <i>mizan</i> , and <i>khalifah</i> .
Moral Response / Agency Process	Navigation strategies; Reflexivity on the ideal vs. practice gap; Seeking multifaceted solutions.	Dual-Process Moral Response: Simultaneous critique of harmful practices & construction of alternatives based on Islamic principles.

Intergenerational Ethics	Duty to Future Generations (<i>nasl</i>) as a core component of 'Extended Stewardship' and a competing imperative.	Intergenerational Ethics / Transgenerational Agency: Extends moral responsibility across time; powerful motivator.
Implementation / Contextual Adaptation	Contextual Factors (GCC/UK, barriers) and Individual Factors influence navigation; Solutions involve individual, technological, and political action.	Institutional-Educational Implementation Vectors: organizations mediate values, and education as a transformative vector, especially addressing institutional shortcomings.
Role of Emotion	Implicit (anxiety, 'feel good factor', compassion, emotional attachment to beneficiaries).	Resource-Affective Dynamic: Emotion explicitly bridges abstract principles and concrete action, triggers and sustains commitment.
Critique of Materialism / Economic System	Global Economic System (consumerism, profiteering, injustice) as the primary cause of the environmental crisis.	Critique of Materialism/Consumerism as a common theme across lenses, essential to Muslim environmental ethics.
Propositions		
Triggers / Activation	P.1, P.2, P.3: Simultaneous duties, perceived crisis/economic critique, uncertainty trigger navigation.	P.1: Faith-Uncertainty Activation (Uncertainty activates faith, dialectic transforms uncertainty to a catalyst).
Guidance / Coherence of Agency	P.5, P.11, P.13, P.14: Faith and morals guide navigation, reinforce agency, faith is the interpretive framework, and Islamic concepts are resources.	P.2: Multi-Level Integration (Faith integrates across cognitive, institutional, and cultural levels for coherence).
Sustainability Approach / Worldview	P.4, P.16, P.17, P.19: Seek Balance/Middle Ground; Stewardship's dual focus (present/future) operationalized via balance; Faith founds extended responsibility.	P.3: Systemic Environmental Ethics (Islamic ethics produces distinctive, holistic systems thinking).
Moral Action / Response	P.11, P.12, P.15: Navigation reinforces agency; Gap (ideal/practice) surfaces, prompting reflexivity/critique. P.7: Multifaceted solutions sought.	P.4: Dual-Process Moral Response (Simultaneous Critique of harm + Construction of alternatives).
Temporal Extension of Responsibility	P.1, P.16, P.19: Duty to future generations (<i>nasl</i>) is a core component of stewardship and a competing imperative.	P.5: Intergenerational Ethics (Extends moral agency across time, creates 'transgenerational agency').
Operationalization / Contextual Action	P.7, P.8, P.9, P.18: Solutions are multifaceted; Context/Individual factors influence; Implicit prioritization of present needs.	P.6: Institutional-Educational Implementation Vectors (Parallel vectors translate principles, especially when traditional institutions lack).

Motivation / Sustenance of Action	N/A	P.7: Resource-Affective Dynamic (Emotion bridges principles & behavior, sustains commitment).
Decision-Making Process Implications	Implicit Process: Trigger → Framing → Info/Eval → Strategy (Balance, Dual Coping) → Choice → Justification → Feedback (Reinforced Agency/Reflection).	Explicit 7-Phase Cyclical Model: Activation → Integration → Conceptualization → Response → Extension → Implementation → Sustenance → Feedback Loop.
Methodological Emphasis	GT-informed; focus on participant definitions, emergent categories from data, iterative comparison, and researcher interpretation.	LLM-assisted multi-lens analysis; explicit use of Religious, Sociological, Psychological (RSP) lenses; focus on common/unique themes, integration, and framework building.
Key Output / Synthesis	‘Consolidated Agent’ profile summarizing prevalent views; Narrative explaining ‘Navigating Competing Imperatives’.	‘Dynamic Faith-Based Moral Agency Model’; Set of 7 propositions; 7-phase decision process model.
Handling of Context (e.g., GCC/UK)	Acknowledged as an influencing factor (P.8); Table 5.1 allows for some visual comparison; and some textual notes on regional emphasis.	The focus is on general mechanisms.
Use of Disciplinary Lenses	Implicit integration of psychological, social, and religious aspects within emergent themes.	Explicit, structured use of Religious, Sociological, Psychological (RSP) lenses as the primary analytical framework.
Emphasis on Definitions	Strong emphasis on constructing detailed participant definitions of core concepts (morality, charity, etc.).	Less emphasis on exhaustive definitions of terms, and more on identifying thematic patterns, mechanisms, and cross-lens convergences.

Source: Author, generated by Gemini 2.5 Pro, 2025

6.1.1.1 Overall Framework Name/Focus

RDF, derived from a GT-informed analysis of participant interviews, centers on the core process of Navigating Competing Imperatives. This navigation is understood to be guided by Faith-Informed Moral Agency and the principles of Extended Stewardship (embedded in the process). The primary focus of RDF is on understanding the lived experience of Muslim charity decision-makers, the complex realities they face, the moral and practical imperatives they balance, and the key strategies they employ. LAF is explicitly named the Dynamic Faith-Based Moral Agency Model, which focuses more on elucidating the underlying mechanisms, structures, and dynamic processes of this agency by systematically integrating insights from psychological, religious, and sociological lenses. LAF aims to provide a more

structured, multi-layered explanation of how moral agency operates under conditions of uncertainty and unsustainability.

6.1.1.2 Core Category (Central Phenomenon)

In RDF, the central phenomenon identified through the researcher's analysis was Navigating Competing Imperatives. This encapsulates the primary challenge faced by the executives, that is, making decisions and acting ethically amidst conflicting demands such as present needs versus future obligations, economic development versus environmental preservation, and universal moral ideals versus particular contextual realities. For LAF, the central dynamic proposed is the Faith-Uncertainty Dialectic. This suggests that uncertainty is not merely a passive context but an active catalyst that triggers faith-based meaning-making systems, transforming uncertainty from a potential paralytic into a motivator for moral action. While RDF describes complex navigation, LAF pinpoints a specific psychological and religious mechanism that initiates and energizes the agent's response to the conditions necessitating this navigation.

6.1.1.3 Secondary Core Categories (Key Guiding Principles)

RDF identifies two other significant core categories or guiding principles: Faith-Informed Moral Agency, which acts as the overarching lens and resource for perception and action, and Extended Stewardship, which articulates the specific nature of responsibility, integrating present operational needs with long-term duties toward future generations and the environment. LAF, on the other hand, outlines six additional core components that function as key principles or structural elements of its model: Multi-Level Integration of Faith; a Systemic Sustainability Conception; a Dual-Process Moral Response (critique and construction); Intergenerational Ethics (conceptualized as transgenerational agency); Institutional-Educational Implementation Vectors; and a Resource-Affective Dynamic (the role of emotion). Thus, while RDF focuses on broad guiding themes, LAF breaks down the agency into more numerous, specific functional components.

6.1.1.4 Main Themes (Foundational Components)

Across both frameworks, several foundational themes converge, though often with different emphasis or terminology. Both frameworks strongly highlight the Faith-Uncertainty Interaction, where RDF describes a Dual Uncertainty Coping strategy (faith/*tawakkul* with preparedness) and LAF details a Faith-Uncertainty Dialectic. The Integration of Faith & Morality/Practice is central to both, with RDF showing faith as a primary influencer and guide, and LAF proposing a Multi-Level Integration (cognitive, institutional, cultural) for coherence. Regarding Sustainability Conception/Environmental Ethics, RDF emphasizes the practical strategy of balancing human benefit and harm to nature, grounded in Stewardship, while LAF details a Systemic Sustainability Conception integrating multiple dimensions through an Islamic ethical lens. The Moral Response/Agency Process in RDF involves navigating imperatives and reflexivity on the ideal-practice gap, whereas LAF posits a specific Dual-Process Moral Response (Critique with Construction). Both frameworks underscore Intergenerational Ethics/Responsibility (RDF's *Nasl* and Extended Stewardship; LAF's Transgenerational Agency). For Implementation/Contextual Adaptation, RDF notes influencing contextual factors and multifaceted solutions, while LAF specifies Institutional-Educational Vectors as pathways. The Role of Emotion is implicit in RDF's data but explicitly theorized in LAF as a Resource-Affective Dynamic. Finally, a Critique of Materialism/Economic System is a strong common theme, identified in RDF as a primary cause of the environmental crisis and in LAF as an essential component of Muslim environmental ethics across all disciplinary lenses.

6.1.1.5 Propositions

The propositions from RDF (P.1-P.19) detail the conditions, nature, strategies, influences, and outcomes related to navigating competing imperatives and extended stewardship. For instance, P.1-P.3 (RDF) outlining triggers for navigation (duties, crisis, uncertainty) align with the activation concept in P.1 (LAF) (Faith-Uncertainty Activation). RDF's propositions on seeking balance (P.4, P.17), grounded in stewardship and faith (P.1, P.16, P.19), find a conceptual basis in P.3 (LAF) (Systemic Environmental Ethics). The guidance provided by faith and morals in RDF (P.5, P.11, P.13, P.14) is given a structural explanation by P.2 (LAF) (Multi-Level Integration). RDF's dual coping strategy (P.6) is deeply explored in its faith component by P.1

(LAF). The outcomes of navigation in RDF, such as reinforced agency and reflexivity (P.10, P.11, P.12, P.15), are contextualized by LAF's overall cyclical model and elements like the Dual-Process Moral Response (P.4) or the Affective Dynamic (P.7). RDF's propositions on context and multifaceted solutions (P.7, P.8, P.9, P.18) are given more specific mechanisms through P.6 (LAF) (Institutional-Educational Vectors). LAF's propositions on Intergenerational Ethics (P.5) and the Resource-Affective Dynamic (P.7) give greater theoretical prominence to concepts that were present but less centrally theorized as distinct propositions in RDF.

6.1.1.6 Decision-Making Process Implications

This is a critical area of comparison where LAF significantly extends RDF. RDF implies a decision-making process: a Trigger (uncertainty, crisis, duties) leads to Problem Framing (moral/religious lens, competing imperatives), followed by Information Gathering & Evaluation (pragmatic data + faith principles), Strategy Selection (e.g., seeking balance, dual coping), a Decision/Choice, Action/Implementation, Observation of Outcomes, and finally a Feedback loop (reinforcing agency, prompting reflection). This flow is logical and grounded in the RDF propositions.

LAF, however, formalizes this into an explicit, more detailed, 7-phase cyclical model: (1) Activation Phase (uncertainty triggers faith-dialectic), (2) Integration Phase (religious identity provides framework), (3) Conceptualization Phase (systems thinking integrates sustainability dimensions through faith), (4) Response Phase (dual-track assessment: critique and construction), (5) Extension Phase (intergenerational ethics extends moral consideration temporally), (6) Implementation Phase (multi-level action via institutional/educational vectors), and (7) Sustenance Phase (emotional engagement and reflection sustain commitment and refine future cycles). This LAF model provides a more structured and dynamic understanding of the decision-making flow. It specifies mechanisms within each phase (e.g., how religious identity is activated, how systems thinking is applied, how critique and construction operate simultaneously) and explicitly diagrams the cyclical nature where the outcome of one decision process feeds back into and shapes the agent's capacity for future decisions. Thus, LAF takes the decision-making implications of RDF and articulates them as a comprehensive, iterative process model.

6.1.1.7 Methodological Emphasis

The methodological emphasis differs. RDF is rooted in a CGT-informed approach, emphasizing emergent categories derived directly from participant data through iterative comparison and researcher interpretation. Its strength lies in its deep grounding in the participants' own terms and experiences, co-created with the researcher. LAF employed an LLM-assisted multi-lens analysis, explicitly using the RSP framework from the outset to code and interpret data. Its emphasis is on identifying common and unique themes across these disciplinary perspectives and integrating them into a structured, meta-theoretical framework. While LAF also followed a GT-informed roadmap, its results resembled the structural Straussian variant of the GT.

6.1.1.8 Key Output/Synthesis

The key output of RDF is a rich descriptive and interpretive account, culminating in a consolidated agent profile and a narrative explaining the core process of Navigating Competing Imperatives. It provides a set of empirically grounded propositions (P.1-P.19). The key output of LAF is the Dynamic Faith-Based Moral Agency Model, a more formal theoretical structure with 7 core components, 7 corresponding propositions (P.1-P.7), and the explicit 7-phase decision process model. LAF seems to have achieved a higher level of theoretical abstraction and structural integration.

6.1.1.9 Handling of Context

RDF acknowledges contextual influences, including potential GCC/UK differences, as an influencing factor (P.8). Table 5.1 visually allows for some comparison of GCC and UK participant contributions to consolidated opinions, and Section 4.2.6 provides a summary of potential cultural influences. However, a systematic cross-cultural comparison was neither its goal nor its primary output. LAF does not explicitly analyze or present findings based on GCC vs. UK differences; its focus is on general mechanisms derived from the entire dataset through disciplinary lenses.

6.1.1.10 Use of Disciplinary Lenses

RDF implicitly integrates psychological, social, and religious aspects as they naturally emerge from the participants' accounts within the GT framework. LAF makes the use

of Psychological, Religious, and Sociological lenses explicit and central to its methodology, systematically coding for insights from each and then integrating them. This leads to LAF identifying unique contributions from each lens.

6.1.1.11 Emphasis on Definitions

RDF places a strong emphasis on constructing detailed definitions of core concepts (Morality, Charity, Uncertainty, Sustainability, Development) based on participant language and interpretations. LAF places less emphasis on providing exhaustive definitions of these terms, focusing more on identifying thematic patterns, underlying mechanisms, and cross-lens convergences to build its theoretical framework.

6.1.2 Toward an Integrated Theoretical Framework

With the goal of using the empirically grounded RDF as the primary structure and then embedding the theoretical constructs and mechanisms from LAF to add depth, explanatory power, and structural detail, LAF was structured as an enhancement layer to RDF. To do so, the core categories of Navigating Competing Imperatives, Faith-Informed Moral Agency, and Extended Stewardship and propositions (P.1-P.19) of RDF were accepted as the foundational narrative. An attempt was made to systematically identify where each of LAF's core components and propositions (e.g., Faith-Uncertainty Dialectic, Multi-Level Integration, Dual-Process Response, Affective Dynamic, or the 7-phase model) can explain, elaborate upon, or provide a mechanism for the phenomena and relationships described in RDF. This translated into explicitly incorporating LAF's terminology and conceptual mechanisms, where they provide deeper insight or structure, generally speaking, contributed to the operationalization of the RDF. Propositions were reviewed, and similar propositions where appropriate were merged, ensuring that LAF's propositions enriched the ones from RDF without redundancy, and in a coherent and logically flowing fashion. The resulting theoretical framework was called the Integrated Theoretical Framework (ITF).

6.1.2.1 Integrated Framework: Dynamic Faith-Based Moral Navigation

This integrated framework explains how Muslim agents navigate complex moral decisions under conditions of uncertainty and unsustainability. It posits their agency

not as a static adherence to rules, but as a dynamic, iterative process deeply informed and motivated by their faith.

a) Activation Through the Faith-Uncertainty Dialectic

The process is typically initiated, or triggered when agents encounter Pervasive Uncertainty (environmental, social, moral, as highlighted in RDF's P.3) often arising from crises or complex challenges like environmental degradation (RDF P.2) or competing duties (RDF P.1). This uncertainty does not necessarily paralyze, instead, it activates a Faith-Uncertainty Dialectic (LAF's core dynamic and P.1). In this dialectic, faith frameworks are engaged to make meaning of ambiguity, transforming uncertainty from a purely negative force into a catalyst for moral reflection and action. This activation is complemented by the agents' Pragmatic Preparedness (part of RDF's Dual Coping strategy, P.6), where they also seek data and plan for manageable risks.

b) Guidance by Multi-Level Faith-Informed Moral Agency

The agent's response is guided by their Faith-Informed Moral Agency (RDF's secondary core category), which achieves coherence and pervasive influence through Multi-Level Integration (LAF P.2). On the cognitive or individual level, faith provides the primary interpretive lens (RDF P.13) and a rich repository of Islamic Principles (stewardship/*khalifah*, *amanah*, *nasl*, *akhlaq*, *tawakkul*) and Universal Moral Principles (RDF P.5, P.14) that shape understanding and evaluation. On the institutional level, agents' roles within the organization provide a key channel for enacting this agency, translating abstract principles into professional practice. Finally, on the cultural level, shared religious identity and communal values provide a broader context and reinforcement for this faith-informed approach.

c) Conceptualizing Through a Systemic Sustainability Ethic

This agency leads to the adoption of a Systemic Sustainability Ethic (LAF P.3). Rather than viewing elements in isolation, agents develop a holistic understanding that integrates spiritual, moral, social, environmental, and economic dimensions, often through concepts like *mizan* and *khalifah*. This systemic view is the foundation for RDF's observed core strategy of Seeking Balance / 'Middle Ground' (RDF P.4, P.17) when Navigating Competing Imperatives (RDF's Central Process), especially between present human needs and future environmental/intergenerational obligations (RDF's P.1, P.16 - Extended Stewardship).

d) Enacting a Dual-Process Moral Response

When confronted with issues like the environmental crisis (RDF P.2) or perceived gaps between ideals and practice (RDF P.12, P.15), the moral response tends to follow a Dual-Process (LAF P.4):

Critique: This involves identifying, analyzing, and opposing harmful practices and systems (e.g., the critique of the consumerist global economic system prominent in RDF, or internal community shortcomings).

Construction: Simultaneously, agents engage in constructively developing and promoting positive alternatives grounded in their Islamic and universal moral values (aligning with RDF's Multifaceted Solutions, P.7).

e) Extending Moral Consideration Through Transgenerational Ethics

A defining feature of this agency is its temporal extension through Transgenerational Ethics (LAF P.5). The responsibility towards future generations (*nasl*), is highlighted in RDF as a core component of 'Extended Stewardship' (RDF P.1, P.16, P.19), is understood here as an active extension of moral agency across time, providing a powerful motivator for sustainable actions despite distant and uncertain outcomes.

f) Operationalizing via Contextual Implementation Pathways

The translation of these principles and responses into concrete action occurs through Contextual Implementation Pathways (LAF P.6). This acknowledges RDF's findings that actions are shaped by Contextual and Individual Factors (RDF P.8, P.9) and perceived systemic barriers. Faith-based organizations (FBOs) (institutional mediation) and educational initiatives (often compensatory) emerge as key vectors for operationalizing moral commitments and adapting strategies to specific socio-cultural and resource environments (e.g., GCC vs. UK contexts).

g) Sustaining Agency through an Affective Bridge

The motivation for and sustenance of this demanding moral agency is significantly fueled by an Affective Bridge (LAF P.7). Emotions such as compassion (*rahmah*), empathy for the vulnerable, anxiety about environmental degradation, moral outrage against injustice, and satisfaction from positive impact (all implicitly present in RDF) connect abstract principles to deeply felt personal imperatives, driving and sustaining commitment to action.

h) Cyclical Reinforcement and Adaptation

This entire process is dynamic and cyclical. The outcomes of actions and the experience of navigating imperatives (RDF P.10) provide feedback, reinforcing the agent's Faith-Informed Moral Agency (RDF P.11). Observed gaps between ideals and practice prompt reflection and reflexivity (RDF P.12, P.15), leading to potential adjustments in understanding, strategy, and focus for future cycles of engagement. This creates a continuous loop of moral decision-making that evolves through experience while remaining anchored in core faith principles.

6.1.2.2 Visual Model Creation

The resulting ITF was visualized in a diagram, similar to RDF and LAF, in Figure 6.1. The main process comprises the 7-phase decision-making from LAF, shown in vivid blue. Almost all of the RDF elements are positioned peripherally as contextual influencers with Islamic Principles in yellow, Universal Moral Principles in green, Pragmatic Preparedness in light blue, Pervasive Uncertainty in gray, and Imperatives and Critique of Economic System in red. The Faith-Informed Moral Agency is the secondary core category of RDF, shown in dark blue, and serves as the component that structures the Integration Phase. Cultural, contextual, and individual experiential factors are shown in purple. Below is the Navigating Competing Imperatives node, named after the central process in RDF, without borders and background color, which defines the main problem space for decision-making. The Seeking Middle Ground strategy is illustrated as a potential response that was evident in data, leading to an optimistic outcome of hoping both development and conservation can be achieved concurrently, with all Outcome elements shown in light orange.

The illustrated diagram should be seen as a particular type of decision-making, grounded in data comprising Muslim charity executives' vocabulary, perceptions, and sense-making; hence, despite some form of a general 'engine' named the Dynamic Faith-Based Moral Navigation Process in the middle, most of its components are case-specific. The first step of the decision-making process is activated particularly by a faith-uncertainty dialectic, as explained earlier.

The Contextual Drivers & Principles cluster groups elements that are the fundamental building blocks, pre-existing conditions, or core raw materials that the agents' moral framework and the decision-making process draw upon. They are, in a sense, the inputs

to the agent's cognitive and moral processing or the landscape within which their agency operates, representing more constant features of the landscape. The separate Influencing Factors node (purple), on the other hand, despite defining also the context, is conceptualized as factors that moderate, shape, or influence how the core process of Dynamic Faith-Based Moral Navigation unfolds for different agents or in different situations, they are seen as contingency factors, or as filters and modifiers that affect the expression, strategies, and outcomes of the moral agency process.

Navigating Competing Imperatives (without borders) was the central phenomenon of RDF, describing the core problem that the Muslim moral agents face and try to solve or manage all the time. In ITF, this is articulated and operationalized by the 7-phase decision-making structure borrowed from LAF, thereby positioning Navigating Competing Imperatives as a descriptor of what is taking place in the process, that is, the agent is actively performing the work of reconciling, balancing, and finding a path through those very competing imperatives that define the problem space. The process is the navigation. Competing Imperatives (red) in the topmost cluster on the diagram are the same conflicting elements defining the challenge, but this time as an actual input, such as the specific conflicting duties, values, and realities that the agents face (e.g., present needs vs. future obligations, development vs. environment).

Faith-Informed Moral Agency is an active, guiding capacity that influences multiple stages and is itself influenced and reinforced by the process. It is fundamentally constituted and informed by both specific Islamic principles (e.g., *khalifah*, *amanah*, *nasl*, *akhlaq*, *tawakkul*, *wasatiyyah*) and broader universal moral principles such as fairness or justice. These are the raw materials or the knowledge base of this agency. In the Integration Phase, this provides the cognitive schemas, moral frameworks, and institutional/cultural lenses through which the agent interprets the situation and their available resources. It structures how they make sense of the challenge. Faith-Informed Moral Agency exercises implicit influences that are not shown in the diagram. It informs the Conceptualization Phase by providing the ethical basis for the Systemic Sustainability Ethic. It guides the Response Phase by shaping the Dual-Process Moral Response and the Seeking Balance strategy. It underpins Transgenerational Ethics in the Extension Phase, motivates actions within Contextual Implementation Pathways in the Implementation Phase, and is connected to the emotional and reflective aspects of the Sustenance Phase.

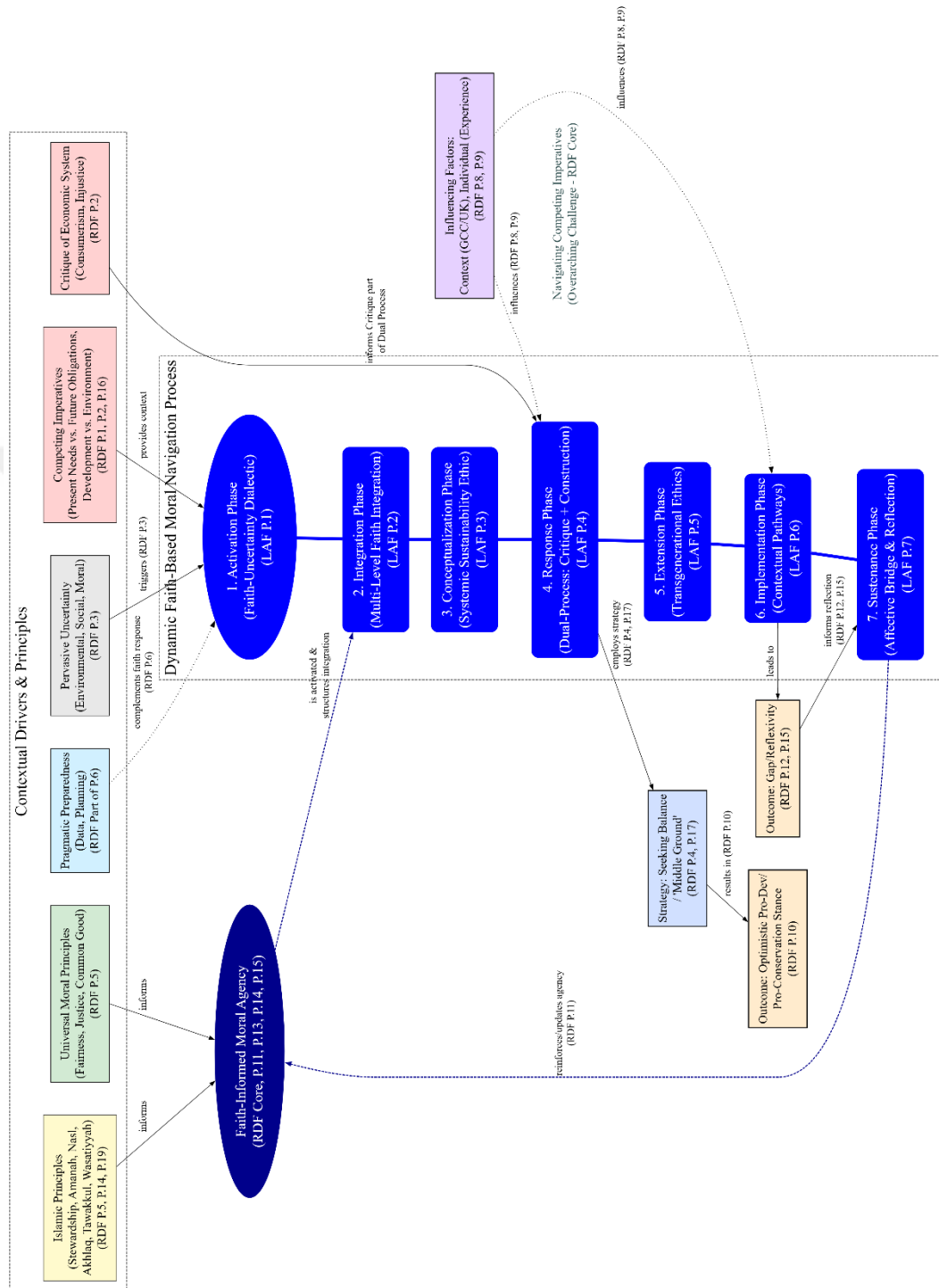


Figure 6.1: ITF Diagram

Source: Author, generated by Gemini 2.5 Pro, 2025

The main Strategy adopted in the process is Seeking Balance or Middle Ground, a dominant theme in RDF, which is not a universal response to every moral decision. It becomes particularly relevant and is explicitly activated when the agent is faced with Competing Imperatives, as explained above. Therefore, not every input into the 7-phase decision process automatically results in a Seeking Balance output. If a moral decision is straightforward, with a clear alignment of values and minimal conflict (e.g., a direct command from faith with no significant counter-imperatives), then the Seeking Balance strategy might not be prominently invoked. The agent might move through the process and arrive at a more direct, less compromise-oriented decision. It can be seen as a manifestation of the Construction track of the Dual-Process in the Response Phase. When faced with the Critique that current systems are unsustainable or unjust, Seeking Balance is a constructive attempt to forge a viable path forward that acknowledges multiple values. It represents a key, data-driven strategic response that becomes highly salient when the input conditions involve significant competing imperatives.

The Gap/Reflexivity in Outcome can manifest in several ways, such as ideal vs. practice in the community, aspiration vs. achievable outcomes, or personal values vs. necessary compromises. Reflexivity involves critical re-evaluation, moral re-assessment, learning and adaptation, as well as the potential for cognitive dissonance.

In summary, this is a decision-making model that is tailored for Muslim agents facing complex socio-environmental and developmental dilemmas where multiple values are at stake and uncertainty is high.

6.2 Illustrative Operationalization of Individual Agency

Below is a researcher-designated and LLM-generated scenario, crafted to demonstrate how the different elements within the 'Dynamic Faith-Based Moral Navigation' framework operate and interact in a near-real-world moral decision-making case involving significant uncertainty and competing sustainability-related imperatives. While all specific details provided are fictionalized for illustrative clarity, the case is loosely based on an example provided by participant UK1 during the interview, adapted here to highlight the core mechanisms of faith-informed agency and ethical reasoning central to this research.

Fatima is the Program Director at Al-Amanah Relief. Al-Amanah has provided consistent food aid to the rural community of Al-Nur for three years following a devastating flood. The immediate crisis is over, but field reports and Fatima's recent visit indicate rising concerns: local agricultural output is declining, some community members express less initiative for self-help, and there's a growing expectation of indefinite aid. Fatima must recommend to the board whether to continue the current aid, implement a significant reduction coupled with development initiatives, or phase out direct aid more rapidly to avoid long-term dependency and foster self-sustainability, knowing that any reduction will cause immediate hardship for some.

Table 6.2: Hypothetical Decision-Making Case

Phase	Dynamic Faith-Based Moral Navigation in Action
Phase 1: Activation (Faith- Uncertainty Dialectic)	<p><u>Trigger</u>: Concerning field reports on aid dependency in Al-Nur and the upcoming aid renewal decision.</p> <p><u>Inputs Activated</u>: Competing Imperatives arise (e.g., immediate suffering alleviation vs. long-term empowerment/dignity; donor expectations vs. principled action). Pervasive Uncertainty about community reaction, the success of alternatives, and the morally 'right' path is high. Critique of the Economic System informs reflections on simplistic aid models that focus solely on the symptoms.</p> <p><u>Faith-Uncertainty Dialectic</u>: The moral weight and uncertainty activate Fatima's faith as a primary lens for sense-making and seeking resilience, transforming the dilemma into a profound moral and spiritual challenge requiring deeper engagement.</p>
Phase 2: Integration (Multi-Level Faith Integration)	<p><u>Activated Faith Informed Moral Agency</u>: Fatima's core moral agency, rooted in her faith, is fully engaged to interpret and frame the dilemma.</p> <p><u>Inputs Drawn Upon</u>: Relevant Islamic Principles (<i>maslaha</i>/long-term public interest, <i>karamah</i>/human dignity, <i>kasb</i>/self-reliance, <i>amanah</i>/trust, <i>tadrij</i>/gradualism) and Universal Moral Principles (autonomy, non-maleficence) are considered.</p> <p><u>Multi-Level Integration</u>: She processes the issue cognitively (personal deliberation), institutionally (aligning with her FBO's mission and ethics), and culturally (considering Islamic/community values around aid and self-help).</p>
Phase 3: Conceptualize (Systemic Sustainability Ethic)	<p>Fatima adopts a Systemic Sustainability Ethic. She views Al-Nur as a complex social-ecological system, moving beyond just aid provision to fostering systemic health (economic agency, social fabric, dignity). She recognizes that continuous, untargeted aid can disrupt this system by creating disincentives. The aim shifts from simply 'providing aid' to 'cultivating a resilient, self-sustaining community'.</p>

Phase 4: Response (Dual-Process: Critique + Construction & Seeking Balance)	<p><u>Dual-Process Moral Response:</u></p> <p><u>Critique:</u> Fatima critically assesses the current aid model for its potential to create dependency and disempowerment, viewing it as potentially harmful despite good intentions.</p> <p><u>Construction:</u> She actively explores constructive alternatives that integrate relief with development and empowerment.</p> <p><u>Strategy:</u> Seeking Balance / 'Middle Ground': This becomes central – avoiding both the harm of abrupt aid cuts and the harm of long-term dependency. A carefully planned, gradual transition is envisioned.</p> <p><u>Other Strategies:</u> Dual Coping (pragmatic research/planning for transition + faith-based <i>tawakkul</i> for wisdom and outcomes) and Multifaceted Solutions (phased aid reduction linked to income generation, skills training, and community mobilization).</p>
Phase 5: Extension (Trans- generational Ethics)	<p>Fatima explicitly considers the Transgenerational Ethics involved. The long-term impact on Al-Nur's children (<i>nasl</i>) and future generations is a key motivator. Creating a cycle of dependency is seen as a negative legacy, while fostering self-sustainability offers a positive intergenerational inheritance. This strengthens her resolve for a transformative, though potentially difficult, strategy.</p>
Phase 6: Implementation (Contextual Pathways)	<p>A phased transition plan (Path to Self-Reliance) is implemented.</p> <p><u>Contextual Implementation Pathways:</u></p> <p><u>Institutional Vector:</u> Fatima's FBO (Al-Amanah) adapts its operations, re-trains staff, and engages in intensive community dialogue to implement the new integrated approach.</p> <p><u>Educational Vector:</u> Significant effort is put into mutual learning with the Al-Nur community, explaining the rationale, co-planning initiatives, and building local capacity.</p> <p><u>Influencing Factors:</u> Success is shaped by Context/Individual Factors like community leadership, local conditions, donor flexibility, and team capacity.</p>
Phase 7: Sustenance (Affective Bridge & Reflection)	<p><u>Outcome: Gap/Reflexivity:</u> The transition proves challenging; initial aid reduction causes some hardship and resistance, and development initiatives show slow uptake. A gap between the planned smooth transition and the complex reality emerges.</p> <p><u>Affective Bridge & Cognitive Dissonance:</u> Fatima experiences empathy, anxiety, and frustration, but also hope. Cognitive dissonance arises (Our mission is to alleviate suffering, yet this transition causes some distress. Are we truly doing the right thing, or are our methods/external factors the issue?).</p> <p><u>Reflection & Feedback to Faith-Informed Moral Agency:</u> The gap, emotional load, and dissonance trigger deep reflection. This experience reinforces core principles (empowerment, true <i>maslaha</i>) but also teaches patience (<i>sabr</i>) and adaptive management. Faith-based processing of the dissonance (prayer, consultation, deeper ethical understanding) leads to adapting implementation (e.g., adjusting pace, intensifying specific supports) rather than abandoning the core goal, thus refining and strengthening her moral agency for future challenges.</p>

Source: Author, generated by Gemini 2.5 Pro, 2025

6.3 Illustrative Operationalization of Collective Dynamics: ABM

This stage develops an illustrative ABM, grounded in the ITF, that operationalizes collective-level dynamics (population-level diffusion) via role-based interactions among decision-making agents. Being of an illustrative and exploratory purpose, this model intended to formalize some of the relationships and dynamics of the situation and possibly prompt future discussions (Edmonds et al., 2019) rather than providing solid predictions for future events. In other words, it was aimed to exemplify how empirical findings for the moral agency in decision-making on the individual level could be projected onto the collective level, accounting for the interplay dimension of the ITF, for which there was no specific data, as participants were not asked any questions about organizational workings. The emergence of collective action, dynamics of social diffusion, cultural and contextual variations in adopted strategies, or implementation of mechanisms within the model, such as Dual-Process, are examples of such collective or interplay cases, where ABM could, maybe not necessarily test or validate, but nevertheless provide useful insights into, suggesting a step toward micro-macro bridging. As such, a scenario was selected.

6.3.1 Simulation Setup

The theoretical framework of the ITF, harmonized from RDF and LAF, is already structured around a central process flow, the Dynamic Faith-Based Moral Navigation Process, also dubbed Navigating Competing Imperatives, with seven major steps from activation to sustenance. A pivotal mechanism in ITF is *tawakkul*-based resilience, a parameter that influences agent effectiveness under varying levels of uncertainty, which is the key environmental variable. In any ABM, defining different agent classes and their corresponding agent behaviors represents the core activity of modeling (Smajgl et al., 2011). Modeling the entire ITF decision-making flow would be the gold standard, but such a model would also involve numerous parameters, complicated agent decision-making algorithms for each of the 7 phases, and complex environmental interactions, making it exceptionally challenging to build, analyze, and interpret with clarity. Instead, a much simpler illustrative scenario with 2 data-driven agent types along with a neutral third agent and a basic collective process, that of ‘diffusion’, with one key influencing factor, uncertainty, and its matching counterpart, *tawakkul*, was designated. The selected agent types to illustrate were as follows:

- Grassrooters: They are critical-educational influencer agents with relatively shorter-term focus who mostly operate through emotional engagement, e.g., Eco-conscious imams, sustainability educators, etc. They somehow represent the ‘critique’ part of the Dual-Process in the Response Phase.
- Institutionalists: They are the systems-oriented influencer agents with longer-term horizons who prefer to work through establishing formal organizational networks, e.g., Islamic NGOs, management committees, etc. They represent the ‘construction’ part of the Dual-Process in the Response Phase.
- General Population: Non-influencing community members with varying resources and religious commitment (*tawakkul*).

6.3.2 ODD

As explained in the Methodology chapter, the ODD protocol (Grimm et al., 2010, 2020) is an established approach to documenting agent-based models. As such, the selected scenario was modeled and documented in line with the ODD guidelines.

6.3.2.1 Purpose and Patterns

a) Purpose

The primary purpose of this ABM was to explore the behavioral aspects of Muslim moral agency under uncertainty, specifically focusing on the potential collective dynamics arising from the interaction of different types of influential agents within a population. It aimed to simulate the social diffusion of awareness, representing the adoption of sustainability-related interpretations or practices, originating from two distinct agent types identified through prior qualitative analysis: 'Grassrooters' and 'Institutionalists'. The model specifically incorporated a *tawakkul*-based resilience mechanism, derived from the qualitative finding that faith often acts as a resilience factor enabling continued commitment under uncertainty, exploring how this affects influence dynamics. The ABM approach was chosen because it allows for the exploration of system-level patterns resulting from heterogeneous agent interactions and local diffusion processes, which are difficult to predict analytically.

b) Patterns

The model was designed to explore and potentially reproduce patterns observed or hypothesized from the qualitative data and theoretical framework:

Pattern 1 (Resilience Differential): Agents with higher resilience (representing *tawakkul*) maintain or increase their influence effectiveness and resist awareness decay under uncertainty, while lower-resilience agents exhibit reduced effectiveness and faster decay.

Pattern 2 (Influence Pathways): Awareness spreads through both direct, radius-based interaction (Grassrooters) and persistent, zone-based influence (Institutionalists), reflecting the distinct Grassrooter and Institutionalist roles identified.

Pattern 3 (Institutional Validation): Awareness spread by Grassrooters shows greater persistence (slower decay) when the interaction occurs within an established institutional zone.

Pattern 4 (Emergent Awareness Dynamics): The simulation aims to explore emergent spatial patterns of awareness, the overall speed and reach of diffusion, and the relative contribution of each agent type under varying conditions of uncertainty and agent configurations.

6.3.2.2 Entities, State Variables, and Scales

a) Entities

The model includes three types of agents, ‘breeds’ in NetLogo terminology, and the spatial environment, or ‘patches’:

GRASSROOTERS: Mobile agents spreading awareness through direct interaction.

INSTITUTIONALISTS: Mobile agents capable of establishing persistent zones of influence. Once established, they become immobile.

COMMONERS: Mobile agents representing the general population whose awareness level changes based on interactions and decays over time.

Patches: The grid cells forming the environment. Patches can become ‘institutionalized’ by INSTITUTIONALISTS.

Environment (Global): Overall conditions like UNCERTAINTY_LEVEL are represented by global variables.

b) State variables

Globals:

INSTITUTION_GAP: Minimum distance between centers of established institutional zones.

MIN_INST_INFLUENCE, MAX_INST_INFLUENCE: Used for color scaling of patch influence.

Interface Globals (set by user): NUMBER_OF_* (agent counts), BASE_*_INFLUENCE (initial influence potential), BASE_*_FADE_RATE (base decay rates), BASE_*_RANGE (influence/establishment radii), BASE_*_RESILIENCE (initial resilience levels 0-100), UNCERTAINTY_LEVEL (0-100), INSTITUTIONAL_VALIDATION_FACTOR (0-1).

Table 6.3: Global State Variables & Key Interface Parameters

Variable Name	Type	Units	Dynamic/ Static	Range/ Typical Value	Meaning
ticks	Number	Time Step	Dynamic	≥ 0	NetLogo primitive tracking simulation time.
INSTITUTION_GAP	Number	Patches	Static (Setup)	2	Minimum gap between centers of established zones relative to radius.
MIN_INST_INFLUENCE	Number	None	Static (Setup)	0	Minimum influence value used for patch color scaling.
MAX_INST_INFLUENCE	Number	None	Static (Setup)	Calculated in Setup	Maximum influence value used for patch color scaling (based on initial base influence).
UNCERTAINTY_LEVEL	Number	Level (0-100)	Dynamic (User)	0-100	Global level of uncertainty affecting agent effectiveness/decay (Set via Interface).

INSTITUTIONAL_VALIDATION_FACTOR	Number	Factor	Static (User)	0.0-1.0 (e.g., 0.75)	Multiplier reducing Grassrooter fade rate when institutionally backed (Set via Interface).
NUMBER_OF_COMMONERS	Number	Count	Static (User)	≥ 0	Initial number of Commoner agents (Set via Interface).
NUMBER_OF_GRASSROOTERS	Number	Count	Static (User)	≥ 0	Initial number of Grassrooter agents (Set via Interface).
NUMBER_OF_INSTITUTIONALISTS	Number	Count	Static (User)	≥ 0	Initial number of Institutionalists agents (Set via Interface).
BASE_GRASSROOTER_INFLUENCE	Number	Amount	Static (User)	≥ 0	Base influence amount for Grassrooters (Set via Interface).
BASE_INSTITUTIONALIST_INFLUENCE	Number	Amount	Static (User)	≥ 0	Base influence potential for Institutionalists (Set via Interface).
BASE_GRASSROOTER_FADE_RATE	Number	Amount / Tick	Static (User)	≥ 0	Base awareness decay rate from Grassrooters (Set via Interface).
BASE_INSTITUTIONALIST_FADE_RATE	Number	Amount / Tick	Static (User)	≥ 0	Base awareness decay rate from Institutionalists (Set via Interface).
BASE_GRASSROOTER_RANGE	Number	Patches	Static (User)	≥ 0	Base influence radius for Grassrooters (Set via Interface).
BASE_INSTITUTIONALIST_RANGE	Number	Patches	Static (User)	≥ 0	Base establishment radius for Institutionalists (Set via Interface).
BASE_GRASSROOTER_RESILIENCE	Number	Level (0-100)	Static (User)	0-100	Base resilience level for Grassrooters (Set via Interface).
BASE_INSTITUTIONALIST_RESILIENCE	Number	Level (0-100)	Static (User)	0-100	Base resilience level for Institutionalists (Set via Interface).
BASE_COMMONER_RESILIENCE	Number	Level (0-100)	Static (User)	0-100	Base resilience level for Commoners (Set via Interface).

Source: Author, 2025

GRASSROOTERS-own:

INFLUENCE_RANGE: Radius for direct interaction.

GRASSROOTER_INFLUENCE: Base amount of awareness spread per interaction.

RESILIENCE: Agent's resilience level (0-100), influences effectiveness under uncertainty.

Table 6.4: Grassrooter State Variables

Variable Name	Type	Units	Dynamic/ Static	Meaning
who	Number	ID	Static	Unique agent identifier (NetLogo built-in).
xcor, ycor	Number	Coords.	Dynamic	Agent's location (NetLogo built-in).
heading	Number	Degrees	Dynamic	Agent's direction (NetLogo built-in).
GRASSROOTER_INFLUENCE	Number	Amount	Static	Base influence imparted per interaction (from Interface).
INFLUENCE_RANGE	Number	Patches	Static	Radius of direct influence (from Interface).
RESILIENCE	Number	Level	Static	Agent's resilience (0-100) affecting effectiveness.

Source: Author, 2025

INSTITUTIONALISTS-own:

INFLUENCE_RANGE: Radius of the zone established.

INSTITUTIONALIST_INFLUENCE: Base influence potential used when establishing the zone.

IS_ESTABLISHED: Boolean flag (true if zone established).

RESILIENCE: Agent's resilience level (0-100), influences effectiveness at establishment under uncertainty.

Table 6.5: Institutional State Variables

Variable Name	Type	Units	Dynamic/ Static	Meaning
who	Number	ID	Static	Unique agent identifier (NetLogo built-in).
xcor, ycor	Number	Coords.	Dynamic (until established)	Agent's location (NetLogo built-in).
heading	Number	Degrees	Dynamic (until established)	Agent's direction (NetLogo built-in).
INSTITUTIONALIST_INFLUENCE	Number	Amount	Static	Base influence potential used for zone (from Interface).
INFLUENCE_RANGE	Number	Patches	Static	Radius of established zone (from Interface).
IS_ESTABLISHED	Boolean	Flag	Dynamic	True if the agent has established its influence zone.
RESILIENCE	Number	Level	Static	Agent's resilience (0-100) affecting establishment effectiveness.

Source: Author, 2025

COMMONERS-own:

AWARENESS: Total awareness score (0-100).

AWARENESS_FROM_GRASSROOTERS: Awareness component from Grassrooters (0-100).

AWARENESS_FROM_INSTITUTIONALISTS: Awareness component from Institutionalists (0-100).

RESILIENCE: Agent's resilience level (0-100), influences awareness decay rate under uncertainty.

LAST_GRASSROOTER_WAS_BACKED?: Boolean flag indicating if the last interaction was with an institutionally validated Grassrooter.

Table 6.6: Commoner State Variables

Variable Name	Type	Units	Dynamic/ Static	Meaning
who	Number	ID	Static	Unique agent identifier (NetLogo built-in).
xcor, ycor	Number	Coords.	Dynamic	Agent's location (NetLogo built-in).
heading	Number	Degrees	Dynamic	Agent's direction (NetLogo built-in).
AWARENESS	Number	Level	Dynamic	Total awareness level (0-100).
AWARENESS_FROM_GRASSROOTERS	Number	Level	Dynamic	Awareness component gained from Grassrooters (0-100).
AWARENESS_FROM_INSTITUTIONALISTS	Number	Level	Dynamic	Awareness component gained from Institutionalists zones (0-100).
RESILIENCE	Number	Level	Static	Agent's resilience (0-100) affecting awareness decay rate under uncertainty.
LAST_GRASSROOTER_WAS_BACKED?	Boolean	Flag	Dynamic	True if last Grassrooter interaction was on an institutionalized patch.

Source: Author, 2025

patches-own:

INSTITUTIONALIZED: Boolean flag (true if part of a zone).

INSTITUTION_INFLUENCE: Effective influence level of the zone on this patch (decays with distance from center, calculated at establishment considering uncertainty/resilience).

Table 6.7: Patch State Variables

Variable Name	Type	Units	Dynamic/ Static	Meaning
pxcor, pycor	Number	Coords.	Static	Patch's location (NetLogo built-in).
pcolor	Number	Color	Dynamic	Patch's display color (NetLogo built-in).
INSTITUTIONALIZED	Boolean	Flag	Dynamic	True if the patch is part of an established influence zone.
INSTITUTION_INFLUENCE	Number	Level	Dynamic	Effective influence level imparted by the institution.

Source: Author, 2025

c) Scales

Temporal: Discrete time steps (ticks). The interpretation of a tick (e.g., day, week, month) is undefined but should be consistent within an experiment. Runs typically proceed until a stopping condition or a fixed duration.

Spatial: Abstract 2D grid world with toroidal topology (wrapping edges). Patch size is abstract (e.g., 1 unit x 1 unit). World dimensions are set in NetLogo's interface.

6.3.2.3 Process Overview and Scheduling

a) Processes (Submodels)

Initialization: SETUP, CREATE_GRASSROOTERS, CREATE_INSTITUTIONALISTS, CREATE_COMMONERS, MOVE_TO_RANDOM_POSITION.

Agent Actions (per tick): MOVE_GRASSROOTER, INTERACT_WITH_COMMONERS, MOVE_OR_ESTABLISH_INSTITUTIONALIST, CAN_ESTABLISH_HERE?, ESTABLISH_INSTITUTION, MOVE_COMMONER, CHECK_INSTITUTIONALIST_INFLUENCE, UPDATE_AWARENESS.

Visualization: VISUALIZE_AWARENESS, VISUALIZE_INSTITUTION.

Monitoring: REPORT_AVG_* reporters (called by Interface Monitors).

b) Scheduling (Within each GO step or 'tick')

1. All GRASSROOTERS execute their actions (move, then interact, setting Commoner flags). The order among Grassrooters is random by default.
2. All INSTITUTIONALISTS execute their actions (check establishability, then either establish or move). Order among Institutionalists is random. State (IS_ESTABLISHED) is updated immediately.
3. All COMMONERS execute their actions (move, update awareness, including decay based on flags set in step 1, check patch influence, visualize). Order among Commoners is random. Awareness components are updated based on values from the end of the previous tick (decay) plus gains from this tick.
4. All patches update their visualization.
5. The simulation clock (ticks) advances by 1.

Updates within an ask block for a given breed occur asynchronously relative to other breeds but synchronously relative to the start of the ask block (NetLogo processes agents in the set one by one, but changes are generally visible immediately to subsequent agents in the same ask, though the default is pseudo-concurrent). Key state changes such as IS_ESTABLISHED happen within the tick. Time is modeled in discrete steps.

6.3.2.4 Design Concepts

a) Basic principles

The model simulates social diffusion, where awareness spreads through contact and persistent environmental influence. It incorporates a resilience mechanism inspired by the concept of *tawakkul*, derived from the qualitative study of Muslim moral agency, where faith-based resilience influences behavior under uncertainty. It explores the interplay between direct influence (Grassrooter-like) and institutional influence (Institutionalist-like) based on roles identified in the source data analysis.

b) Emergence

The primary emergent outputs are the spatial and temporal patterns of AWARENESS across the COMMONERS population, the average awareness levels (total and components), the number and spatial distribution of established institutional zones, and the overall system dynamics resulting from the interplay of influence, decay, resilience, and uncertainty.

c) Adaptation

Agents exhibit limited adaptation. Their effectiveness (Grassrooter/Institutionalist) or awareness decay rate (Commoners) adapts based on their fixed RESILIENCE attribute relative to the global UNCERTAINTY_LEVEL. They do not change their core rules, parameters, or resilience based on experience.

d) Objectives

Agents do not have explicit goals they optimize. Grassrooters and Institutionalists act based on their defined rules to spread influence. Commoners react passively to influence and internal decay dynamics.

e) Learning

No learning mechanisms are currently implemented. Agent attributes like RESILIENCE are fixed after initialization.

f) Prediction

Agents do not use predictions of future states to inform their actions.

g) Sensing

GRASSROOTERS sense COMMONERS within INFLUENCE_RANGE and their own patch's INSTITUTIONALIZED status. INSTITUTIONALISTS sense other established INSTITUTIONALISTS within a calculated distance (CAN_ESTABLISH_HERE?). COMMONERS sense the INSTITUTIONALIZED status and INSTITUTION_INFLUENCE of the patch they are currently on. Sensing is local.

h) Interaction

Grassrooter → Commoner: Direct, radius-based increase of AWARENESS_FROM_GRASSROOTERS, modulated by Grassrooter resilience/uncertainty. Also sets Commoner's LAST_GRASSROOTER_WAS_BACKED? flag.

Institutionalist → Patch: Establishment sets INSTITUTIONALIZED and INSTITUTION_INFLUENCE on patches within radius, modulated by Institutionalist resilience/uncertainty at the time of establishment.

Patch → Commoner: Institutionalized patches increase Commoner's AWARENESS_FROM_INSTITUTIONALISTS.

Institutionalist ↔ Institutionalist: Indirect negative interaction via spatial exclusion (CAN_ESTABLISH_HERE?).

Institutionalist → Grassrooter (Indirect): Presence of an institutionalized patch modifies the decay rate of awareness imparted by a Grassrooter on that patch (UPDATE_AWARENESS using LAST_GRASSROOTER_WAS_BACKED?).

i) Stochasticity

Used in:

- Initial agent placement (MOVE_TO_RANDOM_POSITION).
- Agent movement direction (rt random 30 - 15).
- Order of agent execution within ask blocks.

- It represents unresolved details in movement choices and ensures variation between runs.

j) Collectives

No explicitly defined collectives (groups). INSTITUTIONALISTS establishing zones could be seen as creating collective structures implicitly.

k) Observation

Key outputs are monitored via Interface plots (average awareness components) and Monitors (average effectiveness/decay modifiers). Visual inspection of agent/patch colors provides qualitative observation of diffusion patterns.

6.3.2.5 Initialization

a) World

Simulation is cleared. All patches are initialized with pcolor white, INSTITUTIONALIZED = false, and INSTITUTION_INFLUENCE = 0.

b) Globals

INSTITUTION_GAP is set to 2. MIN_INST_INFLUENCE is set to 0. MAX_INST_INFLUENCE is calculated as BASE_INSTITUTIONALIST_INFLUENCE + 1. Other globals (UNCERTAINTY_LEVEL, INSTITUTIONAL_VALIDATION_FACTOR, BASE_* parameters) are assumed to be set from Interface widgets before SETUP runs.

c) Agents

GRASSROOTERS, INSTITUTIONALISTS, and COMMONERS are created according to NUMBER_OF_* values from the Interface.

They are placed randomly using MOVE_TO_RANDOM_POSITION.

GRASSROOTERS get INFLUENCE_RANGE and GRASSROOTER_INFLUENCE from BASE_GRASSROOTER_* Interface globals.

INSTITUTIONALISTS get INFLUENCE_RANGE and INSTITUTIONALIST_INFLUENCE from BASE_INSTITUTIONALIST_* Interface globals; IS_ESTABLISHED is set to false.

All three agent types get their RESILIENCE attribute set from the corresponding BASE_*_RESILIENCE Interface global.

COMMONERS start with color gray, all AWARENESS* variables set to 0, and LAST_GRASSROOTER_WAS_BACKED? set to false.

d) *Ticks*

Reset to 0.

6.3.2.6 Input data

The model does not use input data files to represent time-varying processes. Global parameters determining initial conditions, agent characteristics, uncertainty levels, and interaction factors are set via Interface widgets by the user.

6.3.2.7 Submodels

INTERACT WITH COMMONERS: Called by each GRASSROOTER. It identifies COMMONERS within its INFLUENCE_RANGE. For each nearby commoner, it first calculates an EFFECTIVENESS multiplier (default 1.0). If the global UNCERTAINTY_LEVEL > 0, this EFFECTIVENESS is adjusted: increased if the GRASSROOTER's RESILIENCE >= UNCERTAINTY_LEVEL (by $1 + \text{UNCERTAINTY_LEVEL} / 150.0$), or decreased if RESILIENCE < UNCERTAINTY_LEVEL (by $1 - \text{UNCERTAINTY_LEVEL} / 100.0$, floored at 0.1). The commoner's AWARENESS_FROM_GRASSROOTERS is then increased by GRASSROOTER_INFLUENCE * EFFECTIVENESS. Simultaneously, the GRASSROOTER checks if its current patch is INSTITUTIONALIZED and sets the interacting COMMONER's LAST_GRASSROOTER_WAS_BACKED? flag.

ESTABLISH INSTITUTION: Called by an INSTITUTIONALIST when CAN_ESTABLISH_HERE? is true. It calculates an EFFECTIVENESS multiplier based on its RESILIENCE and the current UNCERTAINTY_LEVEL using the same logic as in INTERACT_WITH_COMMONERS. It calculates an EFFECTIVE_PEAK_INFLUENCE (BASE_INSTITUTIONALIST_INFLUENCE * EFFECTIVENESS). It then asks all patches in-radius INFLUENCE_RANGE to set INSTITUTIONALIZED to true and set their INSTITUTION_INFLUENCE based on the EFFECTIVE_PEAK_INFLUENCE decayed linearly by distance from the center

(EFFECTIVE_PEAK_INFLUENCE * (1 - (distance / radius))), but only if the patch was not already institutionalized. The agent also sets its own SIZE to 2.0.

UPDATE_AWARENESS: Called by each COMMONER. It first calculates an AWARENESS_DECAY_MODIFIER (default 1.0). If UNCERTAINTY_LEVEL > 0, this modifier is adjusted based on the COMMONER's RESILIENCE: decreased if RESILIENCE >= UNCERTAINTY_LEVEL (by 1 - UNCERTAINTY_LEVEL / 200.0, floored at 0.5), or increased if RESILIENCE < UNCERTAINTY_LEVEL (by 1 + UNCERTAINTY_LEVEL / 100.0). It then calculates an EFFECTIVE_GRASSROOTER_FADE_RATE by multiplying BASE_GRASSROOTER_FADE_RATE by the AWARENESS_DECAY_MODIFIER. If the commoner's LAST_GRASSROOTER_WAS_BACKED? flag is true, this effective rate is further multiplied by the global INSTITUTIONAL_VALIDATION_FACTOR (making decay slower). The AWARENESS_FROM_GRASSROOTERS is decreased by this final effective rate. The AWARENESS_FROM_INSTITUTIONALISTS is decreased by BASE_INSTITUTIONALIST_FADE_RATE * AWARENESS_DECAY_MODIFIER (no validation factor applied). Both components are capped at 100 after decay. Finally, total AWARENESS is calculated as the sum of the components and capped at 100.

Parameter Values: Key parameters controlling agent numbers, base influence/range/fade/resilience, uncertainty, and validation factor are set via Interface widgets (sliders and input boxes) by the user. INSTITUTION_GAP is hardcoded as 2. Formulas for effectiveness/decay modification use fixed constants (e.g., 150.0, 100.0, 200.0, 0.1, 0.5). Awareness cap is 100.

Table 6.8: Model Parameters

Parameter Name	Description / Role	Type	Units	Source / Value
NUMBER_OF_COMMONERS	Initial number of Commoner agents	Number	Count	Interface Input
NUMBER_OF_GRASSROOTERS	Initial number of Grassrooter agents	Number	Count	Interface Input
NUMBER_OF_INSTITUTIONALISTS	Initial number of Institutional agent agents	Number	Count	Interface Input
BASE_GRASSROOTER_INFLUENCE	Base influence amount imparted by Grassrooters per interaction	Number	Amount	Interface Input

BASE_ GRASSROOTER_ FADE_RATE	Base rate at which Grassrooter awareness decays per tick	Number	Amount / Tick	Interface Input
BASE_ GRASSROOTER_ RANGE	Radius of direct Grassrooter influence	Number	Patches	Interface Input
BASE_ INSTITUTIONALIST_ INFLUENCE	Base influence potential used by Institutionalists when establishing zones	Number	Amount	Interface Input
BASE_ INSTITUTIONALIST_ FADE_RATE	Base rate at which Institutionalist awareness decays per tick	Number	Amount / Tick	Interface Input
BASE_ INSTITUTIONALIST_ RANGE	Radius of Institutionalist established zone	Number	Patches	Interface Input
BASE_ GRASSROOTER_ RESILIENCE	Base resilience level (0- 100) for Grassrooters	Number	Level	Interface Input
BASE_ INSTITUTIONALIST_ RESILIENCE	Base resilience level (0- 100) for Institutionalists	Number	Level	Interface Input
BASE_ COMMONER_ RESILIENCE	Base resilience level (0- 100) for Commoners	Number	Level	Interface Input
UNCERTAINTY_ LEVEL	Global uncertainty level affecting effectiveness and decay	Number	Level (0- 100)	Interface Input
INSTITUTIONAL_ VALIDATION_FACTOR	Factor (0-1) reducing Grassrooter fade rate when interaction is institutionally backed	Number	Factor	Interface Input (e.g., 0.75)
INSTITUTION_GAP	Minimum gap between centers of established institutional zones	Number	Patches	Global (Set to 2 in SETUP)

Source: Author, 2025

6.3.3 Experimenting with the Model

To recap, this was a model that accounts for the *tawakkul*-based resilience, which was a key constituent of the Faith-Informed Moral Agency in the harmonized ITF, operationalized against varying levels of uncertainty, the overarching theme in the study. The two major agent types, so-called Institutionalists and Grassrooters, as explained before, are based on the bifurcated Response Phase from the core ITF decision-making as well as the initial codes from data, where some participants commented on the necessity of employing dual strategies to deal with environmental crisis, small-scale efforts, and long-term institutional programs. The former represents

the ‘Critique’ of the Dual-Process in the Response Phase, while the latter stands for ‘Construction’, both of which were taken as behavioral responses in the simulation. Since no specific decision-making scenario was implemented, similar to the one illustrated in Section 5.1.3, a key node in Figure 6.1, that is, the Strategy: Seeking Balance and Middle Ground step, could not be applied; instead, a general setting with major agent types and key parameters was staged.

The current ABM was created as a simple model to illustrate how empirically grounded parameters would be operationalized in a simulation environment; as such, it was designed to accept most of the parameter inputs from the interface rather than being hardcoded, to allow greater flexibility with exploration. In Figure 6.2, a screen sample taken from the interface can be seen. The main ‘game’ is about exploring how the Influencers (Institutionalists & Grassrooters) affect the awareness of the population (Commoners) under varying levels of uncertainty, where uncertainty simply acts as a stressor. Creating awareness was evident in participant statements and related codes as a means of coping with the environmental crisis, which itself was positioned as an uncertainty-inducing subject. Since no specific and detailed scenario was tailored for simulation, and instead the ABM was designed to illustrate general mechanics discovered in the qualitative analysis, the concept of awareness should not be seen as a fixed or indispensable parameter. One might easily substitute the parameter of awareness with other suitable concepts, such as willingness for charitable contribution, spread of optimism, moral motivation, or any type of social diffusion. For the sake of this barebone setting, it was selected to represent awareness, also an important part of Proposition 6 of LAF, as discussed in Chapter 5.

The simulations were initialized as follows, in line with data-driven results in Chapter 5, where applicable. Initial values for parameters that could not be deduced from data were hypothetically presumed. Grassrooters, the transformational agents they are, who typically operate through emotional engagement, were assumed to possess higher influential capacity than Institutionalists, to begin with, but their influence (e.g., 32 for the former, 16 for the latter), however, was accepted to fade away faster than that of Institutionalists who engage through establishing rather long-term formal relations (e.g., 8 fading rate for Grassrooters, 2 for Institutionalists). The standard behavior of a Grassrooter in the ABM is akin to walking door to door, interacting with non-influencer people, Commoners, who happen to be within their

limited range of influence (e.g., 2 range for Grassrooters). Institutional behavior, on the other hand, as explained in the ODD section, is to find a suitable spot on the map and establish an ‘institution’ with a fixed influence radius as set from the interface (e.g., with a range of 4). An interaction happens when a Commoner steps into the institutional zone (colored in shades of blue) established by the Institutionalists, after which the agent becomes immobile in its spot, that is, to draw an analogy, works like a fixed radar. The key mechanism shared by all three agents is the religious coping with uncertainty, which was translated into the parameter of resilience in the model. The workings are simple; each agent has a resilience value that is equivalent to an uncertainty threshold, which, when exceeded by the current uncertainty level, causes a change in behavior. Without any concrete information on agents’ potential *tawakkul*-based resilience values, it is not possible to determine and set them accurately. As such, hypothetically or intuitively at best, they were set so that the Grassrooters, perceived as highly motivated, dedicated individuals, had a resilience of 80, Institutionalists had 60, and the Commoners 40. The last key takeaway was about what uncertainty meant for agents. For Influencers, the higher the uncertainty, as long as it stayed within the agent’s resilience limits, the higher their effectiveness, drawn upon findings from the qualitative analysis that uncertainty does not paralyze the agent but rather motivates it, as asserted in Section 5.1.2.1 Integrated Framework: Dynamic Faith-Based Moral Navigation. This meant that increasing uncertainty levels up to the resilience threshold set for that Influencer agent (80 for Grassrooters, 60 for Institutionalists) slightly increases the agent’s effectiveness in influencing (increasing the awareness value of) the Commoners, i.e., Influencers positively respond to the stressor. Commoners, on the other hand, were not equipped with this mechanism, so any increasing uncertainty implied a worse-off condition for Commoner awareness, which was operationalized with an increasing decay rate of awareness. An experimental cooperative mechanism was also implemented, called institutional validation, to represent endorsements extended by established Institutionalists to the Grassrooters, where the effectiveness of the latter becomes boosted within the institutional sphere. This could be turned on and off, or set to a certain value with the respective slider on the interface.

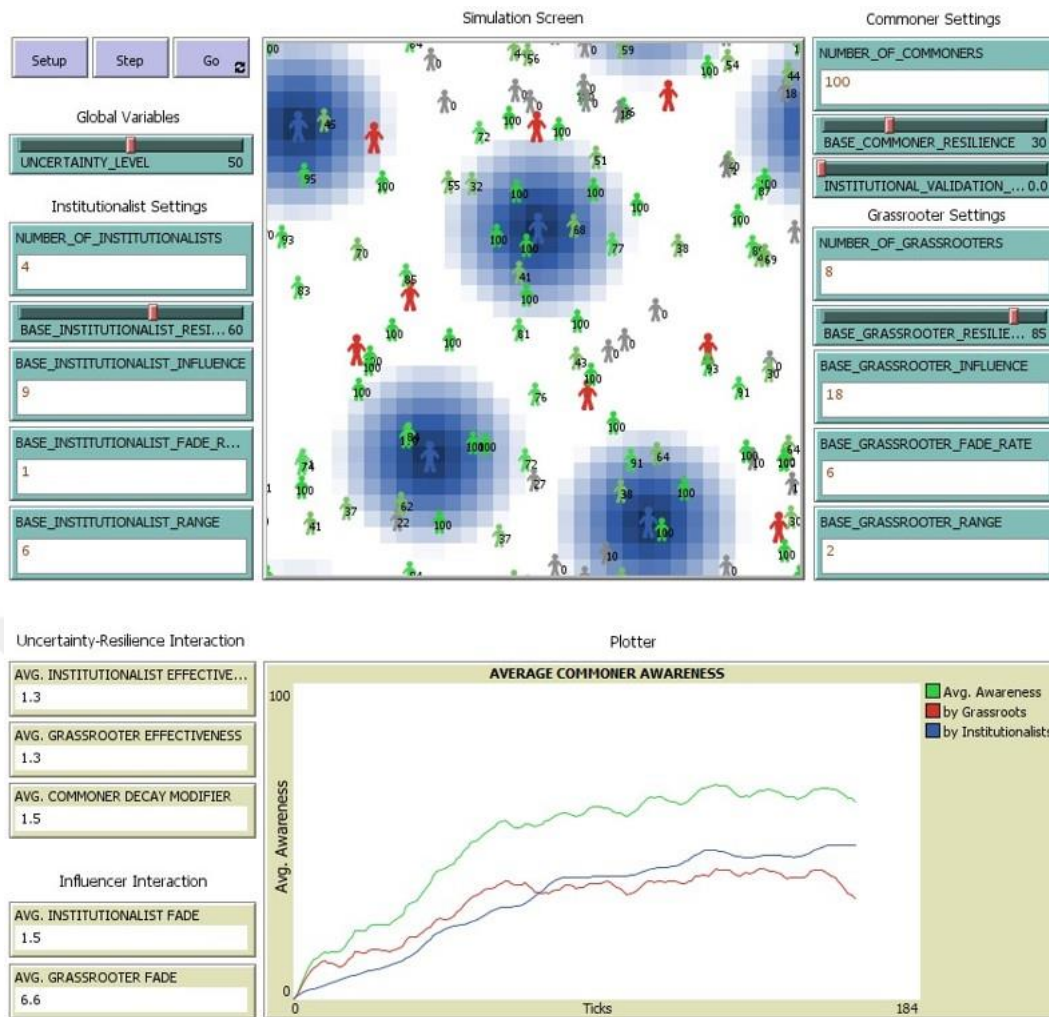


Figure 6.2: ABM Sample Screen

Source: Author, 2025

With some Commoners, a few Grassrooters and Institutionalists, and other initial values for influences, fade/decay rate, range, and resilience set, the simulation was ready to run. The resulting average awareness (the average of individually calculated awareness values for each Commoner on the grid) was plotted on the screen with relative shares of contribution from Grassrooters and Institutionalists shown separately by the respective lines (blue for Institutionalists, red for Grassrooters) on the plotter. The current awareness value for each Commoner was also displayed on the moving agents so that, visually, each agent's experience could be tracked. Although none of the following should be considered necessarily emergent in the sense that new patterns are resulting from predefined attributes, not to mention that they may be even presumably considered prescribed by the integrated mechanisms and parameters in the

model, here are some preliminary observations: Given the initial parameter values as stated above, the awareness gained through institutionalized influence seemed less volatile and served as a relatively steady basis for the average Commoner. The influencer institutions that were established happened to result in regionality, i.e., some concentrated clusters of areas of influence. The optional cooperation between two agents, Grassrooters being endorsed by the Institutionalists' area/network of influence, appeared to be more imperative under high (i.e., exceeding Institutionalists' resilience) uncertainty than low, maintaining a basic awareness stock for the Commoner. As mentioned earlier, none of these remarks should sound surprising, as most of them can be deduced from preconditions, yet neither should they be dismissed because the purpose of including such a model in this study was to simply illustrate an empirically grounded ABM that could be utilized for investigating the collective aspects of an individual agency. While it fulfills this promise, "it cannot be relied upon for the inference of outcomes from any initial conditions or set-up" (Edmonds et al., 2019).

6.4 Positioning the ITF in the Literature

The ITF's Faith-Uncertainty Dialectic provides a specific mechanism for how 'conviction narratives' enable action under radical uncertainty (Tuckett & Nikolic, 2017; S. G. B. Johnson et al., 2023). In this process, Islamic principles offer narrative templates that guide choice when outcomes are unclear. The model's combination of pragmatic preparedness with *tawakkul* (trust in God) reframes the latter as an active coping resource that sustains agency, which is consistent with literature linking *tawakkul* to lower anxiety (Gondal et al., 2022, 2023). This dual approach also aligns with findings that uncertainty can foster rule-guided, prosocial behavior when calculation is infeasible (Chen & Zhong, 2025).

The concept of Multi-Level Integration demonstrates how faith functions as a comprehensive decision resource (Saroglou, 2011) that is institutionalized through FBOs and culturally reinforced. This supports the literature's emphasis on the social channels of religion, such as belonging and community monitoring, as strong behavioral predictors (Graham & Haidt, 2010). It provides an ecologically valid account of religious influence that goes beyond abstract primes or beliefs (Aveyard, 2014).

The decision-makers' use of a Systemic Sustainability Ethic, based on *khalifah* (stewardship) and *mizan* (balance), confirms the role of such principles as 'decision anchors' in organizational life (Beekun & Badawi, 2005; Rice, 1999). The corresponding strategy of Seeking Balance to navigate competing imperatives mirrors the purpose-oriented reasoning of *maqasid al-shariah*, which guides judgment by weighing harms and benefits in novel contexts (Auda, 2007; Abdullah, 2018).

The framework's Dual-Process Moral Response (Critique and Construction) resonates with dual-process models of moral judgment (Haidt, 2001; Greene et al., 2001) but uniquely extends the concept from the cognitive level to that of strategic organizational action. Furthermore, the principle of Transgenerational Ethics, grounded in the concept of *nasl* (posterity), specifies how religious duty extends moral consideration across time. It frames this duty as a 'sacred value', making it resistant to short-term material trade-offs (Fiske & Tetlock, 1997).

The Affective Bridge component supports literature on emotion's central role in moral motivation (Haidt, 2001). It details how emotions like *rahmah* (compassion) make abstract principles compelling enough to drive sustained action under uncertainty. Finally, the finding that this moral agency is operationalized via Contextual Implementation Pathways like FBOs and educational initiatives, and that its collective diffusion is subject to social dynamics, engages directly with the literature on collective agency. The exploratory ABM addresses an identified gap by modeling how individual heuristics can scale into meso-level patterns, a process that aligns with network science on the diffusion of complex, identity-relevant norms (Centola, 2010) (Centola, 2010).

CONCLUSION

Research Aims, Objectives, and Questions Revisited

This dissertation began by observing a world beset by dual crises of capitalism and modernity, leading to a pervasive crisis of meaning and intensifying uncertainty. Against this backdrop of disenchantment and doubt, it posed a central question: How does the unselfish, charitable, and moral mind manifest itself in this complex environment? Specifically, this study sought to understand how Muslim agents—executives in faith-based charitable organizations—relate their faith to their moral world when making decisions under the pressures of increasing unsustainability and uncertainty. The aim was not only to develop a framework for individual moral agency but also to explore how these personal processes might scale into collective, communal responses to shared challenges. This concluding chapter synthesizes the outcomes of that inquiry, summarizing the key findings, articulating the study's contributions to the academic conversation, acknowledging its limitations, and proposing avenues for future research.

Summary of Key Findings

The multifaceted research approach, combining a researcher-developed GT-informed analysis (RDF) with an LLM-assisted multi-lens investigation (LAF), culminated in an integrated theoretical framework termed 'Dynamic Faith-Based Moral Navigation'. This framework offers a comprehensive understanding of the central research question.

The findings revealed that for these Muslim executives, faith is not a static set of rules but a dynamic, living resource that is actively engaged when confronting uncertainty and moral dilemmas related to sustainability. A core mechanism identified was the Faith-Uncertainty Dialectic, where uncertainty, rather than a paralyzing factor, acts as a catalyst activating religious meaning-making systems and coping mechanisms, notably *tawakkul* (trust in God) alongside pragmatic preparedness. This dialectic stimulates what the study identified as a Faith-Informed Moral Agency, a guiding force that operates through a Multi-Level Integration of faith principles across individual cognitive schemas, institutional practices within their FBOs, and broader cultural values.

When addressing issues of unsustainability, these agents employ a Systemic Sustainability Ethic rooted in Islamic principles such as *khalifah* (stewardship) and *mizan* (balance). This holistic worldview allows them to conceptualize the interconnectedness of spiritual, social, environmental, and economic dimensions, providing the foundation for their primary strategy in Navigating Competing Imperatives, that is, Seeking Balance or a 'Middle Ground' between pressing present needs (like development and poverty alleviation) and future-oriented obligations (environmental protection, intergenerational justice).

The moral response of these agents to crises and ideal-practice gaps often manifests as a Dual-Process Moral Response, involving both a Critique of harmful external systems such as consumerism and flawed economic models and internal community shortcomings, alongside a Construction of positive alternatives grounded in their values. This agency is significantly oriented by Transgenerational Ethics, where the Islamic concept of *nasl* (posterity/lineage) extends moral responsibility across time, motivating action for future generations despite uncertainties.

The translation of these principles into practice occurs through Contextual Implementation Pathways, primarily via the institutional mediation of their FBOs and through educational initiatives aimed at raising awareness and fostering change. Finally, the sustained commitment to this demanding moral navigation is significantly driven by an Affective Bridge, where emotions like compassion (*rahmah*), empathy, moral concern, and a sense of purpose connect abstract principles to concrete, enduring action. The entire process is cyclical, with outcomes and reflections feeding back to refine and reinforce the agent's Faith-Informed Moral Agency.

The exploratory ABM, based on these findings, further suggested that these individual agency characteristics, particularly the interplay of *tawakkul*-based resilience and different influence strategies (Grassrooter vs. Institutional), could lead to distinct patterns of collective awareness diffusion regarding sustainability, illustrating how individual moral agency can scale to communal level dynamics under various conditions of uncertainty and institutional support.

Research Contribution and Significance

This dissertation offers several contributions:

Theoretical Contribution: The primary contribution is the development of the 'Dynamic Faith-Based Moral Navigation' framework. This empirically grounded model provides a novel and nuanced understanding of how a specific group of Muslim professionals integrates faith and morality in decision-making under complex contemporary challenges. It highlights the dynamic, dialectical, multi-level, and emotionally engaged nature of religious agency.

Methodological Contribution: The study demonstrates the potential utility of a combined methodological approach, using researcher-led qualitative inquiry as the foundation and then leveraging LLM assistance for multi-lens analysis and framework structuring. This synergy offers a pathway for managing complex qualitative data and enhancing theoretical development.

Empirical Contribution: This research provides rich empirical insights into the lived experiences and moral reasoning of Muslim executives in FBOs, a group that plays a significant role in social welfare and development but is often underrepresented in studies on moral agency and sustainability. The findings specific to GCC and UK contexts also offer initial comparative insights.

Practical Significance: The framework can inform FBOs in developing strategies that are both effective and ethically grounded. Understanding the role of the Faith-Uncertainty Dialectic, the importance of systemic ethics, and the mechanisms of institutional/educational vectors can help these organizations enhance their impact. It also offers insights for policymakers and other stakeholders seeking to engage with Muslim communities on issues of sustainability and ethical development.

Practical Implications and Applications

The insights generated carry implications for several domains:

For Faith-Based Organizations: Understanding how their leaders navigate uncertainty and integrate faith can inform leadership development, strategic planning, and program design to enhance resilience and ethical impact.

For Policymakers: Recognizing the profound influence of faith-based systemic ethics and intergenerational concerns can lead to more effective engagement strategies with Muslim communities on sustainability and development initiatives.

For Intercultural Dialogue: The study highlights shared universal moral concerns (e.g., environmental care, justice) framed within a specific faith tradition, offering common ground for dialogue and collaboration on global challenges.

For Academic Understanding: The research challenges overly simplistic views of religious morality and decision-making, offering a model that accounts for complexity, context, and dynamism.

Limitations of the Study

While this research offers valuable insights, it is important to acknowledge its limitations:

Theoretical Sampling: Due to constraints in planning and securing interviews, theoretical sampling, a key component of GT, could not be applied.

Sample Specificity: The findings are based on a specific sample of 21 Muslim executives in charitable organizations from GCC and UK contexts. While providing depth, the generalizability to other Muslim professionals, different sectors, or other cultural contexts requires further investigation.

Qualitative Nature: The primary research is qualitative and interpretive. While this provides richness and depth, it does not claim statistical representativeness.

Researcher's Lens: As a CGT-informed study, the researcher's perspective, interpretations, as well as biases are integral to the findings.

Illustrative ABM: The ABM component was designed for illustrative and exploratory purposes to examine potential collective dynamics, not for predictive accuracy or definitive empirical validation of those dynamics. Its parameters were derived from the qualitative findings, and the emergent patterns are hypothetical.

LLM-Assisted Phase: While the LLM assistance provided valuable structuring and multi-lens perspectives, this phase is also subject to the capabilities and potential biases inherent in the LLM used.

Recommendations for Future Research

This study opens several avenues for future inquiry:

New Samples and Contexts: Extending similar research to Muslim professionals in different sectors (e.g., business, public service, academia) and diverse cultural contexts (e.g., Muslim-majority countries outside the GCC, Muslim minorities in other Western nations) would enhance understanding of the variability and universality of the proposed framework.

Quantitative Validation: Future research could seek to quantitatively test some of the propositions derived from the 'Dynamic Faith-Based Moral Navigation' framework, for example, by developing scales to measure its core constructs.

Deeper Exploration of Specific Components: Each of the seven components of the reconciled framework (Faith-Uncertainty Dialectic, Multi-Level Faith Integration, Systemic Sustainability Ethic, Dual-Process: Critique & Construction, Transgenerational Ethics, Contextual Pathways, Affective Bridge & Reflection) bears potential for more focused empirical investigation.

Expanding ABM Scenarios: Further developing the ABM to explore a wider range of scenarios based on the ITF, incorporating more nuanced agent behaviors and interactions, could yield richer hypotheses about collective moral action. For example, modeling the impact of different institutional support structures or educational interventions on overcoming specific barriers to sustainable behavior.

Cross-Faith Comparisons: Comparative studies exploring how agents from different faith traditions navigate similar challenges could further illuminate the unique and shared aspects of faith-informed moral agency.

Concluding Remarks

The modern Muslim agent, as revealed through this research, is not a passive recipient of doctrine but an active navigator, constantly engaged in interpreting faith and morality to meet the profound uncertainties and unsustainabilities of our times. The 'Dynamic Faith-Based Moral Navigation' framework suggests that her faith provides not only a moral compass but also a dynamic engine for resilience, critical engagement, constructive action, and enduring hope. By understanding the interplay of the faith-uncertainty dialectic, the multi-level integration of principles, the

commitment to systemic and intergenerational ethics, and the power of affective engagement, we gain a deeper appreciation for how these individuals strive to forge paths of ethical action. While this study focused on a specific group, the emergent framework offers valuable insights into the potential for faith-based agencies to contribute meaningfully to a more just and sustainable future for all. The challenge remains to further explore, support, and learn from such dynamic expressions of moral commitment in an increasingly complex and uncertain world.



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APPENDIX

Interview Questions

#	Question
0	<p>Could you tell us briefly about your work at the organization you are involved in?</p> <ul style="list-style-type: none"> ▪ <i>What type of programs do you usually get involved in?</i> ▪ <i>Are you involved in any sustainability programs? Can you elaborate on that?</i>
1	<p>What does charity / ‘helping others’ mean to you?</p> <ul style="list-style-type: none"> ▪ <i>What made you start working in this sector?</i> ▪ <i>What do you think, why are there people in need of assistance or aid in the world?</i>
2	<p>Whose duty is it to help those in need / Should we help those in need? Why?</p> <ul style="list-style-type: none"> ▪ <i>Would you consider it a (moral) duty?</i>
3	<p>How would you define morality in general? What is to be moral?</p> <ul style="list-style-type: none"> ▪ <i>Do you think it is the same as faith, or is it any different? How?</i> ▪ <i>Do you think it is possible to speak of universal or common moral principles, rules, etc., regardless of people’s beliefs or cultures?</i>
4	<p>Do you think faith/religion has any role in shaping morals?</p> <ul style="list-style-type: none"> ▪ <i>Could you elaborate on that?</i> ▪ <i>Do you see any major difference or distinctive character in the moral understanding of people from different faiths?</i>
5	<p>Do you think there is a worldwide environmental issue, a climate crisis?</p> <ul style="list-style-type: none"> ▪ <i>How serious do you think it is?</i> ▪ <i>Who or what is responsible for it, why is there such an issue?</i>
6	<p>Do you think it is a moral or ethical duty to preserve the natural environment?</p> <ul style="list-style-type: none"> ▪ <i>Would you say, it is immoral to pollute?</i> ▪ <i>Is it immoral to be a passive bystander in the face of the mistreatment of nature?</i>
7	<p>Do you think faith/religion has any role in defining our relationship to the natural environment?</p> <ul style="list-style-type: none"> ▪ <i>How would you define this role or their relationship?</i> ▪ <i>Do you see any major differences in the thinking or behavior of people from different faiths or religions on issues related to the natural environment?</i>

8	<p>Do you hear environmental issues discussed in sermons or congregations you or your friends, colleagues, etc., attend?</p> <ul style="list-style-type: none"> ▪ <i>What do you think, should they be addressed more or less, or is it irrelevant?</i> ▪ <i>Are environmental or natural concerns present in personal prayers?</i>
9	<p>Are you familiar with the term sustainability? What do you understand from it?</p> <ul style="list-style-type: none"> ▪ <i>The United Nations defines it as “meeting the needs of the present without compromising the ability of future generations to meet their own needs”. Do you agree with this definition?</i> ▪ <i>Do you believe you owe something to future generations? Why? Who are they?</i>
10	<p>Do you think that economic development in the world/in your region should be maintained, reduced, or rather replaced with an understanding of degrowth?</p> <ul style="list-style-type: none"> ▪ <i>In your opinion, what needs to be done to ensure sustainability or sustainable development? Where would you start? What needs to be changed?</i>
11	<p><i>(The researcher defines briefly the notion of uncertainty and radical uncertainty)</i></p> <p>Given your personal experience within the last 10 years or so, are you feeling more or less uncertain about your life/future?</p> <ul style="list-style-type: none"> ▪ <i>What contributes most to your feeling uncertain?</i> ▪ <i>If so, how do/would you deal with this uncertainty and complexity?</i>
12	<p>Do you ever face ‘moral uncertainty’ in your personal or professional decisions, where you are not sure if any particular act or deed is really the right one or not?</p> <ul style="list-style-type: none"> ▪ <i>How do you cope with that?</i> ▪ <i>Do you think faith helps to deal with this uncertainty?</i>

(*) The main questions are in **bold**. Sub-questions in *italics* to help expand on the matter.

Researcher-Developed Codes

Category name	Com. Codes	
Sustainability	20	727
Challenges to sustainability	20	199
Economic development	17	67
We keep developing	14	45
But we should aim at a midpoint, not at full expense of nature or others	13	24
<i>By taking a non-harming, preserving way to environment</i>	9	10
<i>By considering the human aspect</i>	4	5
<i>By adopting standards, best practice</i>	2	2
<i>By doing more than one thing right</i>	2	2
<i>By reducing or rationalizing consumption</i>	2	2
<i>By subordinating finance-money</i>	2	2
<i>By aligning it with morals</i>	1	1
Because it is either a need or right to material well-being	10	16
<i>Because we need to sustain and improve our material well-being</i>	7	10
<i>Because we cannot deny people or nations the right to develop</i>	5	6
Because nation states can't stop now	3	5
We should reform it	7	19
By focusing on other forms of development as well	4	10
By aligning it with Islam	3	5
By something else but i don't know what exactly	2	2
By something probably non-capitalist and more equitable	2	2
We should slow down a bit	1	3
Socio-political challenges	9	43
No sincere political will for change	5	7
Lack of legislation, certain institutions or state involvement	3	3
Too much politicization, political intrigue	2	6
Can centralized, autocratic regimes handle crises and change better?	1	1
Concentration of power worldwide	1	2
Corruption	1	1
Disempowered communities	1	11
If supported, communities can do well	1	3
Their voices matter much but not heard	1	8
Social change, struggle and conflict	1	12
Democratic dilemma and populism	1	6
Different time trajectories for different societies	1	2
Lack of social conflicts (that are necessary for change)	1	4
Complexities and unrealistic goals	7	15
Positive feedback loop	3	3
Can't ignore or beat rules of economics	2	3
False or unrealistic promises	2	2
Sustainability is a big, complex issue	2	2
Every project has its own challenges	1	1
From theory to practice	1	1
Incalculable math	1	2
Overreliance on unproven technologies	1	1
Regional and social differences	7	19

Category name	Com.	Codes
A matter of priorities	3	4
GCC has much to do	3	3
GCC is getting better	3	5
GCC is not getting any better	1	1
Some countries perform better than others	1	4
There isn't any environmental issue here	1	2
Ignorance, lack of awareness or education	6	25
Education, training	6	7
Awareness, indifference, ignorance	4	18
Socio-economic challenges	6	18
Systemic challenges posed by capitalism	4	10
Addictive consumption	1	2
Centered around finance-money	1	2
Data surveillance capitalism	1	1
Inherently exploitative	1	1
Inherently inequitable	1	1
Unrealistic practices of globalism	1	2
Wealth accumulation prone to conflicts	1	1
Inequality, poverty, empowerment	2	8
International conflict	5	7
Wars, conflicts jeopardizing all efforts	3	4
Less resources means more international conflicts	1	1
Oppression of people as a main hinderance	1	2
Human nature	4	5
Can't change human nature	2	2
Cognitive biases hindering to take a different action	2	3
Environmental issue	20	331
Remedy	20	127
Individual and small collective efforts	10	19
Change your personal attitude, improve by small steps	6	10
Volunteer for and support small collective efforts	6	9
It's technology and innovation	8	18
Because technology, especially new tech, means betterment	5	8
Because they will reduce pollution	5	8
Because they allow development and preservation simultaneously	1	2
Political, administrative or legal initiative	8	16
Because this is what we need for implementation	3	3
Because they provide international standards	2	3
Because this will provide the big picture	2	2
Because central or authoritarian systems might perform better	1	2
Because laws can be enforced	1	3
Because this can provide assessment for sustainability	1	1
Because this is more potent of change	1	1
Because this will raise awareness	1	1
Education, awareness, self-development	6	20
Because this will allow raising basic awareness	4	8
<i>And elsewhere</i>	2	5
<i>In the family</i>	2	3

Category name	Com.	Codes
Because this will allow internalization	2	3
Because this will gain people skills	2	4
Because this will allow better decision-making	1	2
Because this will allow some institutional take	1	3
An inclusive or cooperative approach	5	11
Because all environment-conscious people share the same goal	2	3
Because it is more effective	2	2
Because it's a multi-stakeholder issue	2	3
Because we're on the same ship	2	2
Because it is more efficient	1	1
Balance, moderation or mid-way	5	10
Because this will show where to draw the line	4	7
Because that will allow living in harmony	1	1
Because this is the only formula	1	2
A religious or moral approach	4	5
To change behavior through religious and moral principles	2	2
Utilizing Islam and Islamic concepts	2	3
<i>Because faith is part of the entire toolset</i>	1	1
<i>Because instrumentalizing faith can convince the religious</i>	1	1
<i>Islamic finance has many tools</i>	1	1
Awqaf as a sustainable example	4	19
Something bigger has to change or transform	3	5
Because environmental issue can only be solved at top international level	2	2
Because a bottom-up social pressure will force governments	1	1
Because this is fundamentally a systems issue	1	1
Because you can't remedy human nature but you can remedy capitalism	1	1
A breaking point is necessary	2	2
Because it's too difficult to convince people otherwise	2	2
Go local	2	2
Because sustainability is achievable on the local level	2	2
Causes & responsibility	18	112
The global economic system is to blame	17	75
Consumerism, economism, and profiteering are to blame	13	35
<i>Because they nurture a consumerist culture and overconsumption</i>	7	14
<i>Because they ignore everything else for sake of economy and growth</i>	5	6
<i>Because they only care about money and material gain</i>	3	4
<i>Because they overexploit and strain limited resources</i>	3	4
<i>Because they disregard the public good</i>	2	2
<i>Because they play on human weaknesses</i>	2	2
<i>Because they are based on some illusionary wealth</i>	1	3
Companies and businesses are to blame	8	14
<i>Because they just dump their waste into water</i>	4	5
<i>Because it's particularly farms harming environment</i>	1	2
<i>Because of their greed</i>	1	1
<i>Because of their lack of ethics</i>	1	1
<i>Because of their short-termism</i>	1	1
<i>Because of their size and impact</i>	1	1
<i>Because they're there only to exploit, ignoring the locals</i>	1	3
Industry and technology are to blame	8	13
<i>Because historically it was industry as the first polluter</i>	4	7
<i>Because of uncontrolled production</i>	3	3

Category name	Com.	Codes
<i>Because they augmented population growth</i>	2	2
<i>Because cars are a major polluter</i>	1	1
Governments are mainly to blame	6	13
<i>Because of their colonial-exploitative attitude</i>	2	2
<i>Because of their growth-at-any-cost orientation</i>	2	2
<i>Because they try to catch-up with developed world</i>	2	3
<i>Especially the western and developed world</i>	2	4
<i>Because of their greater responsibility as regulators</i>	1	2
Human situation is to blame	7	9
Because of its ignorance, lack of awareness or education	6	7
Because of its disposition prone to temptation	1	2
Human population overgrowth and increasing needs are to blame	4	8
Because of their consumption due to their growing size	2	2
Because of their rapid unnatural increase	2	2
Because they disrupted nature and other habitats	2	3
Because of their increasing middle-class needs	1	1
Responsibility belongs to us all	3	5
At different levels of organization	2	2
Because we're on the same ship	2	3
There is proportional liability	3	6
Between the rich and the poor	2	2
Between the west and the rest	2	3
Between the big and small businesses	1	1
It is a natural process	2	2
Because even simple human needs exploit nature	1	1
Because there is also a natural climate change	1	1
Laws are to blame	1	4
Because of their ineffectiveness, lack of implementation	1	2
Because we don't have enough of them	1	2
Wars also contribute to pollution	1	3
Signs & consequences	17	69
Signs	15	33
There is something seriously wrong with nature	14	28
<i>Observable changes in climate, pollution in air and nature</i>	10	18
<i>Strong conviction in crisis without doubt</i>	5	5
<i>It is worldwide</i>	3	3
<i>But there are more important issues than this</i>	1	1
<i>But there is hope that earth can repair itself</i>	1	1
Still a bit skeptical about this	3	5
Consequences	13	36
Eventually we will face its consequences	12	35
<i>A disaster is upon us, we're running out of time</i>	7	9
<i>Reciprocal consequences, harm nature harm yourself</i>	4	14
<i>People are already or about to be affected</i>	3	4
<i>Unequal consequences for the vulnerable</i>	3	3
<i>Extinction of species</i>	2	2
<i>This creates stress, anxiety</i>	1	3
Ugliness	1	1
What or where is natural environment	9	23
Modern life distant from nature	4	7

Category name	Com. Codes	
Nature hard to grasp	3	7
Other planets too	2	2
Whole earth	2	2
Everything that is not me is environment	1	2
It is clean and beautiful	1	1
It is life (animate vs inanimate)	1	2
What is sustainability	20	197
Sustainability as continuity, longevity or survivability	17	40
Continuity of own charitable organization	10	19
Operational continuity	9	12
Extension of useful life of organizational investments	4	7
Self-sufficiency of beneficiaries	5	8
A static, unchanging existence	3	3
Sustainability as anti-depletion and anti-extinction	3	5
Continuity of any action	2	2
It's a matter of survival	2	3
Sustainability as responsibility towards future generations	14	80
Care (for lineage, off-spring, human)	14	51
Because our own children will be among them	9	17
Because caring about other (future) humans is a religious duty	5	10
Because we should leave them enough resources	5	10
Because caring about the next generation is a moral duty	3	3
Because we should not leave them problems	3	7
Because they should have good lives	2	3
Because it is a universal right to have kids and start a family	1	1
Fairness, equity	11	24
Because they should not lack or miss things we have today	5	7
Because we should leave them enough resources	5	10
Because it's not just the next generation, it's future	3	3
Because earth was lent to us, so we have to pass it to the next	2	2
Because they should have the same opportunities we have	2	2
Progress	5	5
Because of a progressive understanding of human continuity	4	4
Because they should have better lives than us	1	1
Sustainability as a multi-dimensional issue	12	27
Sustainability in broader context, such as sdg, esg	7	8
Financial sustainability	4	10
Sustainability as of environmental and financial kind	2	3
Sustainability is not about solar panels	1	4
Sustainability of projects	1	1
Sustainability of the self	1	1
Sustainability as balance between things	6	13
Beneficial balancing of nature	5	9
It is the divine balance	2	4
Sustainability as a moral matter	5	7
Sustainability as performance, improvement, efficiency	4	10
Higher quality or better lives	2	3

Category name	Com.	Codes
Higher skills for beneficiaries	2	3
Sustainability perceived reputable	2	3
It is a priority issue in charity management	1	1
Sustainability from Islamic perspective	4	6
Sustainability as natural availability	3	4
Sustainability as empowerment	2	3
Sustainability as familial lineage	1	5
Sustainability as no harm	1	2
Morality	20	530
Morals are universal	20	167
All faiths, believers, non-believers have same moral fundamentals	15	47
Caring for nature is a common or universal moral duty	15	25
Because it is a common moral responsibility	5	5
Because it is defended by both religious and irreligious	5	5
Because its degradation or loss will also harm humans	4	4
Because we humans depend on each other for co-existence	3	6
Because all people, whole humanity can agree upon it	2	2
Because it affects other creatures, species	2	3
All humans are subject to human nature, an original disposition	11	37
That is moral or good (like 'fitrah')	8	24
That has bad sides and weaknesses	6	8
That is neutral or nothing specific mentioned	4	5
Examples of common moral principles	10	29
Honesty	3	3
Mercy	3	3
Tolerance	3	3
Caring for nature and animals	2	2
Family	2	3
Justice	2	2
No harm	2	2
Rights	2	2
Being against oppression	1	1
Helping others	1	1
Life	1	1
Not lying	1	1
Not stealing	1	1
Respect	1	2
Transparency	1	1
Trust	1	1
A human is a human, being human as a common denominator	5	10
Islamic morality 'akhlaq' is universal, superior, valid for all time	5	10
Morals are common because all faiths belong to god	2	2
Common morals are based on goodwill	1	1

Category name	Com.	Codes
Common morals are based on reason	1	5
There are common morals but they are also culture dependent	1	1
Morality is about organizing and sustaining society	18	73
Morality is about collective agreement and interdependence	14	37
Morality is about common agreement in the society	9	12
Morality is a reciprocal process	7	11
Morality is about collective dependence and survivalability	5	9
Immorality as something shameful, intolerable by others	4	5
Morality is about fairness, justice	11	13
Morality is being against discrimination, exploitation, oppression	8	8
Morality is about being honest, not lying or cheating	5	5
Morality is a reciprocal process	7	11
Immorality as something shameful, intolerable by others	4	5
Morality is also part of culture	3	4
Morality is something in the family	2	3
Morality is doing good and beneficial things for others	18	157
Morality is a kind of duty towards others to help or do good	16	108
To future generations	14	70
Care (for lineage, off-spring, human)	14	51
<i>Because our own children will be among them</i>	9	17
<i>Because caring about other (future) humans is a religious duty</i>	5	10
<i>Because we should leave them enough resources</i>	5	10
<i>Because caring about the next generation is a moral duty</i>	3	3
<i>Because we should not leave them problems</i>	3	7
<i>Because they should have good lives</i>	2	3
<i>Because it is a universal right to have kids and start a family</i>	1	1
Fairness, equity	10	14
<i>Because they should not lack or miss things we have today</i>	5	7
<i>Because it's not just the next generation, it's future</i>	3	3
<i>Because earth was lent to us, so we have to pass it to the next</i>	2	2
<i>Because they should have the same opportunities we have</i>	2	2
Progress	5	5
<i>Because of a progressive understanding of human continuity</i>	4	4
<i>Because they should have better lives than us</i>	1	1
To environment and other species	8	10
Morality is pushing up, striving to do best, no matter how imperfect	3	10
To everything as a steward	3	3
To other people in the society, see their rights	3	7
Morality is about following or being a role model	2	2
Morality is about acting with quality	1	1
Morality is about adopting a noble mission	1	3
Morality is about doing good when no one's looking	1	1
To your current or future family	1	1
Morality is about feeling responsible to others	0	0
Morality is helping, supporting, empowering weak & vulnerable	13	23
Showing mercy, compassion or 'rahmah'	8	13

Category name	Com.	Codes
Helping disadvantaged	3	3
Helping those in need	3	3
No discrimination in helping others	2	2
Caring for mothers	1	2
Morality is about good or bad consequences of our actions	12	24
Morality is doing good-beneficial things to others & avoiding harm	11	21
Morality is about not harming others	9	17
<i>Morality is about not harming other creatures, environment</i>	6	9
<i>Morality is about not harming other people</i>	5	8
Morality is about being and doing good	4	4
Consequences vs intentions	3	3
Morality is about sharing, sacrificing what you have	2	2
How do we acquire or shape our morals	13	51
Morality acquired as the natural disposition, 'fitrah'	12	32
Morality acquired by personal experiences, raising, hardship	6	15
Morality acquired both by disposition and experience	2	4
Where is moral-immoral line (regarding environmental issues)?	12	25
Action-no action, or responsibility of bypassers	4	7
Polluting itself is immoral	3	3
Enough-too much	2	2
Benefit-harm (to humans)	1	2
Clean-unclean	1	2
Depends on personal perceptions	1	1
Human-nonhuman	1	1
Ignorance, negligence	1	1
Life-no life	1	2
Necessarily-unnecessarily	1	2
Obey-disregard religious ruling	1	1
Violation of others' rights	1	1
Morality as respect	10	15
Morality is about respecting others and things	7	10
Morality is about respecting self, being true to self	5	5
Different moral perspectives	5	6
How do we exercise our morals	5	8
Morality is about values	5	10
Morality is lifelong accumulation of deeds and experiences	4	6
Morality as part of human build	4	5
Morality is different from law	3	5
Morality as cleanliness	2	2
Charity	20	232
Examples of charitable work	14	39
What is charity	14	86
It is a religious or moral duty	12	50
It is a religious duty, commitment	11	36

Category name	Com.	Codes
It is a religious opportunity, favor for the doer	2	3
Do good so you can expect good (from god) in return	1	4
It is a human or moral duty	8	14
It is helping, caring for, and sharing with those in need	10	26
It is caring and feeling responsible for others	4	5
It is changing lives of those in need, making a difference	4	4
It is sharing and being selfless	4	4
It is balancing out, from 'haves' to 'have nots'	3	5
It is helping those in need	3	4
It is using your capacity up to limits, doing your best to help others	2	4
It is showing good qualities, doing good for others	3	10
Why working in or for charities	14	45
Because of what i have intended	11	25
This is a duty, a moral or communal obligation, responsibility	7	10
Searching for meaning, purpose	3	6
As a religious duty to get closer to god	2	5
To make an example for others to follow	2	2
To help and be among like-minded people	1	1
To see the impact	1	1
Because of what i have experienced	10	20
What i saw around made me	5	6
Feeling emotionally attached to people (beneficiaries)	4	9
Raised up in or has always been a part of a charity-minded culture	2	3
Started in charity coincidentally	2	2
Why are there those in need	11	38
World has always been an inequitable place	11	26
It is god given, part of a test	6	10
Since the beginning (due to various reasons)	4	8
You cannot choose what you are handed	3	5
Because people have different capacities	2	3
Inequalities get exacerbated due to natural disasters	4	4
Lack of good governance, justice	4	8
Challenges	5	9
Pro-business or 'professional' stance	4	15
Morality-religion	20	201
Morality-religion relationship salient	20	139
Religion shapes morals or is primary	15	41
Morality taught in family via religion	3	4
Morality and religion fit together and compliment each other	12	19
Especially in Islam	11	54
Morals very central and strong in Islam	6	11
Morality in Islam different, more comprehensive than secular ethics	5	10
Morality and faith inseparable in Islam	4	5
'Muamalat' is a unique moral feature of Islam	4	4

Category name	Com.	Codes
The role of god	4	7
Having 'akhlaq' with god is key	2	2
We can't judge others while god is the ultimate judge and decider	2	5
Treating Muslims and non-Muslims indifferently	3	4
Animals and environment	2	3
If properly executed 'zakat' would alleviate poverty	2	2
The test and the trial	2	4
Treating Muslims and non-Muslims differently	2	2
Islam would support anything good	1	2
Morals shape religion or are primary	10	12
Major differences in moral understanding btw different faiths	4	7
Important difference between secular and religious morality	3	5
Different religions have different moral understanding	1	1
Immoral faiths	1	1
Religion can be instrumentalized to reinforce morals	2	6
Morality-religion relationship secondary or not so crucial (anymore)	15	62
Morals and religion are separate things	14	58
It is possible to be religious but not necessarily moral	10	41
Because morality-religion link is damaged or severed	6	30
<i>Because essence of faith ignored or misread by followers (Muslims)</i>	2	10
<i>Because of alienation of scholars from academy and society</i>	2	3
<i>Because of societal corruption, centralization of power</i>	2	4
<i>For some (unnamed) reason</i>	2	3
<i>Because money, capital, greed, selfishness, etc. Took place of morals</i>	1	7
<i>Because of divorce of religion from the divine as in the west</i>	1	2
<i>Because of preferring sole worship over morals with people</i>	1	1
Religion yields no individual or collective moral superiority	5	11
Morality is independent of religion	6	8
Morals as human natural disposition, regardless of faith	4	9
Is the concept of 'rights' non-Islamic	1	3
Law comes first	1	1
Religion	19	193
Criticism of the Muslim world	14	94
It is possible to be religious but not necessarily moral	10	41
Because morality-religion link is damaged or severed	6	30
Because essence of religion ignored or misread by followers (Muslims)	2	10
Because of alienation of scholars from academy and society	2	3
Because of societal corruption, centralization of power	2	4
For some reason	2	3
Because money, capital, greed, selfishness, etc. Took place of morals	1	7
Because of divorce of religion from the divine as in the west	1	2
Because of preferring sole worship over morals with people	1	1
Religion yields no individual or collective moral superiority	5	11
Lack of awareness about environment in Muslim communities	9	34
Because lack of reflection or something deeper	6	8
Because of lack of awareness	4	9

Category name	Com.	Codes
Because of socio-economic factors	4	5
Because of lack of collective attention	3	4
Because of lack of education	3	7
Because of issues of modernity	1	1
Ought-is gap for Muslims	8	19
Because Muslims abandoned Islam	2	5
Because of difficulty of conveying to masses	2	2
Because of lack of effort or action by Muslims	2	2
Because of misinterpretations, alterations	2	2
Because of secularization, westernization	2	2
Because Muslims are divided	1	1
Because of Islamicization	1	2
Because of modernity	1	3
Religion as a social element	11	55
Religion as a social instrument	5	19
To change and develop people	3	7
Spiritual capital	2	5
Hope	1	2
To convince or motivate communities	3	5
To organize society	2	2
To build and nurture relationship	1	5
Religious characteristics of societies	5	7
Ummah	5	9
Religion or faith as a psychological tool	3	8
Culture influences, even trumps religion	2	5
Religious politics	2	7
Religion essentially as a distinct worldview	9	44
With god and his will, 'hikmah'	5	7
As an all encompassing way of life	4	6
Of anti-materialism	2	2
Of different time trajectory with 'dunya' and afterlife	2	8
Of meaning and purpose	2	7
Of test and hardship	1	7
With heaven and rewards	1	7
Uncertainty	19	210
How to cope up with uncertainty	19	117
More data, planning, managing, preparedness, reading the signs	14	30
Resort to faith	14	31
Leaving it in god's hands, fate, 'tawakkul'	10	17
Having hope, faith, motivation	8	10
Self-development, building self-confidence	3	4
Take it as it comes, face it, embrace it	8	10
Do your best, accept the rest	7	13
More engagement with stakeholders and community, solidarity	7	12

Category name	Com.	Codes
Don't worry, we will adapt and evolve	5	9
Self-sufficiency to reduce interdependence	3	4
Sustainability as means of coping with uncertainty	3	3
Isolate the fear of not knowing in uncertainty	1	3
Rules of thumb to follow	1	1
Transparency to reduce proneness to human failure	1	1
What is uncertainty, why does it exist	12	45
Uncertainty is part of nature, part of life	4	6
Uncertainty might also suggest something positive	4	10
A way for humans to evolve and adapt	2	4
A role for hope and faith to climb back up again	1	3
High uncertainty, high risk, high profit	1	2
Unexpected good things also happen	1	1
Uncertainty affects the vulnerable most	2	2
Uncertainty as fear of not knowing	2	2
Uncertainty because of extraordinary times	2	3
Uncertainty equated to risk, something measurable	2	5
Uncertainty as fragility of complex systems	1	8
Uncertainty as unexpected calamities	1	1
Uncertainty as unknown future	1	1
Uncertainty because of the rapid change in the world	1	1
Uncertainty brought by newer generations	1	1
Uncertainty in certainty of death	1	5
How do you feel about uncertainty	9	36
It feels more uncertain now	7	14
Pessimistic about future	4	18
Not sure if uncertainty increased	3	4
Moral uncertainty	5	12
Moral uncertainty in causes and consequences	4	9
Greater number of vulnerables, greater moral uncertainty	1	1
Moral uncertainty in different contexts	1	1
No moral uncertainty in guiding principles	1	1
Morality-environment	19	76
Caring for nature is a moral matter	18	33
Caring for nature is a moral duty	17	31
Caring for nature is a common or universal moral duty	15	25
Because it is a common moral responsibility	5	5
Because it is defended by both religious and irreligious	5	5
Because its degradation or loss will also harm humans	4	4
Because we humans depend on each other for co-existence	3	6
Because all people, whole humanity can agree upon it	2	2
Because it affects other creatures, species	2	3
Sustaining and preserving environment is a moral duty	6	6
Cleanliness (anti-pollution) as a moral matter	2	2

Category name	Com.	Codes
Where is moral-immoral line	12	25
Action-no action, or responsibility of bypassers	4	7
Polluting itself is immoral	3	3
Enough-too much	2	2
Benefit-harm (to humans)	1	2
Clean-unclean	1	2
Depends on personal perceptions	1	1
Human-nonhuman	1	1
Ignorance, negligence	1	1
Life-no life	1	2
Necessarily-unnecessarily	1	2
Obey-disregard religious ruling	1	1
Violation of others' rights	1	1
Collective morality	4	6
Selfishness	3	5
Moral vs legal	2	4
Morality as accountability or price to pay	2	3
Religion-environment	18	252
Environment as an inter-faith or common purpose	16	43
Caring for nature is a common or universal moral duty	15	25
Because it is a common moral responsibility	5	5
Because it is defended by both religious and irreligious	5	5
Because its degradation or loss will also harm humans	4	4
Because we humans depend on each other for co-existence	3	6
Because all people, whole humanity can agree upon it	2	2
Because it affects other creatures, species	2	3
Non-religious common grounds	4	7
Because it is god-given	3	3
For the sake of (not harming) life	2	2
A responsible, clean (world) citizen	1	1
Among abrahamic faiths	1	1
Because it is contained within religion	1	1
Because it's shared responsibility, duty	1	1
Impact of cooperation would be great	1	1
Okay but with some reservations	1	1
Environment-religion relationship is strong	15	99
'Khalifah fil ardh', stewardship, duty	11	30
Islam is clear about how to care for the environment	7	11
Do not harm	6	9
Earth as (the only) home to human	6	9
Mercy, compassion or 'rahmah'	5	10
Cleanliness	2	3
Hadith of planting a tree in the end times	2	2

Category name	Com.	Codes
It's a gift, trust or 'amanah'	2	7
Jurisprudential	2	2
No waste, 'israf'	2	2
Religion as relationship regulator, motivator	2	3
With regard to a more general religious understanding	2	3
God watching	1	1
If you're living close to nature	1	2
Next generations	1	1
Other faiths that also care about environment	1	2
Rights of others	1	2
Praying for nature	15	49
Hardly or non-present	11	25
For some reason it's not there	6	7
Though we should do it more	6	7
Because it's not been picked up yet	3	7
General prayers that presumably contain indirect references	2	2
I don't recall but i'm sure they do	1	1
Secularization or distancing of religion from sciences	1	1
Praying for human benefit or avoidance of harm	10	19
Rain prayer	5	9
Prayers against disasters, wars	4	4
Prayers for bountiful nature	2	3
Praying for health, well-being of people	2	3
Sometimes present	4	5
Lack of awareness about environment in Muslim communities	9	34
Because lack of reflection or something deeper	6	8
Because of lack of awareness	4	9
Because of socio-economic factors	4	5
Because of lack of collective attention	3	4
Because of lack of education	3	7
Because of issues of modernity	1	1
Religion can be instrumentalized to reinforce environmentalism	5	14
Because the religious is convinced this way	3	5
Because they are naturally related	3	9
Environmental characters of religions	4	7
They are pretty much the same	3	4
Seculars more sensitive on environment	1	2
Some differences in essence and teachings	1	1
Environment-religion relationship non-existent, weak or secondary	3	3
Limits of environmentalism	2	3

LLM-Generated Initial Codes

Code #	Code Name
C.1.1	Establishing Organizational Identity
C.1.2	Embracing Open-Ended Humanitarianism
C.1.3	Maintaining a Macro-Level Perspective
C.1.4	Prioritizing Water Access
C.1.5	Acknowledging Systemic Pollution
C.1.6	Attributing Responsibility for Pollution
C.1.7	Conceptualizing Sustainability
C.1.8	Prioritizing Awareness for Sustainability
C.1.9	Recognizing Immorality of Pollution
C.1.10	Defining Morality as a Value System
C.1.11	Distinguishing Morality from Religion
C.1.12	Affirming Universal Moral Values
C.1.13	Connecting Environmental Care to Universal Values
C.1.14	Rejecting Exploitation of Other Planets
C.1.15	Criticizing Harmful Waste Disposal Practices
C.1.16	Acknowledging Potential for Future Habitability
C.1.17	Identifying a Shared Minimum of Moral Values Across Religions
C.1.18	Recognizing the Importance of Religious Depth for Moral Development
C.1.19	Associating Faith with Quality of Action
C.1.20	Connecting Religious Practice to Daily Life
C.1.21	Noticing Increased Environmental Awareness in Media
C.1.22	Advocating for Increased Environmental Coverage in Sermons
C.1.23	Incorporating Environmental Concerns into Prayers
C.1.24	Endorsing Interfaith Collaboration for Environmental Action
C.1.25	Highlighting the Importance of Leveraging Existing Knowledge
C.1.26	Recognizing the Need for Both Large and Small Organizations
C.1.27	Emphasizing the Role of Awareness in Daily Life
C.1.28	Identifying Ignorance as a Major Obstacle
C.1.29	Advocating for a Multifaceted Approach to Raising Awareness
C.1.30	Highlighting the Importance of Law Enforcement
C.1.31	Accepting the Inevitability of Economic Development
C.1.32	Advocating for a Balanced Approach to Development
C.1.33	Assessing the Gulf Region's Progress in Sustainability
C.1.34	Positioning the Gulf Region within a Global Context
C.1.35	Identifying Operational Challenges in Humanitarian Work
C.1.36	Reaffirming a Universal Humanitarian Approach
C.1.37	Accepting Uncertainty as Inherent to Fieldwork
C.1.38	Embracing a Proactive Approach to Risk
C.1.39	Conceptualizing Risk as a Mental Construct
C.1.40	Expressing Gratitude and Acknowledging Divine Will
C.1.41	Expressing Appreciation for the Interview Opportunity
C.2.1	Expressing Gratitude and Acknowledging Limitations
C.2.2	Identifying as Part of a Charitable Organization
C.2.3	Defining Sustainability in a Donor Context
C.2.4	Highlighting the Importance of Donor Diversification
C.2.5	Introducing the Concept of Waqf
C.2.6	Highlighting the Global Application of Waqf
C.2.7	Emphasizing the Reinvestment Principle of Waqf
C.2.8	Establishing a Commercial Entity as Waqf
C.2.9	Defining Environmental Sustainability
C.2.10	Creating a Happiness Team for Social Responsibility
C.2.11	Facilitating Corporate Social Responsibility
C.2.12	Promoting 'Iftar' Food Distribution During Ramadan
C.2.13	Providing Support to Hospitalized Patients

Code #	Code Name
C.2.14	Partnering with Telecommunication Companies for Social Impact
C.2.15	Collaborating with Environmental NGOs
C.2.16	Developing an Environmentally-Focused Agricultural Project
C.2.17	Acknowledging the Existence of a Global Environmental Crisis
C.2.18	Identifying Transportation as a Major Source of Pollution
C.2.19	Expressing Concern about the Impact of Global Warming
C.2.20	Recognizing Kuwait's Limited Role in Global Pollution
C.2.21	Attributing Primary Responsibility for the Environmental Crisis to Industrialized Regions
C.2.22	Supporting Environmental Efforts Through Collaboration with Volunteer Teams
C.2.23	Highlighting the Positive Impact of Tree Planting
C.2.24	Maintaining a Neutral Stance on Government Environmental Policies
C.2.25	Distinguishing Between Organizational and Personal Criticism
C.2.26	Defining Morality ('Akhlaq') Through an Islamic Lens
C.2.27	Acknowledging the Moral Conduct of Non-Muslims
C.2.28	Reaffirming the Universality of Moral Principles ('Akhlaq')
C.2.29	Crediting Divine Guidance for Moral Principles
C.2.30	Observing Variations in Moral Behavior Across and Within Faiths
C.2.31	Attributing Changes in Western Morality to Societal Shifts
C.2.32	Expressing Confidence in the Guiding Principles of Islam
C.2.33	Lamenting Deviation from Traditional Islamic Values
C.2.34	Predicting a Future Reassertion of Islamic Principles
C.2.35	Highlighting the Importance of Dua (Supplication) for Environmental Concerns
C.2.36	Describing Institutionalized Dua for Environmental Issues in Kuwait
C.2.37	Advocating for Interfaith Cooperation on Environmental Issues
C.2.38	Comparing Grassroots and Professional Efforts in Sustainability
C.2.39	Advocating for Context-Specific Economic Development
C.2.40	Assessing the Gulf Region's Sustainability Performance
C.2.41	Advocating for Depoliticized Global Environmental Action
C.2.42	Criticizing the Misallocation of International Environmental Funds
C.2.43	Linking Political Motivations to Ineffective Environmental Action
C.2.44	Identifying Political Influence as a Major Challenge for Charities
C.2.45	Expressing Uncertainty About the Future Due to Global Conflicts
C.2.46	Maintaining Trust Despite Global Uncertainty
C.2.47	Focusing on Local Action Amidst Global Uncertainty
C.2.48	Expressing Hope for Divine Guidance and Protection
C.3.1	Describing Business Practices with Environmental Considerations
C.3.2	Acknowledging the Existence of a Global Environmental Issue
C.3.3	Identifying the Severity of the Environmental Crisis
C.3.4	Attributing Responsibility to Greed and Lack of Environmental Awareness
C.3.5	Emphasizing Intergenerational Responsibility
C.3.6	Advocating for a Balanced Approach to Resource Use
C.3.7	Defining Sustainability as Meeting Present and Future Needs
C.3.8	Highlighting the Importance of Sustainability in Charity Work
C.3.9	Affirming the Moral Obligation to Protect the Environment
C.3.10	Linking Environmental Harm to Negative Consequences for Humanity
C.3.11	Reflecting on the Historical Context of Environmental Concern
C.3.12	Defining 'Ihsan' as a Guiding Principle
C.3.13	Connecting 'Ihsan' to Divine Acceptance
C.3.14	Asserting the Universality of Basic Moral Principles
C.3.15	Affirming the Divine Origin of All Religions
C.3.16	Acknowledging the Inherent Morality of Humanity
C.3.17	Attributing Immoral Behavior to Human Fallibility
C.3.18	Highlighting the Role of Religion in Enhancing Morality
C.3.19	Criticizing the Limitations of Secular Morality
C.3.20	Acknowledging the Existence of Hidden Agendas Behind Moral Actions
C.3.21	Critiquing Extraterrestrial Resource Exploitation
C.3.22	Connecting Faith and Sustainability through Quranic Principles

Code #	Code Name
C.3.23	Referencing Prophetic Tradition to Emphasize Environmental Responsibility
C.3.24	Defining Ecosystem from a Scientific Perspective
C.3.25	Asserting the Global Awareness of Sustainability
C.3.26	Defining Sustainability Holistically
C.3.27	Integrating Sustainability into University Operations and Curriculum
C.3.28	Advocating for Continued Awareness-Raising and Success Stories
C.3.29	Recognizing the Importance of Seeking Divine Help and Guidance in Prayers
C.3.30	Advocating for Collective Action on Sustainability
C.3.31	Rejecting Destructive Forms of Environmental Activism
C.3.32	Integrating Sustainability into Education
C.3.33	Embedding Sustainability Across Academic Disciplines
C.3.34	Connecting Academic Frameworks to Societal Impact
C.3.35	Reiterating the Importance of 'Ihsan' in All Endeavors
C.3.36	Recognizing the Value of Both Small and Large Organizations in Sustainability
C.3.37	Advocating for a Change in Consumption Mindset
C.3.38	Acknowledging the Challenges of Changing Consumption Patterns
C.3.39	Affirming the Necessity of Economic Development
C.3.40	Acknowledging the Environmental Impact of Population Growth
C.3.41	Highlighting the Impact of Technological Advancements and Increased Life Expectancy on Population Growth
C.3.42	Giving Examples of Positive Environmental Practices in Egypt
C.3.43	Highlighting Environmental Regulations for Factories in Egypt
C.3.44	Mentioning Green Initiatives in Shipping and Energy Production in Egypt
C.3.45	Highlighting Renewable Energy Projects in Kuwait and Saudi Arabia
C.3.46	Emphasizing the Importance of Following Expert Advice on Sustainability
C.3.47	Describing the Organization's Direct Approach to Charitable Work
C.3.48	Prioritizing Project Impact and Efficiency Over Donation Maximization
C.3.49	Expressing Concern About the Global Rise of Conflict and War
C.3.50	Critiquing the Misallocation of Resources Towards War and Conflict
C.3.51	Highlighting the Devastating Impact of War on Agriculture and Food Security
C.3.52	Attributing the Root Cause of Conflict to Greed and the Pursuit of Power and Resources
C.3.53	Planning and Implementing Projects Within the Organization's Control
C.3.54	Providing Aid and Assistance Without Discrimination
C.3.55	Reaffirming the Centrality of Faith in Dealing with Uncertainty
C.4.1	Describing a Shift in Well-Digging Practices Towards Sustainability
C.4.2	Implementing Water Conservation Techniques in Ghana
C.4.3	Reducing the Number of Wells Drilled Annually
C.4.4	Acknowledging the Existence of a Worldwide Environmental Problem
C.4.5	Describing the Severity and Impacts of Environmental Issues in Southeast Asia
C.4.6	Describing the Impacts of Deforestation in Africa
C.4.7	Identifying Governments as Primarily Responsible for Environmental Problems
C.4.8	Defining Sustainability in Terms of Long-Term Community Well-being
C.4.9	Contrasting Sustainability with Short-Term Material Assistance
C.4.10	Identifying Immoral and Unethical Actions in Business and Religious Contexts
C.4.11	Expressing Discomfort with Discussing Religious Discrimination in Specific Countries
C.4.12	Differentiating Between 'Deen' (Religion) and 'Akhlāq' (Morality)
C.4.13	Describing Moral Conduct in Social Interactions
C.4.14	Affirming the Possibility of Universal Moral Principles
C.4.15	Prioritizing Environmental Protection as a Universal Responsibility
C.4.16	Acknowledging the Trade-offs Between Economic Development and Environmental Protection
C.4.17	Critiquing a Hypothetical Scenario of Extraterrestrial Resource Exploitation
C.4.18	Linking Religious Beliefs to the Shaping of Personal and Social Morality
C.4.19	Highlighting Differences in Moral Understandings Across Cultures and Faiths
C.4.20	Highlighting the Characteristic of 'Rahmah' (Compassion) Among Muslims
C.4.21	Comparing Charitable Giving Across Different Faiths
C.4.22	Acknowledging Diverse Motivations for Charitable Giving
C.4.23	Reaffirming the Role of 'Deen' in Promoting Ethical Conduct
C.4.24	Suggesting a Focus on Practical Action Over Abstract Discussion

Code #	Code Name
C.4.25	Expressing Limited Awareness of Environmental Discussions in Religious Sermons
C.4.26	Advocating for Increased Religious Attention to Food Waste
C.4.27	Expressing Limited Personal Engagement in Environmental Prayers
C.4.28	Suggesting that Religious Leaders Can Influence Environmental Awareness through Prayers
C.4.29	Speculating on Possible Reasons for Limited Environmental Focus in Prayers
C.4.30	Recognizing the Need for Collaboration on Sustainability Across Different Worldviews
C.4.31	Attributing the Lack of Cooperation to Political and Other Divisive Factors
C.4.32	Preferring to Work with Professional Organizations over Inexperienced Ones
C.4.33	Expressing Skepticism about the Effectiveness of Volunteer Programs
C.4.34	Acknowledging the Value of Volunteers in Emergency Situations
C.4.35	Recommending a Focus on Sustainability in the UAE and Partner Countries
C.4.36	Highlighting the Long and Multi-Stage Process of Well-Digging Projects
C.4.37	Emphasizing the Positive Impacts of Sustainability on Various Aspects
C.4.38	Suggesting a Lack of Understanding of Sustainability's Importance and Meaning Among the Public
C.4.39	Linking Economic Development to Environmental Harm and Social Well-being
C.4.40	Assessing the State of Sustainability in the Gulf Region
C.4.41	Identifying Education as a Key Challenge in Promoting Sustainability
C.4.42	Describing the Organization's Knowledge-Sharing Efforts on Sustainability
C.4.43	Expressing Uncertainty About the Future in the Context of Global Debates on Sustainability
C.4.44	Describing the Organization's Proactive Planning and Contingency Process in Response to Uncertainty
C.4.45	Affirming the Role of Faith in Dealing with Uncertainty
C.4.46	Illustrating the Application of Zakat in Emergency Situations
C.4.47	Expressing a Desire to Receive a Copy of the Research
C.4.48	Reaffirming the Importance of Faith in Navigating Uncertainty
C.5.1	Differentiating Sustainability Types
C.5.2	Prioritizing Financial Sustainability in GCC
C.5.3	Defining Environmental Sustainability as Stewardship
C.5.4	Acknowledging Environmental Degradation
C.5.5	Attributing Environmental Issues to Greed
C.5.6	Advocating a Return to Basics
C.5.7	Recognizing Moral Dimensions of Environmental Harm
C.5.8	Acknowledging Bystander Responsibility
C.5.9	Affirming Universality of Moral Principles
C.5.10	Defining Morality as Truthfulness
C.5.11	Acknowledging Religious Influence on Morality
C.5.12	Observing Moral Differences Across Cultures
C.5.13	Connecting Faith and Sustainability
C.5.14	Advocating for Cleanliness as a Religious Duty
C.5.15	Prioritizing Actionable Steps in Religious Sermons
C.5.16	Acknowledging Limited Environmental Focus in Prayers
C.5.17	Attributing Lack of Prayer to Taking Things for Granted
C.5.18	Recommending Prioritizing Actions at Home
C.5.19	Supporting Both Grassroots and Top-Down Approaches
C.5.20	Prioritizing Information and Awareness
C.5.21	Balancing Economic Development with Human and Environmental Concerns
C.5.22	Identifying Scarcity of Talent as a Major Challenge
C.5.23	Identifying Outdated Regulations as an Obstacle
C.5.24	Expressing Uncertainty About Future Operations
C.5.25	Coping with Uncertainty through Awareness Building
C.5.26	Defining a Good Believer as One Who Trusts in God
C.5.27	Expressing Interest in Research Findings
C.5.28	Offering Access to Interview Transcript
C.5.29	Confirming Participant Consent for Data Usage
C.6.1	Involvement in Multiple Charitable Organizations
C.6.2	Focusing on Healthcare and Social Housing
C.6.3	Assisting Families in Need
C.6.4	Providing Assistance within the UAE

Code #	Code Name
C.6.5	Observing Consumerism as a Cause of Financial Distress
C.6.6	Noting the Lack of Sustainability Mindset among Aid Recipients
C.6.7	Using the Arabic Term 'Istidama' for Sustainability
C.6.8	Prioritizing Human Suffering over Environmental Concerns
C.6.9	Motivating Charitable Work through Religious Duty
C.6.10	Using Religious Precedents to Justify Actions
C.6.11	Extending Help to Non-Muslims
C.6.12	Expressing Self-Reflection and Moral Accountability
C.6.13	Emphasizing the Importance of Helping Others Regardless of Religion
C.6.14	Advocating for Education in Financial Management
C.6.15	Tailoring Solutions to Specific Needs
C.6.16	Opposing Economic Growth that Harms Nature
C.6.17	Advocating for a Regulatory Body to Oversee Environmental Impact
C.6.18	Identifying Human Conscience as a Driving Force in Charitable Work
C.6.19	Highlighting the Decline of Traditional Funding Sources
C.6.20	Navigating Regulatory Frameworks for International Aid
C.6.21	Facing Uncertainty Proactively through Planning and Preparation
C.6.22	Building Relationships with Donors through Transparency
C.6.23	Drawing Confidence from Faith
C.6.24	Expressing Openness to New Opportunities for Charitable Work
C.7.1	Focusing on Fresh Water Conservation
C.7.2	Engaging Youth in Awareness Campaigns
C.7.3	Promoting Safe Driving
C.7.4	Addressing Health Consequences of Unhealthy Lifestyles
C.7.5	Sustaining a Foundation for a Quarter Century
C.7.6	Adapting Charity to Offer Mutual Benefits
C.7.7	Connecting Healthy Lifestyles to Longevity
C.7.8	Prioritizing Human Well-being as a Prerequisite for Environmental Action
C.7.9	Considering a New Initiative for Environmental Greening
C.7.10	Affirming the Moral Dimension of Environmental Care
C.7.11	Relating Morality to Islamic Teachings and Upbringing
C.7.12	Favoring Electric Cars as an Environmentally Conscious Choice
C.7.13	Aligning Economic Development with Environmental Protection
C.7.14	Attributing Unsustainability to Lack of Awareness and Indifference
C.7.15	Emphasizing the Importance of Education and Awareness for Future Generations
C.7.16	Consulting Experts and Planning for Managing Uncertainty
C.8.1	Holding a Leadership Position in an Orphan-Focused Charity
C.8.2	Motivated by Meaningful Work and Helping Others
C.8.3	Defining Charity as Altruistic Action
C.8.4	Acknowledging the Inevitability of Need
C.8.5	Perceiving a Duty to Help
C.8.6	Acknowledging the Seriousness of the Environmental Issue
C.8.7	Attributing Environmental Issues to Overexploitation and Population Growth
C.8.8	Advocating for a Balanced Use of Nature
C.8.9	Critiquing Overconsumption and Marketing Ploys
C.8.10	Defining Morality as Doing Right by Self and Others
C.8.11	Acknowledging Morality Beyond Religious Affiliation
C.8.12	Affirming Universal Moral Principles
C.8.13	Perceiving Environmental Care as a Universal Moral Principle
C.8.14	Recognizing Faith's Historical Role in Shaping Morals
C.8.15	Observing Greater Trust and Acceptance within Faith Communities
C.8.16	Using Faith to Explain and Justify Actions to Communities
C.8.17	Believing Faith Plays a Role in Environmental Discussions
C.8.18	Noting Limited Environmental Discussions in Religious Sermons
C.8.19	Advocating for Increased Discussion of Environmental Issues in Religious Settings
C.8.20	Incorporating Environmental Actions into Personal Daily Practices
C.8.21	Acknowledging the Infrequency of Environmental Themes in Personal Prayers

Code #	Code Name
C.8.22	Defining Sustainability as Minimizing Harm and Ensuring Continuity
C.8.23	Identifying Future Generations as Descendants and Beyond
C.8.24	Expressing Concern about the Impact of Climate Change on Future Generations
C.8.25	Advocating for Holistic Development Beyond Economic Growth
C.8.26	Calling for Systemic Changes to Promote Equity and Opportunity
C.8.27	Highlighting the Importance of Listening to Communities
C.8.28	Rejecting Communism and Advocating for Community-Based Solutions
C.8.29	Describing a Successful Community-Based Microfinance Project
C.8.30	Expressing Uncertainty and a Need for More Information
C.8.31	Having Hope and Faith in Human Adaptability
C.8.32	Connecting Faith with Resilience in the Face of Hardship
C.8.33	Reflecting on the Potential for Dependency Creation through Aid
C.8.34	Preferring Cash Transfers as a More Dignified Form of Aid
C.9.1	Professionalizing Charitable Work
C.9.2	Reframing Charity as Principled Action
C.9.3	Equating Obligatory Giving with Taxation
C.9.4	Conceptualizing Zakat as Obligatory, Not Charity
C.9.5	Accepting Human Need as Inherent to Existence
C.9.6	Attributing Environmental Crisis to Industrialization and Capitalism
C.9.7	Identifying Dual Responsibility in Human Nature and Capitalism
C.9.8	Prioritizing Systemic Change over Changing Human Nature
C.9.9	Personalizing Moral Duty to the Environment
C.9.10	Identifying as Socialist and Pacifist
C.9.11	Differentiating Morality from Faith
C.9.12	Conceptualizing Morality as Good and Bad Actions
C.9.13	Identifying Universal Moral Principles in Islam
C.9.14	Relating Tawhid to Interdependence and Environmentalism
C.9.15	Finding Commonalities Across Faiths on Environmentalism
C.9.16	Critiquing Capitalism's Impact on Shared Moral Principles
C.9.17	Justifying Environmental Morality Through Islamic Principles
C.9.18	Critiquing Hypocrisy of Gulf States in Climate Discussions
C.9.19	Integrating Socialism, Pacifism, and Islam in Moral Principles
C.9.20	Arguing for Environmental Protection from a Common Good Perspective
C.9.21	Acknowledging Faith's Role in Shaping Moral Understanding
C.9.22	Observing Convergence of Moral Precepts Across Faiths
C.9.23	Attributing Moral Convergence to Human Nature
C.9.24	Confirming Rational and Scientific Basis for Environmental Views
C.9.25	Defining Sustainability in Terms of Future Actions
C.9.26	Linking Sustainability to Survival
C.9.27	Acknowledging Broader Context of Sustainability via SDGs
C.9.28	Defining Sustainability in Development as Sustained Intervention Effects
C.9.29	Invoking Maqasid al-Sharia to Justify Concern for Future Generations
C.9.30	Viewing Concern for Future Generations as a Universal Human Right
C.9.31	Advocating for Transformation of Systems
C.9.32	Defining Transformation as Changes to Fundamental Systems
C.9.33	Explaining the IPCC and UNFCCC Framework
C.9.34	Describing the IPCC's Assessment Reports and Methodology
C.9.35	Explaining the Role of COPs and Multilateral Decision-Making
C.9.36	Highlighting the Influence of NGOs in Decision-Making Forums
C.9.37	Distinguishing Between International Decision-Making Bodies and Organizations
C.9.38	Explaining the Choice of Charitable Organizations for Research
C.9.39	Expressing Uncertainty About the Near Future
C.9.40	Differentiating Between Short-Term and Long-Term Future Uncertainty
C.9.41	Highlighting the Vulnerability of the World's Poor
C.9.42	Predicting Climate Change Impacts and Feedback Loops
C.9.43	Projecting Severe Population Decline by 2100
C.9.44	Acknowledging Uncertainty of Tipping Point Timing

Code #	Code Name
C.9.45	Defining and Endorsing the Concept of Radical Uncertainty
C.9.46	Identifying Data and Surveillance Capitalism as an Existential Threat
C.9.47	Expressing Concern about AI and Large Language Models
C.9.48	Suggesting Faith as a Resolution to Radical Uncertainty
C.9.49	Acknowledging Limitations of Personal Moral Certainty
C.9.50	Referencing "God preserve us" as Favorite Phrase
C.9.51	Interpreting "God" as Part of the Environment
C.10.1	Defining Professional Role within ORGANIZATION_10
C.10.2	Leading Policy Development on Islamic Understanding of Development
C.10.3	Involvement in Environmental Policy and COP28 Faith Pavilion
C.10.4	Motivated by Moral Obligation to Help Others
C.10.5	Citing Poor Governance and Social Injustice as Causes of Need
C.10.6	Linking Need to Climate Change and Environmental Factors
C.10.7	Offering a Spiritual Perspective on Wealth and Poverty
C.10.8	Recognizing the Importance of the Charitable Sector
C.10.9	Acknowledging the Climate Crisis
C.10.10	Expressing Severity of the Climate Crisis
C.10.11	Attributing Climate Crisis to Human Consumption and Its Impact
C.10.12	Critiquing Purely Self-Interested Behavior
C.10.13	Linking Current Economic System to Usury and Unsustainable Consumption
C.10.14	Defining Polluting as Sinful Due to Trampling on Others' Rights
C.10.15	Critiquing Consumption-Based Socioeconomic System
C.10.16	Defining Morality in Relation to Religion and Revelation
C.10.17	Acknowledging Convergence of Moral Principles Across Belief Systems
C.10.18	Highlighting the Role of Accountability in Religious Morality
C.10.19	Recognizing Moral and Spiritual Lives of Non-Believers
C.10.20	Citing the Economic System as an Example of Moral Blind Spots
C.10.21	Affirming Universal Moral Principle of Caring for Nature
C.10.22	Acknowledging a Selfish Right-Wing Movement Opposed to Environmentalism
C.10.23	Observing Conflict Between Environmentalism and Materialistic Values
C.10.24	Suggesting Culture and Society Influence Moral Behavior More Than Faith
C.10.25	Defining Spiritual Capital and its Impact on Well-being
C.10.26	Contrasting Spiritual Well-being and Social Justice in Different Societies
C.10.27	Contrasting Role of State and Family in the Global North and South
C.10.28	Claiming Faith Can Be Instrumental in Changing Environmental Attitudes
C.10.29	Acknowledging Different Time Trajectories of Societies
C.10.30	Highlighting the Difficulty of Transitioning from Feudal Systems
C.10.31	Citing the Thwarting of Democratization in the Middle East
C.10.32	Predicting the Rise of Autocracy in Response to Climate Change
C.10.33	Noting the Absence of Environmental Discussions in UK Mosques
C.10.34	Expressing Personal Anxiety and Stress about Environmental Collapse
C.10.35	Recognizing Generational Concerns about Climate Change
C.10.36	Predicting Societal Collapse and the Role of Spiritual Capital
C.10.37	Defining Future Generations from an Islamic Perspective
C.10.38	Connecting Nasl to Sadaqah Jariyah
C.10.39	Criticizing the Separation of Religion from Other Spheres in Modern Society
C.10.40	Defining Sustainability as Multidimensional
C.10.41	Predicting a Return to Local Living and Sustainability
C.10.42	Acknowledging the Difficulty of Regulating Consumption in Democracies
C.10.43	Suggesting the Potential Effectiveness of Tribal Systems
C.10.44	Expressing Concern about the Limits of Democracy in Addressing Crises
C.10.45	Acknowledging Uncertainty as a Constant Throughout History
C.10.46	Recognizing the Limits of Scientific Models and the Complexity of Systems
C.10.47	Describing the Human Ecosystem as Fragile Due to Interdependence
C.10.48	Accepting Societal Evolution Through Adaptation and Catastrophe
C.10.49	Expressing Personal Sense of Dread Regarding the Future
C.10.50	Facing Moral Uncertainty in Professional and Personal Decisions

Code #	Code Name
C.10.51	Interpreting "God" as Part of the Environment
C.10.52	Making Personal Lifestyle Changes in Response to Environmental Concerns
C.11.1	Defining Role as External Relations Coordinator at ORGANIZATION_11
C.11.2	Transitioning from Government Role to Charity Sector
C.11.3	Limited Involvement in Environmental Projects
C.11.4	Seeking Impact and Change in the Charity Sector
C.11.5	Defining Charity as Aid Due to Circumstances Beyond One's Control
C.11.6	Challenging the Notion of Laziness as a Cause of Poverty
C.11.7	Expressing a Sense of Duty to Help the Less Fortunate
C.11.8	Observing Environmental Changes and Linking Them to a Global Issue
C.11.9	Expressing Concern for Loss of Biodiversity in the Near Future
C.11.10	Linking Personal Interest in Gardening to Concerns about Food Chains
C.11.11	Attributing Environmental Problems to Industrialization and GDP Focus
C.11.12	Defining it as a Moral Duty and for Survivability to Preserve Nature
C.11.13	Considering it Immoral to Pollute
C.11.14	Considering it Immoral to be a Passive Bystander to Environmental Harm
C.11.15	Defining Morality as Being Good and Not Causing Harm
C.11.16	Differentiating Between Morality and Religion
C.11.17	Believing in the Possibility of Universal Moral Principles
C.11.18	Suggesting "Helping Others" as a Universal Moral Principle
C.11.19	Affirming Caring for Nature as a Universal Moral Principle and Duty
C.11.20	Basing the Duty to Care for Nature on Preventing Harm to Other Species
C.11.21	Using Religion to Shape Morals of Religious People
C.11.22	Branding of Religions in Terms of Environmental Morality
C.11.23	Identifying a Gap Between Islamic Teachings and Environmental Practice
C.11.24	Defining Charity in Islam as Giving (Sadaqah and Zakat)
C.11.25	Limited Discussion of Environmental Issues in Malaysian Muslim Community
C.11.26	Suggesting the Use of Religious Authority to Influence Environmental Attitudes
C.11.27	Highlighting the Absence of Environmental Education in Islamic Teachings
C.11.28	Attributing the Lack of Environmental Focus in Islam to Commercialism and Convenience
C.11.29	Perceiving a Disconnect Between Environmental Harm and Sin in Islam
C.11.30	Defining Sustainability as Something that Lasts
C.11.31	Identifying with Future Generations Through a Personal Connection to Her Daughter
C.11.32	Expressing a Desire for Future Generations to Enjoy Nature
C.11.33	Relating to Future Generations Through Concern for Disappearing Species
C.11.34	Calling for a Shift Away from GDP-Focused Economic Growth
C.11.35	Acknowledging the Existence of Agreements but Lack of Implementation
C.11.36	Proposing Slowing Down as an Alternative to Radical Change
C.11.37	Suggesting Public Pressure on Governments to Promote Change
C.11.38	Advocating for Individual Responsibility and Behavior Change
C.11.39	Promoting the Islamic Principle of Moderation (Wasatiyyah)
C.11.40	Leading by Example to Encourage Sustainable Practices
C.11.41	Maintaining a Consistent Level of Uncertainty About the Future
C.11.42	Attributing Calmness to a Belief in Doing One's Best and Trusting in God's Will
C.11.43	Using SWOT Analysis for Personal Decision-Making
C.11.44	Planning for Different Scenarios in Professional Life
C.11.45	Facing Moral Dilemmas and Uncertainty in Decision-Making
C.12.1	Defining Role as Head of Microfinance Unit at ORGANIZATION_12
C.12.2	Describing Involvement in Environmentally Focused Microfinance Projects
C.12.3	Transitioning from Private Sector to Charitable Sector
C.12.4	Seeking Passion and Meaning in Work
C.12.5	Motivated by a Desire to Contribute to the Muslim World
C.12.6	Defining Charity as Providing Support Without Expecting Return
C.12.7	Describing the World as Inequitable
C.12.8	Rejecting the Idea of Universal Pursuit of Happiness
C.12.9	Advocating for a Level Playing Field to Address Inequality
C.12.10	Recognizing the Role of Governments in Addressing Inequality

Code #	Code Name
C.12.11	Defining Working in the Charitable Sector as a Preference and a Duty
C.12.12	Critiquing Purely Self-Interested Behavior
C.12.13	Acknowledging the Roles of Different Sectors in Society
C.12.14	Acknowledging the Complexity of Global Environmental Issues
C.12.15	Recognizing the Impact of Human Activity on the Environment
C.12.16	Expressing a Layperson's Understanding of Climate Change
C.12.17	Relating Personal Observations of Climate Change to Lived Experiences
C.12.18	Acknowledging Earth's Natural Climate Cycles
C.12.19	Recognizing the Acceleration of Environmental Degradation Post-Industrial Revolution
C.12.20	Identifying Population Growth and Increased Consumption as Key Factors
C.12.21	Reflecting on the Ethics of Consumption Choices in a Globalized World
C.12.22	Defining Environmental Protection as Both a Moral and a Selfish Imperative
C.12.23	Questioning the Applicability of Morality in the Absence of Others
C.12.24	Arguing for Universal Moral Principles Based on Societal Coexistence
C.12.25	Including Environmental Protection as a Universal Moral Principle
C.12.26	Distinguishing Between Morality and Sharia in an Islamic Context
C.12.27	Explaining the Concept of Sharia as a Divinely Ordained Way of Life
C.12.28	Criticizing the Limited Scope of Environmental Discourse within Muslim Communities
C.12.29	Suggesting that Islam Undersells Itself on Environmental Issues
C.12.30	Advocating for a Reinterpretation of Islamic Teachings on Warfare
C.12.31	Highlighting Internal and External Communication Challenges for Muslims
C.12.32	Criticizing the Disconnect Between Western Academia and Muslim Scholars
C.12.33	Highlighting the Challenges of Applying Islamic Principles in a Western Context
C.12.34	Describing a Disconnect Between Religious Teachings and Everyday Practices
C.12.35	Analyzing the Cultural Acceptance of Waste Disposal in Some Societies
C.12.36	Identifying a Lack of Awareness and Consciousness Regarding New Materials
C.12.37	Applying the Concept of Alienation to Environmental Issues
C.12.38	Criticizing the Current State of Religious Education within Muslim Communities
C.12.39	Defining Sustainability as Retention Over Time
C.12.40	Disagreeing with the UN's Definition of Sustainability
C.12.41	Acknowledging the Necessity of Balancing Present and Future Needs
C.12.42	Criticizing Overconsumption and Advocating for Restraint
C.12.43	Questioning the Ethics of Denying Development to Others
C.12.44	Advocating for Technological Innovation to Achieve Sustainable Growth
C.12.45	Acknowledging the Potential of Technological Solutions
C.12.46	Suggesting Limited Instrumentalization of Faith in Environmental Discourse
C.12.47	Expressing a Need for Greater Engagement from Religious Scholars
C.12.48	Acknowledging a Disconnect Between Religious Texts and Contemporary Issues
C.12.49	Describing a Personal Lack of Understanding of Khutbahs in Arabic
C.12.50	Suggesting Underutilization of the Khutbah as a Platform for Education
C.12.51	Raising Questions about Religious Practices in Light of Environmental Concerns
C.12.52	Praying for Others Affected by Natural Disasters
C.12.53	Connecting Personal Prayers to Professional Work on Environmental Issues
C.12.54	Expressing Gratitude for Living in a Less Environmentally Vulnerable Area
C.12.55	Defining Sustainability in Terms of Future Generations' Needs
C.12.56	Prioritizing the Needs of Future Generations in Defining Sustainability
C.12.57	Critiquing the UN's Definition of Sustainability for its "Get-Out Clause"
C.12.58	Recognizing the Difficulty of Balancing Present Needs with Future Sustainability
C.12.59	Connecting Nasl to Sadaqah Jariyah
C.12.60	Questioning the Ethics of Denying Development to Developing Nations
C.12.61	Believing in the Possibility of Sustainable Economic Growth
C.12.62	Emphasizing the Need for Smarter Resource Use and Technological Innovation
C.12.63	Recognizing Trade-offs in Consumption and Technology for Sustainability
C.12.64	Calling for the Instrumentalization of Faith to Promote Environmental Protection
C.12.65	Criticizing the Lack of Engagement with Environmental Issues by Muslim Theologians
C.12.66	Asserting the Potential of Islam to Contribute to Environmental Solutions
C.12.67	Suggesting a Need for Internal Education and External Advocacy by Muslims

Code #	Code Name
C.12.68	Citing Limited Awareness and Education as Barriers within Muslim Communities
C.12.69	Comparing Environmental Engagement to Islamic Finance
C.13.1	Providing Executive Support and Facilitating Communication
C.13.2	Transitioning to Charitable Work
C.13.3	Engaging in International Relief and Development
C.13.4	Defining Charity through Personal Values and Faith
C.13.5	Attributing Poverty to Systemic Issues
C.13.6	Deemphasizing Religious Explanation for Poverty
C.13.7	Advocating for Poverty Alleviation
C.13.8	Referencing Historical Islamic Examples of Social Justice
C.13.9	Acknowledging Climate Change as a Reality
C.13.10	Highlighting the Negative Environmental Impacts of War
C.13.11	Attributing Environmental Problems to Industrialization and Economic Competition
C.13.12	Connecting Environmental Care to Faith and Morality
C.13.13	Considering Pollution Immoral and Sinful
C.13.14	Considering Passive Bystanderism to Pollution Immoral
C.13.15	Defining Morality as Respectability and Doing Good
C.13.16	Relating Morality to Faith and Historical Context
C.13.17	Endorsing Environmental Care as a Universal Moral Principle
C.13.18	Rationalizing Environmental Responsibility for Future Generations
C.13.19	Prioritizing the Well-being of Family, Community, and Future Generations
C.13.20	Defining Nature Broadly and Acknowledging Human Stewardship
C.13.21	Using Faith as a Guiding Framework for Decision-Making
C.13.22	Discussing Environmental Issues in Religious Sermons
C.13.23	Connecting Personal Faith with Moral and Ethical Actions
C.13.24	Expressing Limited Environmental Concern in Personal Prayers
C.13.25	Engaging in Pro-Environmental Actions Out of Aesthetic Appreciation
C.13.26	Associating Pollution with Ugliness
C.13.27	Defining Sustainability in Terms of Intergenerational Equity
C.13.28	Connecting Sustainability to the Sphinx Metaphor
C.13.29	Conceptualizing Sustainability in Project Management
C.13.30	Perceiving Death as a Transition to the Afterlife
C.13.31	Integrating Faith into Professional Life and Strategic Thinking
C.13.32	Perceiving Faith as a Source of Resilience
C.13.33	Defining Future Generations as One's Children's Children
C.13.34	Advocating for Ethical and Sustainable Economic Development
C.13.35	Expressing Uncertainty about the Future Amidst Global Challenges
C.13.36	Differentiating Between General and Professional Uncertainty
C.13.37	Highlighting Gaps in Disaster Preparedness Plans
C.13.38	Acknowledging Uncertainty Regarding Artificial Intelligence
C.13.39	Employing Risk Registers and Business Continuity Plans
C.13.40	"Expressing Openness to Continued Engagement and Learning about Research Findings"
C.16.1	Working in Charity for Extended Period
C.16.2	Defining Charity as Helping and Drawing a Smile
C.16.3	Identifying Three Axes of Charitable Work
C.16.4	Attributing Existence of Need to Divine Will and Test
C.16.5	Acknowledging Indirect Environmental Efforts
C.16.6	Recognizing a Global Environmental Problem
C.16.7	Attributing Responsibility for Environmental Harm to Everyone
C.16.8	Acknowledging Differing Moral Standards Across Cultures
C.16.9	Defining Morality as a Set of Principles
C.16.10	Connecting Islamic Teachings to Moral Principles
C.16.11	Perceiving Unique Characteristics in Muslim Communities
C.16.12	Relating Environmental Protection to Islamic Principles
C.16.13	Attributing Environmental Attitudes to Multiple Factors, Including Religion
C.16.14	Discussing Environmental Issues After Major Disasters
C.16.15	Expressing Limited Inclusion of Environment in Personal Prayers

Code #	Code Name
C.16.16	Familiarity with Sustainability and SDGs
C.16.17	Supporting the UN's Definition of Sustainability
C.16.18	Having Moral Obligation to Future Generations
C.16.19	Connecting Religious Teachings to Sustainable Resource Use
C.16.20	Extending the Scope of Islamic Responsibility to All Humanity
C.16.21	Prioritizing Economic Development While Considering Environmental Impacts
C.16.22	Suggesting Solutions for Sustainable Development
C.16.23	Emphasizing the Role of Technology in Balancing Development and Environmental Protection
C.16.24	Highlighting the Importance of Behavioral Change for Sustainability
C.16.25	Recommending Avoiding Actions with Uncertain Outcomes in Accordance with Religious Guidance
C.16.26	Applying Religious Guidance to Practical Decision-Making
C.16.27	Expressing Gratitude and Apologizing for Language Limitations
C.16.28	Expressing Willingness to Share Interview Recording and Transcript
C.17.1	Monitoring Environmental Impact
C.17.2	Acknowledging Corporate Greed
C.17.3	Emphasizing Ethical Duty Beyond Legality
C.17.4	Referencing Islamic Principles
C.17.5	Connecting Morality and Religion
C.17.6	Identifying Universal Moral Principles
C.17.7	Extending Moral Principles to Nature
C.17.8	Advocating Reason and Wisdom in Faith
C.17.9	Experiencing Environmental Discussions in Religious Contexts
C.17.10	Incorporating Environmental Concerns into Personal Prayers
C.17.11	Defining Sustainability as Self-Reliance
C.17.12	Highlighting the Role of Waqf in Sustainability
C.17.13	Balancing Economic Development with Future Needs
C.17.14	Accepting Inherent Uncertainty in Life
C.17.15	Differentiating Levels of Acceptable Uncertainty
C.17.16	Managing Uncertainty Through Proactive Measures
C.17.17	Interconnecting Risk and Uncertainty
C.17.18	Highlighting the Importance of Dua (Supplication)
C.17.19	Balancing Dua with Action
C.17.20	Expressing Gratitude and Enjoyment
C.17.21	Recognizing the Limits of Economic Growth
C.17.22	Considering Intergenerational Equity
C.17.23	Seeking Balance Between Resource Use and Preservation
C.17.24	Reiterating the Inseparability of Islam and Environmental Care
C.17.25	Affirming the Presence of Environmental Discussions in Religious Spaces
C.17.26	Acknowledging Limitations in Personal Prayer Practices
C.17.27	Reaffirming the Presence of Environmental Concerns in Prayers
C.17.28	Recognizing Water Scarcity in the GCC Region
C.18.1	Describing Professional Background
C.18.2	Motivating by Social Solidarity
C.18.3	Defining Charity as Solidarity and Sharing
C.18.4	Explaining the Need for Aid
C.18.5	Acknowledging Environmental Degradation
C.18.6	Identifying Uncontrolled Consumption and Production as Drivers of Environmental Issues
C.18.7	Highlighting the Severity of the Environmental Problem
C.18.8	Advocating for Shared Responsibility
C.18.9	Critiquing Harmful Practices of Wealthy Nations
C.18.10	Equating Environmental Pollution with a Crime
C.18.11	Defining Morality as Agreed-Upon Standards of Conduct
C.18.12	Condemning Passive Bystander Behavior
C.18.13	Interpreting Religion as a Set of Morals
C.18.14	Positioning Law as a Regulator of Morality
C.18.15	Affirming the Existence of Universal Moral Principles
C.18.16	Connecting Religious Guidance to Moral Behavior

Code #	Code Name
C.18.17	Prioritizing Legal Frameworks in Ethical Dilemmas
C.18.18	Perceiving Religion as Integrated with Morality
C.18.19	Attributing Environmental Problems to Human Behavior
C.18.20	Identifying the Environment as a Topic of Public Debate
C.18.21	Expressing Openness to Praying for the Environment
C.18.22	Endorsing the UN Definition of Sustainability
C.18.23	Defining Sustainability as Long-Term Project Impact
C.18.24	Describing Waqf as an Islamic Innovation for Sustainability
C.18.25	Referencing Islamic Principles in Development Work
C.18.26	Predicting Similarity in Sustainability Projects Between Faith-Based and Secular Organizations
C.18.27	Defining Future Generations as the Continuity of Humanity
C.18.28	Connecting Stewardship of the Earth to Religious Principles
C.18.29	Integrating Religious Principles into Organizational Practice
C.18.30	Advocating for Technological Solutions to Environmental Problems
C.18.31	Emphasizing the Importance of Awareness-Raising Alongside Technology
C.18.32	Utilizing Education, Faith, and Law to Promote Awareness
C.18.33	Acknowledging Uncertainty as a Part of Life
C.18.34	Advocating for Ethical Grounding in Sustainability
C.18.35	Emphasizing Data-Driven Decision-Making Under Uncertainty
C.18.36	Recognizing the Importance of Accepting Calculated Risks
C.18.37	Advocating for a Reason-Based Approach ('Aql) in Conjunction with Faith
C.19.1	Describing the CEO Role
C.19.2	Emphasizing the Human Element in Leadership
C.19.3	Promoting Love and Faith in the Workplace
C.19.4	Conceptualizing Charity Work as a Way of Life
C.19.5	Perceiving Charity Work as an Obligation and a Means to Pay Rent for the Afterlife
C.19.6	Working Towards Paradise as the Ultimate Goal
C.19.7	Emphasizing the Importance of Mercy and Compassion
C.19.8	Highlighting the Need for Self-Reflection and Continuous Improvement
C.19.9	Recognizing the Interdependence of Needs
C.19.10	Highlighting the Opportunity for Good Embedded in Charity
C.19.11	Emphasizing the Universality of Islamic Teachings
C.19.12	Positioning Oneself as an Ambassador of Islam
C.19.13	Reflecting on Past Career and a Sense of Vocational Calling
C.19.14	Defining Charity Broadly Beyond Material Aid
C.19.15	Connecting Personal Actions to Divine Reward
C.19.16	Challenging Limited Perceptions of Charity
C.19.17	Differentiating Between Effort and Results in Divine Judgement
C.19.18	Connecting Personal Hardship to Closeness to or Distance from God
C.19.19	Attributing Material Possessions to Divine Favor
C.19.20	Highlighting the Existence of Environmental and Animal Rights Movements
C.19.21	Describing the Holistic Islamic Approach to Animal Slaughter
C.19.22	Connecting Environmental Care to Divine Trust
C.19.23	Critiquing Wastefulness and Imbalance in Consumption
C.19.24	Attributing Morality to Both Innate Disposition and Upbringing
C.19.25	Comparing Societal Values During Christmas and Ramadan
C.19.26	Advocating for a Daily Mindset of Worship and Celebration
C.19.27	Sharing a Story of Serving Non-Muslims in Need
C.19.28	Believing in the Universality of the Human Desire for Good
C.19.29	Seeing Environmental Protection as a Form of 'Rahmah' (Mercy)
C.19.30	Highlighting the Importance of Intention in Environmental Action
C.19.31	Linking Individual Actions to Collective Outcomes
C.19.32	Acknowledging the Complexity of Morality
C.19.33	Recognizing the Role of Faith in Providing Hope and Purpose in Development
C.19.34	Reiterating Humanity's Role as Safeguarders of the Earth
C.19.35	Critiquing the Disparity Between Global Wealth Distribution
C.19.36	Highlighting the Potential for 'Zakat' to Eradicate Poverty

Code #	Code Name
C.19.37	Connecting Economic Development to Moral and Spiritual Concerns
C.19.38	Referencing a Future Time of Abundance as Predicted in Islamic Texts
C.19.39	Emphasizing the Importance of Distribution and Sharing of Wealth
C.19.40	Highlighting the Example of Individuals Redistributing Wealth
C.19.41	Defining Uncertainty as Fear and Linking it to Lack of Control
C.19.42	Contrasting Certainty in Life with Uncertainty in Death
C.19.43	Advising Against Living in Fear of Uncertainty
C.19.44	Emphasizing the Importance of Planning and Adaptability
C.19.45	Encouraging a Positive Outlook on Uncertainty
C.19.46	Using Personal Bereavement Care Experience to Illustrate Acceptance of Death
C.19.47	Reiterating the Importance of Living a Virtuous Life in Preparation for Death
C.19.48	Highlighting the Importance of Both Planning and Trusting in the Divine
C.19.49	Expressing Gratitude for the Interview Opportunity
C.19.50	Referring to the Potential Sharing of the Research Paper
C.19.51	Highlighting the Systemic Nature of Existence
C.19.52	Linking Understanding of Systems to Contemplation and Reflection
C.20.1	Describing Professional Role and Experience
C.20.2	Highlighting the Importance of Ramadan Campaign
C.20.3	Describing the 'One Dinar' Project
C.20.4	Focusing on Holistic Care for Orphans and Widows
C.20.5	Attributing Entry into the Charity Sector to Chance but Choosing to Stay Due to Fulfillment
C.20.6	Deriving Fulfillment from Witnessing Positive Impact
C.20.7	Defining Charity as Giving One's Best
C.20.8	Recognizing the Interconnectedness of Human Needs
C.20.9	Affirming the Moral Obligation to Help Others
C.20.10	Defining Morality as Helping Others and Avoiding Harm
C.20.11	Highlighting the Power of Small Actions in Islam
C.20.12	Perceiving Morality and Faith as Interconnected in Islam
C.20.13	Attributing the Gap Between Faith and Morality to Lack of Understanding
C.20.14	Connecting Increased Visibility of the Gap to Freedom of Speech and Social Media
C.20.15	Prioritizing Human Needs While Recognizing Environmental Responsibility
C.20.16	Defining Environmental Protection as a Moral Duty
C.20.17	Highlighting the Importance of Cleanliness in Islam
C.20.18	Suggesting Universal Moral Principles Based on Shared Humanity
C.20.19	Linking Morality to the Concept of 'Fitrah' (Natural Human Disposition)
C.20.20	Acknowledging the Potential for Both Good and Bad in Humans
C.20.21	Defining 'Khalifah' (Stewardship) as Developing the Earth
C.20.22	Applying the Concept of 'Khalifah' (Stewardship) to Environmental Responsibility
C.20.23	Acknowledging Limited Discussions on Environmental Issues in Religious Sermons
C.20.24	Suggesting Prioritization of Other Issues in Religious Sermons
C.20.25	Advocating for Increased Discussion of Environmental Issues at Home and in Education
C.20.26	Acknowledging the Existence of a Major Environmental Issue but Ranking it Lower in Priority
C.20.27	Identifying Lack of Peace and Oppression as Top Global Issues
C.20.28	Connecting Current Global Issues to a Perceived Deviation from True Islamic Principles
C.20.29	Expressing Embarrassment at Discussing Sustainability While People are Suffering
C.20.30	Defining Sustainability as Planning for Present and Future Needs
C.20.31	Linking Sustainability to the Vision of Bahrain 2030
C.20.32	Defining Future Generations Inclusively
C.20.33	Expressing a Desire for Future Generations to Have a Good Life
C.20.34	Acknowledging Uncertainty About the Future
C.20.35	Attributing Increased Uncertainty to Global Events
C.20.36	Coping with Uncertainty Through Faith
C.21.1	Managing Routine Donations
C.21.2	Overseeing Developmental Donations
C.21.3	Participating in Sharia Committee
C.21.4	Volunteering Since Childhood
C.21.5	Defining Charity as Fulfilling a Need

Code #	Code Name
C.21.6	Attributing Need to Improper Zakat
C.21.7	Citing Historical Precedent
C.21.8	Critiquing Individualism
C.21.9	Prioritizing Morality Over Money
C.21.10	Linking Moral Decline to Societal Problems
C.21.11	Distinguishing Sadaqah and Zakat
C.21.12	Equating Akhlaq with Avoiding Riba
C.21.13	Highlighting the Historical Role of Waqf
C.21.14	Comparing Akhlaq to an Electrical Circuit
C.21.15	Defining Deen as Two Parts
C.21.16	Prioritizing Akhlaq in Worship
C.21.17	Extending Akhlaq to Nature
C.21.18	Linking Akhlaq to Accountability
C.21.19	Acknowledging Limits of Universal Morals
C.21.20	Prioritizing Human Needs in Dua
C.21.21	Rationalizing Limited Environmental Dua
C.21.22	Attributing Human-Centric View to Limited Perspective
C.21.23	Highlighting Emotional Connection to Animals and Land
C.21.24	Defining Sustainability Personally
C.21.25	Prioritizing Private Sustainability
C.21.26	Connecting Present Actions to Future Generations
C.21.27	Advocating for Moral and Financial Sustainability for Descendants
C.21.28	Assessing Current Economic Sustainability
C.21.29	Highlighting Historical Examples of Waqf
C.21.30	Linking Waqf Decline to Moral Failure
C.21.31	Advocating for Independent Waqf Management
C.21.32	Highlighting Modern Forms of Waqf
C.21.33	Citing Western Adoption of Waqf Principles
C.21.34	Expressing Uncertainty About the Future
C.21.35	Advocating for Preparedness and Resilience
C.21.36	Believing in Environmental Crisis
C.21.37	Expressing Enjoyment of the Interview
C.21.38	Offering Further Assistance
C.22.1	Defining Organizational Mission
C.22.2	Describing Organizational Operations
C.22.3	Articulating Personal Role and Responsibilities
C.22.4	Explaining the Rationale for Local NGOs
C.22.5	Recounting Path to Charitable Work
C.22.6	Describing the Impact of Field Experience
C.22.7	Reflecting on the Growth and Evolution of Work
C.22.8	Defining Noble Mission
C.22.9	Connecting Diverse Roles to Noble Mission
C.22.10	Linking Job Performance to a Noble Mission
C.22.11	Relating Morality and Nobility
C.22.12	Defining Morality Post-Gaza
C.22.13	Defining Morality as Respect and Non-Harming
C.22.14	Proposing a Standard for Life
C.22.15	Identifying Common Moral Principles
C.22.16	Affirming Religion's Role in Defining Morals
C.22.17	Differentiating Moral Frameworks
C.22.18	Defining 'Deen' as a Comprehensive System
C.22.19	Clarifying the Nature of Inquiry
C.22.20	Acknowledging the Importance of Action
C.22.21	Distinguishing the Program as Not Religious
C.22.22	Acknowledging Limitations of Personal Observation in the Field
C.22.23	Contextualizing Behavior in Fragile Communities
C.22.24	Acknowledging the Shift from Trend to Reality in Climate Change Perception

Code #	Code Name
C.22.25	Predicting Accelerated Climate Change
C.22.26	Attributing Climate Change to Human Actions
C.22.27	Assigning Responsibility for Climate Change at Multiple Levels
C.22.28	Adapting to Needs in Fragile Contexts
C.22.29	Identifying a Shared Human Responsibility
C.22.30	Condemning Environmental Pollution as Immoral
C.22.31	Personal Activism Against Littering
C.22.32	Heightened Environmental Awareness Due to Parenthood
C.22.33	Observing Regional Water Scarcity
C.22.34	Criticizing Reactive Approach to Intervention
C.22.35	Appreciating Community Response in Turkey
C.22.36	Contrasting Environmental Practices in Different Countries
C.22.37	Recalling a Personal Anecdote about Environmental Education
C.22.38	Acknowledging the Influence of Socioeconomic Status on Environmental Awareness
C.22.39	Emphasizing the Importance of Environmental Stewardship
C.22.40	Linking Lack of Environmental Awareness to Socioeconomic Factors
C.22.41	Identifying Multiple Factors Influencing Behavior
C.22.42	Agreeing with the UN Definition of Sustainability
C.22.43	Acknowledging Difficulty of Implementing Sustainability
C.22.44	Prioritizing Children's Future
C.22.45	Recognizing Interconnectedness and Mutual Benefit
C.22.46	Expressing Skepticism about Slowing Down Economic Development
C.22.47	Advocating for Ethical Alignment in Economic Development
C.22.48	Acknowledging Limitations of Human Nature
C.22.49	Emphasizing the Role of Advocacy and Civil Society
C.22.50	Expressing Pessimism about Current Practices
C.22.51	Reaffirming Commitment to Action Despite Reality
C.22.52	Affirming the Practical Use of Islamic Finance Principles
C.22.53	Acknowledging Uncertainty is Increasing
C.22.54	Coping with Uncertainty on a Personal Level
C.22.55	Coping with Uncertainty on an Organizational Level
C.22.56	Linking Uncertainty to Increased Immorality
C.22.57	Expressing Personal Efforts to Maintain Morality
C.22.58	Acknowledging the Influence of Circumstances on Morality
C.23.1	Viewing Charity as a Profession
C.23.2	Differentiating Charity Terminology
C.23.3	Describing Resource Mobilization and Allocation
C.23.4	Identifying Historical Roots of Charitable Work
C.23.5	Highlighting the Scope of Zakat
C.23.6	Describing Historical Educational Initiatives
C.23.7	Critiquing the Shift from Community to State Provision
C.23.8	Emphasizing the Need for Community Mobilization
C.23.9	Linking Religion to Culture
C.23.10	Acknowledging Faith-Based Organizations
C.23.11	Advocating for Neutrality in Service Delivery
C.23.12	Citing Quranic Verse to Support Neutrality
C.23.13	Recognizing the Right of Faith-Based Organizations to Serve Their Communities
C.23.14	Defining Morality as Multi-Layered in Charitable Business
C.23.15	Describing Motivations of Donors
C.23.16	Emphasizing the Importance of Organizational Ethics
C.23.17	Highlighting Ethical Violations in the Field
C.23.18	Advocating for Accountability and Transparency
C.23.19	Promoting Positive Reinforcement and Ethical Role Models
C.23.20	Advocating for a Code of Conduct and its Limitations
C.23.21	Integrating Ethics into Organizational Systems
C.23.22	Distinguishing Between Volunteer and Professional Work
C.23.23	Mixing Professionalism with 'Akhlaq' in Charitable Work

Code #	Code Name
C.23.24	Highlighting the Importance of Prioritization in Aid
C.23.25	Recounting Past Ethical Failures in the Sector
C.23.26	Defining the Ideal Aid Worker: Strong and Honest
C.23.27	Linking Sustainability to Ethics in Project Management
C.23.28	Emphasizing the Importance of Community Education on Water Use
C.23.29	Advocating for Community-Based Management of Resources
C.23.30	Highlighting the Need for Transparency in Resource Management
C.23.31	Institutionalizing Ethics for Better Service Delivery
C.23.32	Connecting Faith to Environmental Stewardship
C.23.33	Suggesting Individual Responsibility for Environmental Action
C.23.34	Identifying a Shortcoming in Muslim Environmental Action
C.23.35	Recognizing the Limits of Individual Action on Climate Change
C.23.36	Calling for Collective Action and Advocacy
C.23.37	Acknowledging Personal Shortcomings in Environmental Action
C.23.38	Advocating for Education and Awareness Raising
C.23.39	Defining Uncertainty in the Modern Context
C.23.40	Expressing Increased Uncertainty about the Future
C.23.41	Coping with Uncertainty Through Personal Development
C.23.42	Adapting Organizational Strategy to Uncertainty
C.23.43	Recognizing the Need for Early Warning Systems
C.23.44	Highlighting Information Gaps and the Need for Awareness
C.23.45	Advocating for Seriousness in Dealing with Climate Information
C.23.46	Observing Adaptation to Climate Change in the Desert
C.23.47	Suggesting Community-Level Adaptation Strategies
C.23.48	Recognizing the Need for a Multifaceted Approach
C.23.49	Describing Uncertainty as a Key Challenge
C.23.50	Acknowledging the Limitations of NGOs in Addressing Uncertainty
C.23.51	Emphasizing the Importance of Solidarity and Information Sharing
C.23.52	Highlighting the Need for Increased Information Dissemination
C.23.53	Advocating for Adaptation in Infrastructure and Agriculture
C.23.54	Highlighting the Impact of Climate Change on Livelihoods
C.23.55	Calling for Evidence-Based Information Gathering
C.23.56	Recognizing the Need for Continuous Learning

LLM-Generated Focused Codes (Religious)

Category Lvl #1	Category Lvl #2	Category Lvl #3	Category Lvl #4	Supporting Codes	C.
CAT.R.1 Embracing Tawakkul (Trust in God)	CAT.R.1-1 Acknowledging Divine Will in Uncertainty	CAT.R.1-1-1 Accepting Qadar (Divine Decree)	CAT.R.1-1-1-1 Expressing Resignation to God's Will	C.3.55, C.11.42, C.20.36	3
CAT.R.1 Embracing Tawakkul (Trust in God)	CAT.R.1-1 Acknowledging Divine Will in Uncertainty	CAT.R.1-1-1 Accepting Qadar (Divine Decree)	CAT.R.1-1-1-2 Accepting Hardship as a Test (Ibtilla')	C.8.32, C.19.18	2
CAT.R.1 Embracing Tawakkul (Trust in God)	CAT.R.1-1 Acknowledging Divine Will in Uncertainty	CAT.R.1-1-2 Recognizing Human Limitations	CAT.R.1-1-2-1 Acknowledging Limits of Human Control	C.9.45, C.18.33, C.23.33, C.23.39	3
CAT.R.1 Embracing Tawakkul (Trust in God)	CAT.R.1-2 Practicing Dua (Supplication) under Uncertainty	CAT.R.1-2-1 Seeking Divine Guidance & Help	CAT.R.1-2-1-1 Praying for General Well-being	C.3.29, C.7.23, C.17.18, C.2.35, C.2.36	4
CAT.R.1 Embracing Tawakkul (Trust in God)	CAT.R.1-2 Practicing Dua (Supplication) under Uncertainty	CAT.R.1-2-2 Expressing Gratitude Amidst Challenges	CAT.R.1-2-2-1 Acknowledging Blessings Even with Difficulties	C.1.40, C.17.27	1
CAT.R.1 Embracing Tawakkul (Trust in God)	CAT.R.1-3 Finding Meaning and Purpose	CAT.R.1-3-1 Reflecting on Life's Purpose	CAT.R.1-3-1-1 Mentioning Preparation for the Afterlife	C.6.9, C.13.30, C.19.4, C.19.6, C.19.47	2
CAT.R.1 Embracing Tawakkul (Trust in God)	CAT.R.1-4 Finding Strength and Guidance in Faith	CAT.R.1-4-1 Relying on Faith in Difficult Times	CAT.R.1-4-1-1 Using Faith as a Coping Mechanism for Uncertainty	C.10.45, C.11.45, C.12.59, C.13.39, C.19.45, C.20.36, C.23.35	7
CAT.R.2 Striving for Ihsan (Excellence in Action)	CAT.R.2-1 Promoting Islah (Reform and Improvement)	CAT.R.2-1-1 Pursuing Personal Growth and Development	CAT.R.2-1-1-1 Focusing on Continuous Self-Improvement	C.11.42, C.13.32, C.22.54	2
CAT.R.2 Striving for Ihsan (Excellence in Action)	CAT.R.2-1 Promoting Islah (Reform and Improvement)	CAT.R.2-1-2 Adapting Strategies and Practices	CAT.R.2-1-2-1 Modifying Organizational Plans in Response to Change	C.3.1, C.3.32, C.3.33, C.3.34, C.10.36, C.13.40, C.16.12, C.17.24, C.22.2, C.22.47, C.22.55, C.23.5, C.23.47	6
CAT.R.2 Striving for Ihsan (Excellence in Action)	CAT.R.2-1 Promoting Islah (Reform and Improvement)	CAT.R.2-1-3 Seeking Beneficial Knowledge	CAT.R.2-1-3-1 Highlighting the Role of Data and Information	C.18.35, C.23.55	2
CAT.R.2 Striving for Ihsan (Excellence in Action)	CAT.R.2-2 Manifesting Faith through Action	CAT.R.2-2-1 Serving and Helping Others	CAT.R.2-2-1-1 Defining Charitable Work in Islamic Terms	C.1.1, C.19.4, C.19.15, C.23.4, C.21.5	4
CAT.R.2 Striving for Ihsan (Excellence in Action)	CAT.R.2-2 Manifesting Faith through Action	CAT.R.2-2-2 Living Islam as a Way of Life	CAT.R.2-2-2-1 Integrating Faith into All Aspects of Life	C.1.10, C.1.11, C.1.20, C.2.26, C.2.27, C.2.28, C.2.29, C.2.30	2
CAT.R.3 Upholding Akhlaq (Moral Conduct)	CAT.R.3-1 Defining and Practicing Akhlaq	CAT.R.3-1-1 Articulating Islamic Moral Principles	CAT.R.3-1-1-1 Referencing Quran and Sunnah for Moral Guidance	C.2.32, C.4.18, C.6.9, C.6.10, C.8.14, C.9.11, C.9.12, C.9.13, C.9.19, C.10.16, C.11.21, C.12.26, C.12.27, C.13.16, C.13.17, C.16.9, C.16.10, C.17.4, C.17.5, C.18.13, C.19.11, C.19.16, C.19.38, C.20.10, C.20.12, C.20.13, C.21.10, C.22.13, C.22.16, C.23.13	15
CAT.R.3 Upholding Akhlaq (Moral Conduct)	CAT.R.3-1 Defining and Practicing Akhlaq	CAT.R.3-1-2 Emphasizing Key Moral Virtues	CAT.R.3-1-2-1 Prioritizing Honesty and Trustworthiness (Amanah)	C.8.11, C.18.15, C.19.1, C.19.15, C.20.15, C.21.14, C.22.3, C.22.18, C.23.3, C.23.16, C.23.18, C.23.20, C.23.30	7

Category Lvl #1	Category Lvl #2	Category Lvl #3	Category Lvl #4	Supporting Codes	C.
CAT.R.3 Upholding Akhlaq (Moral Conduct)	CAT.R.3-1 Defining and Practicing Akhlaq	CAT.R.3-1-2 Emphasizing Key Moral Virtues	CAT.R.3-1-2-2 Expressing Compassion and Mercy (Rahmah)	C.4.20, C.6.11, C.8.2, C.8.3, C.8.15, C.8.20, C.11.7, C.12.6, C.12.52, C.12.53, C.13.4, C.13.14, C.16.2, C.17.3, C.18.2, C.18.3, C.19.7, C.19.10, C.19.14, C.19.20, C.19.27, C.19.29, C.20.6, C.20.7, C.20.9, C.22.11, C.23.8	12
CAT.R.3 Upholding Akhlaq (Moral Conduct)	CAT.R.3-1 Defining and Practicing Akhlaq	CAT.R.3-1-2 Emphasizing Key Moral Virtues	CAT.R.3-1-2-3 Promoting Justice and Fairness (Adl)	C.2.30, C.3.4, C.9.16, C.9.18, C.9.20, C.10.14, C.12.43, C.13.8, C.13.15, C.16.16, C.18.9, C.18.34, C.20.27, C.21.6, C.22.9, C.22.12, C.22.47, C.23.17	11
CAT.R.3 Upholding Akhlaq (Moral Conduct)	CAT.R.3-2 Applying Akhlaq to Social Interactions	CAT.R.3-2-1 Enjoining Good and Forbidding Wrong	CAT.R.3-2-1-1 Criticizing Harmful Practices	C.1.15, C.4.5, C.4.10, C.5.19, C.6.5, C.8.9, C.9.6, C.9.9, C.9.18, C.10.15, C.10.23, C.11.38, C.12.15, C.12.39, C.13.9, C.13.50, C.16.7, C.17.2, C.18.19, C.18.23, C.18.36, C.19.23, C.19.35, C.21.8, C.22.15, C.22.26, C.22.30, C.22.34, C.22.35, C.22.40, C.22.46, C.22.48, C.23.9	16
CAT.R.3 Upholding Akhlaq (Moral Conduct)	CAT.R.3-2 Applying Akhlaq to Social Interactions	CAT.R.3-2-1 Enjoining Good and Forbidding Wrong	CAT.R.3-2-1-2 Speaking Out Against Injustice	C.10.18, C.10.31, C.18.12, C.19.18, C.20.14, C.22.37, C.23.14	6
CAT.R.3 Upholding Akhlaq (Moral Conduct)	CAT.R.3-2 Applying Akhlaq to Social Interactions	CAT.R.3-2-2 Respecting All of Humanity	CAT.R.3-2-2-1 Serving All, Regardless of Faith	C.1.36, C.3.54, C.4.11, C.4.14, C.6.11, C.6.13, C.8.3, C.8.11, C.9.22, C.9.30, C.13.11, C.16.20, C.19.27, C.21.5, C.22.7, C.23.11, C.23.12	11
CAT.R.3 Upholding Akhlaq (Moral Conduct)	CAT.R.3-2 Applying Akhlaq to Social Interactions	CAT.R.3-2-3 Prioritizing Human Well-being	CAT.R.3-2-3-1 Focusing on Immediate Human Needs	C.4.9, C.5.7, C.5.8, C.6.8, C.7.8, C.11.5, C.12.7, C.13.5, C.13.11, C.16.3, C.16.4, C.16.21, C.18.7, C.18.20, C.19.9, C.19.37, C.20.26, C.21.4, C.21.5, C.21.6, C.21.9, C.22.5, C.22.6, C.23.5, C.23.6, C.23.7, C.23.8, C.23.26	14
CAT.R.3 Upholding Akhlaq (Moral Conduct)	CAT.R.3-2 Applying Akhlaq to Social Interactions	CAT.R.3-2-4 Emphasizing Ibadah (Worship) in Daily Life	CAT.R.3-2-4-1 Integrating Faith into Everyday Actions	C.7.11, C.19.26, C.21.9	3
CAT.R.3 Upholding Akhlaq (Moral Conduct)	CAT.R.3-2 Applying Akhlaq to Social Interactions	CAT.R.3-2-5 Fulfilling Professional Responsibilities	CAT.R.3-2-5-1 Emphasizing Transparency and Accountability	C.13.1, C.16.1, C.18.1, C.19.1, C.21.1, C.22.1, C.23.1, C.23.3, C.23.16, C.23.18, C.23.21	6
CAT.R.3 Upholding Akhlaq (Moral Conduct)	CAT.R.3-3 Reflecting on Akhlaq	CAT.R.3-3-1 Acknowledging Moral Complexity	CAT.R.3-3-1-1 Recognizing Cultural Variations in Moral Norms	C.4.14, C.4.19, C.5.12, C.5.30, C.6.23, C.10.24, C.11.30, C.16.8, C.22.48, C.23.15	8
CAT.R.4 Recognizing Khalifah (Stewardship)	CAT.R.4-1 Understanding Human Responsibility	CAT.R.4-1-1 Defining Khalifah in an Islamic Context	CAT.R.4-1-1-1 Interpreting Khalifah as Care for Creation	C.1.5, C.1.9, C.1.13, C.3.9, C.3.21, C.4.17, C.9.17, C.10.21, C.12.25, C.13.20, C.16.12, C.17.3, C.18.8, C.18.28, C.19.22, C.20.21, C.20.22, C.22.26, C.23.27	14
CAT.R.4 Recognizing Khalifah (Stewardship)	CAT.R.4-1 Understanding Human Responsibility	CAT.R.4-1-1 Defining Khalifah in an Islamic Context	CAT.R.4-1-1-2 Extending Khalifah Beyond Earthly Stewardship	C.1.14, C.3.21, C.4.17	3

Category Lvl #1	Category Lvl #2	Category Lvl #3	Category Lvl #4	Supporting Codes	C.
CAT.R.4 Recognizing Khalifah (Stewardship)	CAT.R.4-1 Understanding Human Responsibility	CAT.R.4-1-2 Recognizing Intergenerational Equity	CAT.R.4-1-2-1 Emphasizing the Needs of Future Generations	C.3.5, C.3.7, C.4.8, C.8.23, C.8.24, C.9.25, C.9.29, C.9.30, C.10.37, C.10.49, C.11.33, C.12.56, C.13.18, C.13.19, C.16.18, C.16.19, C.17.13, C.17.22, C.18.22, C.19.33, C.20.30, C.20.32, C.20.33, C.22.42, C.23.27	13
CAT.R.4 Recognizing Khalifah (Stewardship)	CAT.R.4-2 Practicing Environmental Stewardship	CAT.R.4-2-1 Advocating for Environmental Protection	CAT.R.4-2-1-1 Condemning Environmental Harm	C.1.6, C.1.14, C.1.15, C.4.15, C.4.26, C.8.13, C.9.7, C.10.11, C.11.1, C.11.14, C.11.20, C.12.20, C.12.23, C.13.12, C.13.13, C.16.7, C.17.21, C.18.5, C.18.6, C.18.7, C.18.10, C.19.8, C.20.16, C.20.17, C.21.17, C.22.15, C.22.30, C.22.34, C.22.35, C.22.40, C.22.46, C.22.48, C.23.9	14
CAT.R.4 Recognizing Khalifah (Stewardship)	CAT.R.4-2 Practicing Environmental Stewardship	CAT.R.4-2-2 Integrating Environmental Considerations	CAT.R.4-2-2-1 Incorporating Environmental Factors in Projects	C.3.8, C.4.1, C.4.3, C.12.2, C.16.5, C.18.35, C.22.43, C.23.28, C.23.43	6
CAT.R.4 Recognizing Khalifah (Stewardship)	CAT.R.4-2 Practicing Environmental Stewardship	CAT.R.4-2-3 Promoting Sustainable Practices	CAT.R.4-2-3-1 Encouraging Responsible Consumption	C.1.7, C.1.8, C.3.37, C.5.3, C.5.4, C.5.6, C.7.1, C.7.14, C.7.15, C.8.7, C.8.20, C.10.11, C.11.26, C.11.39, C.12.36, C.13.31, C.16.19, C.17.11, C.18.6, C.21.36	11
CAT.R.4 Recognizing Khalifah (Stewardship)	CAT.R.4-2 Practicing Environmental Stewardship	CAT.R.4-2-3 Promoting Sustainable Practices	CAT.R.4-2-3-2 Highlighting the Importance of Waqf (Endowment)	C.2.5, C.2.6, C.2.7, C.2.8, C.12.29, C.17.12, C.18.24, C.18.25, C.21.13, C.21.29, C.21.32, C.21.33, C.22.7, C.23.4, C.23.24, C.23.29, C.23.31, C.23.32	4
CAT.R.4 Recognizing Khalifah (Stewardship)	CAT.R.4-2 Practicing Environmental Stewardship	CAT.R.4-2-6 Personal Reflections on Environment	CAT.R.4-2-6-1 Noticing and Reacting to Environmental Changes	C.1.21, C.4.27, C.5.4, C.11.8, C.11.10, C.12.17, C.12.18, C.12.19, C.13.9, C.18.5, C.20.17, C.22.24, C.22.33, C.22.36, C.22.46, C.23.46	8
CAT.R.4 Recognizing Khalifah (Stewardship)	CAT.R.4-2 Practicing Environmental Stewardship	CAT.R.4-2-6 Personal Reflections on Environment	CAT.R.4-2-6-2 Expressing Personal Connection to Nature	C.7.9, C.11.16, C.11.20, C.13.25	3
CAT.R.4 Recognizing Khalifah (Stewardship)	CAT.R.4-2 Practicing Environmental Stewardship	CAT.R.4-2-6 Personal Reflections on Environment	CAT.R.4-2-6-3 Expressing Concern for Environmental Degradation	C.1.39, C.9.47, C.10.34, C.10.42, C.10.48, C.11.34, C.19.51, C.23.45	5
CAT.R.4 Recognizing Khalifah (Stewardship)	CAT.R.4-2 Practicing Environmental Stewardship	CAT.R.4-2-3 Promoting Sustainable Practices	CAT.R.4-2-3-3 Advocating for Renewable Energy and Technologies	C.2.18, C.3.44, C.3.45, C.4.2, C.12.61, C.12.62, C.16.22, C.18.30, C.22.44, C.23.22	6
CAT.R.4 Recognizing Khalifah (Stewardship)	CAT.R.4-2 Practicing Environmental Stewardship	CAT.R.4-2-4 Critiquing Unsustainable Practices	CAT.R.4-2-4-1 Criticizing Environmental Degradation	C.3.3, C.4.4, C.4.6, C.5.4, C.5.7, C.9.42, C.9.43, C.10.9, C.10.10, C.11.8, C.11.9, C.11.10, C.13.10, C.16.6, C.17.16, C.17.23, C.18.5, C.19.8, C.20.17, C.22.15, C.22.24, C.23.6, C.23.9	14
CAT.R.4 Recognizing Khalifah (Stewardship)	CAT.R.4-2 Practicing Environmental Stewardship	CAT.R.4-2-4 Critiquing Unsustainable Practices	CAT.R.4-2-4-2 Highlighting Impacts of War and Conflict	C.18.10, C.19.49, C.20.26	3

Category Lvl #1	Category Lvl #2	Category Lvl #3	Category Lvl #4	Supporting Codes	C.
CAT.R.4 Recognizing Khalifah (Stewardship)	CAT.R.4-2 Practicing Environmental Stewardship	CAT.R.4-2-5 Connecting Environmental Issues to Faith	CAT.R.4-2-5-1 Explicitly Linking Environmental Care to Islam	C.1.4, C.3.22, C.3.23, C.7.10, C.8.17, C.9.14, C.9.4, C.9.50, C.10.14, C.11.13, C.11.22, C.12.32, C.13.12, C.16.12, C.17.7, C.17.24, C.18.18, C.19.29, C.19.34, C.20.16, C.22.30	14
CAT.R.4 Recognizing Khalifah (Stewardship)	CAT.R.4-3 Addressing Specific Environmental Issues	CAT.R.4-3-3 Discussing Specific Resources	CAT.R.4-3-3-1 Emphasizing Water Conservation	C.1.4, C.7.1, C.13.31, C.17.28, C.20.17	4
CAT.R.4 Recognizing Khalifah (Stewardship)	CAT.R.4-3 Addressing Specific Environmental Issues	CAT.R.4-3-4 Discussing Development and Progress	CAT.R.4-3-4-1 Critiquing Unsustainable Development Models	C.2.9, C.2.20, C.2.21, C.3.11, C.3.41, C.4.7, C.10.41, C.12.34, C.23.44	6
CAT.R.4 Recognizing Khalifah (Stewardship)	CAT.R.4-3 Addressing Specific Environmental Issues	CAT.R.4-3-4 Discussing Development and Progress	CAT.R.4-3-4-2 Calling for Sustainable Alternatives	C.16.22, C.18.30, C.23.47	3
CAT.R.4 Recognizing Khalifah (Stewardship)	CAT.R.4-3 Addressing Specific Environmental Issues	CAT.R.4-3-5 Discussing Specific Regions/Countries	CAT.R.4-3-5-1 Mentioning Environmental Issues in Specific Locations	C.1.33, C.1.34, C.2.20, C.3.45, C.4.6, C.5.11, C.6.2, C.6.4, C.8.24, C.9.18, C.10.31, C.10.45, C.12.54, C.16.5, C.18.9, C.22.33, C.22.36	12
CAT.R.5 Promoting Adl (Justice)	CAT.R.5-1 Addressing Systemic Issues	CAT.R.5-1-1 Critiquing Unjust Systems	CAT.R.5-1-1-1 Identifying Injustice and Oppression as Root Causes	C.2.41, C.3.49, C.3.51, C.3.52, C.10.26, C.11.47, C.12.10, C.12.16, C.19.51, C.21.34, C.22.27	7
CAT.R.5 Promoting Adl (Justice)	CAT.R.5-1 Addressing Systemic Issues	CAT.R.5-1-1 Critiquing Unjust Systems	CAT.R.5-1-1-2 Attributing Crises to Systemic Failures	C.2.21, C.3.3, C.11.11, C.18.6, C.19.5, C.20.5, C.20.28	5
CAT.R.5 Promoting Adl (Justice)	CAT.R.5-1 Addressing Systemic Issues	CAT.R.5-1-2 Critiquing Specific Systems/Ideologies	CAT.R.5-1-2-1 Challenging Capitalism's Negative Impacts	C.10.13, C.10.15	1
CAT.R.5 Promoting Adl (Justice)	CAT.R.5-2 Recognizing Social and Economic Justice	CAT.R.5-2-4 Promoting Ethical Business Practices	CAT.R.5-2-4-1 Linking Business Practices to Ethical Principles	C.21.9, C.21.12, C.23.22	1
CAT.R.5 Promoting Adl (Justice)	CAT.R.5-2 Recognizing Social and Economic Justice	CAT.R.5-2-4 Promoting Ethical Business Practices	CAT.R.5-2-4-2 Condemning Unethical Business Practices	C.2.25, C.21.3, C.21.16	2
CAT.R.5 Promoting Adl (Justice)	CAT.R.5-2 Recognizing Social and Economic Justice	CAT.R.5-2-5 Supporting Fair Labor Practices	CAT.R.5-2-5-1 Emphasizing Fair Wages and Working Conditions	C.10.12	1
CAT.R.6 Working towards Ta'awun (Cooperation)	CAT.R.6-1 Engaging in Da'wah (Outreach)	CAT.R.6-1-1 Communicating Islamic Values	CAT.R.6-1-1-1 Sharing Religious Insights with Others	C.12.28, C.12.32, C.12.46, C.12.47, C.12.48, C.12.50, C.12.64, C.12.65, C.12.67, C.13.38, C.16.14, C.17.9, C.17.25, C.18.31, C.19.12, C.19.40, C.21.23, C.23.32, C.23.48	7
CAT.R.6 Working towards Ta'awun (Cooperation)	CAT.R.6-1 Engaging in Da'wah (Outreach)	CAT.R.6-1-2 Promoting Interfaith Collaboration	CAT.R.6-1-2-1 Supporting Interfaith Environmental Initiatives	C.3.30, C.4.30, C.5.15, C.6.24	4

Category Lvl #1	Category Lvl #2	Category Lvl #3	Category Lvl #4	Supporting Codes	C.
CAT.R.6 Working towards Ta'awun (Cooperation)	CAT.R.6-1 Engaging in Da'wah (Outreach)	CAT.R.6-1-3 Advocating for Da'wah and Education	CAT.R.6-1-3-1 Calling for More Religious Discourse on Environment	C.1.22, C.1.29, C.3.27, C.3.32, C.4.25, C.4.28, C.5.20, C.7.2, C.7.28, C.8.18, C.8.19, C.10.33, C.11.25, C.11.32, C.12.28, C.12.38, C.12.46, C.12.47, C.12.48, C.12.50, C.13.38, C.16.14, C.17.9, C.17.25, C.18.31, C.18.32, C.22.38, C.22.45, C.22.52, C.23.38, C.23.48	14
CAT.R.6 Working towards Ta'awun (Cooperation)	CAT.R.6-1 Engaging in Da'wah (Outreach)	CAT.R.6-1-3 Advocating for Da'wah and Education	CAT.R.6-1-3-2 Encouraging Personal Reflection and Action	C.13.22, C.13.26, C.19.44, C.20.3, C.23.48	4
CAT.R.6 Working towards Ta'awun (Cooperation)	CAT.R.6-1 Engaging in Da'wah (Outreach)	CAT.R.6-1-3 Advocating for Da'wah and Education	CAT.R.6-1-3-3 Emphasizing the Role of Religious Leaders	C.4.28, C.5.28, C.11.26, C.12.65	3
CAT.R.6 Working towards Ta'awun (Cooperation)	CAT.R.6-1 Engaging in Da'wah (Outreach)	CAT.R.6-1-3 Advocating for Da'wah and Education	CAT.R.6-1-3-4 Promoting Islamic Values in Secular Contexts	C.10.2	1
CAT.R.6 Working towards Ta'awun (Cooperation)	CAT.R.6-1 Engaging in Da'wah (Outreach)	CAT.R.6-1-3 Advocating for Da'wah and Education	CAT.R.6-1-3-5 Calling for Action based on Religious Teachings	C.2.37, C.4.24, C.19.40	3
CAT.R.6 Working towards Ta'awun (Cooperation)	CAT.R.6-2 Building Community Resilience	CAT.R.6-2-1 Emphasizing Collective Action	CAT.R.6-2-1-1 Highlighting Importance of Group Solidarity	C.1.8, C.1.27, C.4.22, C.5.25, C.6.3, C.6.19, C.8.8, C.8.27, C.8.28, C.9.2, C.9.8, C.10.30, C.11.17, C.11.37, C.13.6, C.17.6, C.19.9, C.22.21, C.22.29, C.22.35, C.22.51, C.23.8, C.23.26	11
CAT.R.6 Working towards Ta'awun (Cooperation)	CAT.R.6-2 Building Community Resilience	CAT.R.6-2-2 Strengthening Social Cohesion	CAT.R.6-2-2-1 Promoting Community Involvement and Participation	C.4.1, C.4.31, C.8.27, C.9.2, C.12.30, C.12.36, C.13.6, C.18.35, C.18.31, C.22.45, C.23.8, C.23.35	6
CAT.R.6 Working towards Ta'awun (Cooperation)	CAT.R.6-2 Building Community Resilience	CAT.R.6-2-3 Supporting Local Economies	CAT.R.6-2-3-1 Empowering Local Communities Through Microfinance	C.12.1, C.12.2, C.22.1	1
CAT.R.6 Working towards Ta'awun (Cooperation)	CAT.R.6-2 Building Community Resilience	CAT.R.6-2-4 Improving Governance and Accountability	CAT.R.6-2-4-1 Advocating for Good Governance	C.1.6, C.10.5, C.10.8, C.13.5, C.16.17, C.18.8, C.21.31, C.22.10, C.23.7	4
CAT.R.6 Working towards Ta'awun (Cooperation)	CAT.R.6-3 Building Capacity and Sharing Knowledge	CAT.R.6-3-1 Providing Education and Training	CAT.R.6-3-1-1 Promoting Awareness through Education	C.1.22, C.1.29, C.3.27, C.3.32, C.3.38, C.4.25, C.5.20, C.7.2, C.7.28, C.11.25, C.11.32, C.12.38, C.12.50, C.16.13, C.18.32, C.18.31, C.22.38, C.22.45, C.22.52, C.23.38	10
CAT.R.6 Working towards Ta'awun (Cooperation)	CAT.R.6-3 Building Capacity and Sharing Knowledge	CAT.R.6-3-1 Providing Education and Training	CAT.R.6-3-1-2 Tailoring Education to the Needs of the Community	C.6.14, C.6.15, C.23.28	2
CAT.R.6 Working towards Ta'awun (Cooperation)	CAT.R.6-4 Addressing Challenges to Cooperation	CAT.R.6-4-1 Identifying Obstacles to Collective Action	CAT.R.6-4-1-1 Pointing out Gaps Between Awareness and Action	C.4.29, C.11.23, C.11.29, C.12.34, C.12.35, C.12.38, C.12.68, C.22.20, C.23.34, C.23.37, C.23.44	5
CAT.R.6 Working towards Ta'awun (Cooperation)	CAT.R.6-4 Addressing Challenges to Cooperation	CAT.R.6-4-1 Identifying Obstacles to Collective Action	CAT.R.6-4-1-2 Citing Political and Social Barriers	C.2.41, C.6.4, C.6.6, C.8.31, C.9.31, C.10.22, C.10.29, C.10.30, C.10.43, C.10.44, C.11.6, C.12.46, C.13.6, C.16.17, C.22.27, C.23.17	7

Category Lvl #1	Category Lvl #2	Category Lvl #3	Category Lvl #4	Supporting Codes	C.
CAT.R.6 Working towards Ta'awun (Cooperation)	CAT.R.6-5 Supporting Organizational and Governmental Efforts	CAT.R.6-5-1 Describing Organizational Activities	CAT.R.6-5-1-1 Detailing Specific Programs and Initiatives	C.1.1, C.1.2, C.1.4, C.2.10, C.2.11, C.2.15, C.2.16, C.2.22, C.3.46, C.4.35, C.6.1, C.6.2, C.6.3, C.6.4, C.7.2, C.7.3, C.7.4, C.7.5, C.7.9, C.7.13, C.7.27, C.10.1, C.10.2, C.10.3, C.11.1, C.11.3, C.12.1, C.12.2, C.13.1, C.13.37, C.16.5, C.19.31, C.20.1, C.20.2, C.20.3, C.20.31, C.21.2, C.21.24, C.22.1, C.22.4, C.23.1, C.23.20	15
CAT.R.6 Working towards Ta'awun (Cooperation)	CAT.R.6-5 Supporting Organizational and Governmental Efforts	CAT.R.6-5-2 Describing Governmental Roles and Policies	CAT.R.6-5-2-1 Mentioning Government Initiatives and Regulations	C.1.30, C.1.33, C.1.34, C.3.43, C.4.7, C.6.20, C.7.30, C.9.35, C.10.4, C.17.1, C.17.9, C.18.8, C.21.31	9
CAT.R.7 Living in Mizan (Balance)	CAT.R.7-1 Avoiding Israf (Wastefulness)	CAT.R.7-1-1 Condemning Excessive Consumption	CAT.R.7-1-1-1 Criticizing Overconsumption and Materialism	C.3.2, C.3.4, C.3.37, C.4.9, C.5.6, C.6.5, C.8.9, C.9.5, C.9.10, C.10.13, C.11.38, C.12.42, C.16.19, C.17.6, C.18.6, C.19.23, C.21.35, C.22.26, C.23.6	16
CAT.R.7 Living in Mizan (Balance)	CAT.R.7-1 Avoiding Israf (Wastefulness)	CAT.R.7-1-1 Condemning Excessive Consumption	CAT.R.7-1-1-2 Linking Israf to Broader Social Problems	C.10.35, C.12.27	2
CAT.R.7 Living in Mizan (Balance)	CAT.R.7-2 Promoting Moderation (Wasatiyyah)	CAT.R.7-2-1 Advocating Balance in Resource Utilization	CAT.R.7-2-1-1 Balancing Present and Future Needs	C.3.6, C.4.2, C.4.16, C.5.21, C.8.8, C.9.21, C.10.38, C.11.16, C.12.3, C.12.41, C.12.63, C.13.24, C.17.13, C.18.21, C.18.30, C.19.34, C.20.34, C.22.44, C.23.22, C.23.44	10
CAT.R.7 Living in Mizan (Balance)	CAT.R.7-3 Seeking Holistic Solutions	CAT.R.7-3-1 Integrating Multiple Perspectives	CAT.R.7-3-1-1 Considering Social, Economic, and Environmental Factors	C.3.26, C.9.27, C.10.40, C.12.3, C.13.34, C.16.3, C.23.48	6
CAT.R.7 Living in Mizan (Balance)	CAT.R.7-3 Seeking Holistic Solutions	CAT.R.7-3-1 Integrating Multiple Perspectives	CAT.R.7-3-1-2 Synthesizing Islamic and Secular Knowledge	C.10.39, C.12.5, C.12.32, C.12.37, C.18.37	3
CAT.R.8 Experiencing Ghayr-Akhlaqi (Immoral Conduct)	CAT.R.8-1 Recognizing and Addressing Immoral Conduct	CAT.R.8-1-1 Acknowledging Gap Between Ideals and Reality	CAT.R.8-1-1-1 Observing Inconsistencies in Muslim Conduct	C.4.33, C.5.30, C.8.30, C.10.24, C.10.31, C.11.45, C.12.22, C.12.34, C.12.48, C.12.51, C.13.22, C.13.23, C.16.13, C.19.48, C.20.13, C.20.14, C.22.20, C.23.30	7
CAT.R.8 Experiencing Ghayr-Akhlaqi (Immoral Conduct)	CAT.R.8-1 Recognizing and Addressing Immoral Conduct	CAT.R.8-1-1 Acknowledging Gap Between Ideals and Reality	CAT.R.8-1-1-2 Observing Moral Shortcomings in Self	C.7.23, C.8.5, C.8.12, C.8.33, C.11.27, C.11.40, C.16.27, C.22.57	4
CAT.R.8 Experiencing Ghayr-Akhlaqi (Immoral Conduct)	CAT.R.8-1 Recognizing and Addressing Immoral Conduct	CAT.R.8-1-1 Acknowledging Gap Between Ideals and Reality	CAT.R.8-1-1-3 Observing Societal Hypocrisy or Contradictions	C.9.49, C.12.57	2
CAT.R.8 Experiencing Ghayr-Akhlaqi (Immoral Conduct)	CAT.R.8-1 Recognizing and Addressing Immoral Conduct	CAT.R.8-1-2 Identifying Impediments to Moral Behavior	CAT.R.8-1-2-1 Citing External Factors Influencing Conduct	C.11.28, C.12.22, C.12.37, C.19.24	2
CAT.R.8 Experiencing Ghayr-Akhlaqi (Immoral Conduct)	CAT.R.8-1 Recognizing and Addressing Immoral Conduct	CAT.R.8-1-2 Identifying Impediments to Moral Behavior	CAT.R.8-1-2-2 Citing Internal Factors Influencing Conduct	C.3.17, C.7.22, C.13.22, C.13.23	2

Category Lvl #1	Category Lvl #2	Category Lvl #3	Category Lvl #4	Supporting Codes	C.
CAT.R.8 Experiencing Ghayr-Akhlaqi (Immoral Conduct)	CAT.R.8-1 Recognizing and Addressing Immoral Conduct	CAT.R.8-1-2 Identifying Impediments to Moral Behavior	CAT.R.8-1-2-3 Attributing Immoral Conduct to Ignorance	C.1.28, C.9.23, C.12.36, C.12.38	3
CAT.R.8 Experiencing Ghayr-Akhlaqi (Immoral Conduct)	CAT.R.8-1 Recognizing and Addressing Immoral Conduct	CAT.R.8-1-2 Identifying Impediments to Moral Behavior	CAT.R.8-1-2-4 Acknowledging Moral Weakness/Failings in Organizations	C.2.42, C.9.41, C.23.36	3
CAT.R.8 Experiencing Ghayr-Akhlaqi (Immoral Conduct)	CAT.R.8-1 Recognizing and Addressing Immoral Conduct	CAT.R.8-1-3 Responding to Unethical Conduct	CAT.R.8-1-3-1 Taking Personal Action Against Unethical Conduct	C.22.31	1
CAT.R.9 Conceptualizing Sustainability	CAT.R.9-1 Defining Sustainability	CAT.R.9-1-1 Providing a General Definition of Sustainability	CAT.R.9-1-1-1 Defining Sustainability Broadly	C.1.7, C.3.7, C.4.8, C.5.1, C.5.3, C.5.26, C.7.6, C.7.27, C.8.22, C.10.25, C.10.40, C.11.30, C.12.39, C.12.55, C.16.16, C.17.11, C.18.23, C.19.46, C.20.30, C.22.42, C.23.23	12
CAT.R.9 Conceptualizing Sustainability	CAT.R.9-1 Defining Sustainability	CAT.R.9-1-1 Providing a General Definition of Sustainability	CAT.R.9-1-1-2 Defining Sustainability in Project Context	C.12.29, C.13.24, C.17.23, C.23.30	3
CAT.R.9 Conceptualizing Sustainability	CAT.R.9-2 Discussing Sustainability Challenges	CAT.R.9-2-1 Identifying Barriers to Sustainability	CAT.R.9-2-1-1 Acknowledging Difficulty of Changing Consumption	C.3.38, C.11.39, C.12.42	2
CAT.R.9 Conceptualizing Sustainability	CAT.R.9-2 Discussing Sustainability Challenges	CAT.R.9-2-1 Identifying Barriers to Sustainability	CAT.R.9-2-1-2 Recognizing Systemic and Structural Obstacles	C.10.4, C.10.47, C.12.40	1
CAT.R.10 Dealing with Uncertainty	CAT.R.10-1 Defining and Describing Uncertainty	CAT.R.10-1-1 Expressing Uncertainty	CAT.R.10-1-1-1 Expressing General Uncertainty about the Future	C.2.45, C.2.46, C.5.24, C.8.30, C.10.39, C.13.35, C.16.27, C.18.33, C.20.34, C.20.35, C.22.53, C.23.33	6
CAT.R.10 Dealing with Uncertainty	CAT.R.10-1 Defining and Describing Uncertainty	CAT.R.10-1-1 Expressing Uncertainty	CAT.R.10-1-1-2 Expressing Uncertainty About Specific Issues	C.9.39, C.10.46	2
CAT.R.10 Dealing with Uncertainty	CAT.R.10-1 Defining and Describing Uncertainty	CAT.R.10-1-2 Analyzing Causes and Sources of Uncertainty	CAT.R.10-1-2-1 Linking Uncertainty to Global Events and Crises	C.13.35, C.23.49	2
CAT.R.10 Dealing with Uncertainty	CAT.R.10-2 Managing and Responding to Uncertainty	CAT.R.10-2-1 Employing Practical Strategies for Uncertainty	CAT.R.10-2-1-1 Planning and Preparing for Contingencies	C.4.38, C.4.44, C.7.16, C.9.53, C.11.44, C.13.53, C.17.15, C.17.16, C.18.35, C.19.44, C.21.37, C.23.3, C.23.35	7
CAT.R.10 Dealing with Uncertainty	CAT.R.10-2 Managing and Responding to Uncertainty	CAT.R.10-2-1 Employing Practical Strategies for Uncertainty	CAT.R.10-2-1-2 Prioritizing Adaptability and Flexibility	C.11.41, C.13.4, C.22.55	2
CAT.R.10 Dealing with Uncertainty	CAT.R.10-2 Managing and Responding to Uncertainty	CAT.R.10-2-1 Employing Practical Strategies for Uncertainty	CAT.R.10-2-1-3 Utilizing Islamic Principles in Decision-Making Under Uncertainty	C.16.25, C.16.26	1
CAT.R.10 Dealing with Uncertainty	CAT.R.10-2 Managing and Responding to Uncertainty	CAT.R.10-2-2 Responding to Uncertainty in Organizations	CAT.R.10-2-2-1 Describing Organizational Strategies for Uncertainty	C.13.44, C.19.53, C.22.4, C.23.52	2
CAT.R.10 Dealing with Uncertainty	CAT.R.10-2 Managing and Responding to Uncertainty	CAT.R.10-2-3 Discussing Specific Uncertainties	CAT.R.10-2-3-1 Expressing Concern about Climate Change Impacts	C.2.19, C.9.48, C.13.51	2

Category Lvl #1	Category Lvl #2	Category Lvl #3	Category Lvl #4	Supporting Codes	C.
CAT.R.10 Dealing with Uncertainty	CAT.R.10-2 Managing and Responding to Uncertainty	CAT.R.10-2-4 Reflecting on Personal Responses to Uncertainty	CAT.R.10-2-4-1 Describing Emotional Responses to Uncertainty	C.10.34, C.10.49	1



LLM-Generated Focused Codes (Sociological)

Category Lvl #1	Category Lvl #2	Category Lvl #3	Category Lvl #4	Category Lvl #5	Supporting Codes	C.
CAT.S.1 Navigating Organizational Identity and Mission	CAT.S.1-1 Defining Organizational Purpose and Scope	CAT.S.1-1-1 Articulating Core Mission	CAT.S.1-1-1-1 Framing Charity within Broader Social Contexts	CAT.S.1-1-1-1-1 Defining Charity and its Societal Role	C.6.5, C.11.5, C.12.6, C.13.4, C.19.14, C.22.6, C.18.3, C.19.4, C.19.5, C.19.16, C.9.1, C.9.2	8
CAT.S.1 Navigating Organizational Identity and Mission	CAT.S.1-1 Defining Organizational Purpose and Scope	CAT.S.1-1-1 Articulating Core Mission	CAT.S.1-1-1-2 Positioning Work within Religious Frameworks	CAT.S.1-1-1-2-1 Integrating Religious Principles into Charitable Action	C.6.9, C.8.3, C.19.6, C.1.40, C.19.15, C.13.40	5
CAT.S.1 Navigating Organizational Identity and Mission	CAT.S.1-1 Defining Organizational Purpose and Scope	CAT.S.1-1-2 Describing Organizational Activities	CAT.S.1-1-2-1 Detailing Specific Programs and Geographic Focus	CAT.S.1-1-2-1-1 Targeting Specific Vulnerable Groups and Regions	C.6.2, C.6.4, C.6.11, C.8.1, C.12.1, C.13.4, C.20.4, C.1.1, C.1.2, C.1.4, C.2.2, C.3.47, C.11.1, C.22.2, C.22.4, C.22.1, C.19.1, C.1.35, C.4.1, C.4.36, C.4.45, C.9.2, C.10.1, C.10.2, C.11.3, C.13.1, C.16.1, C.18.1, C.19.2, C.20.1, C.22.3, C.22.7, C.19.27	16
CAT.S.1 Navigating Organizational Identity and Mission	CAT.S.1-1 Defining Organizational Purpose and Scope	CAT.S.1-1-2 Describing Organizational Activities	CAT.S.1-1-2-2 Outlining Operational Strategies	CAT.S.1-1-2-2-1 Implementing Diverse Funding and Programmatic Approaches	C.12.2, C.16.16, C.2.4, C.2.7, C.2.8, C.2.10, C.2.11, C.2.14, C.2.16, C.2.22, C.3.1, C.3.8, C.4.1, C.4.2, C.4.3, C.4.9, C.20.3, C.20.12, C.20.19, C.1.38, C.3.53, C.13.36, C.4.44, C.10.25, C.18.24, C.7.6	11
CAT.S.1 Navigating Organizational Identity and Mission	CAT.S.1-2 Establishing Organizational Legitimacy and Positioning	CAT.S.1-2-1 Referencing Religious Principles	CAT.S.1-2-1-1 Integrating Islamic Financial Principles	CAT.S.1-2-1-1-1 Operationalizing Islamic Financial Concepts	C.9.3, C.9.4, C.19.36, C.21.5, C.21.11, C.2.5, C.2.6, C.2.7, C.2.8, C.6.19, C.17.12, C.21.13, C.21.29, C.21.32, C.21.33, C.18.24, C.23.5, C.19.17, C.21.31, C.1.32, C.22.51	9
CAT.S.1 Navigating Organizational Identity and Mission	CAT.S.1-3 Negotiating Organizational Practices	CAT.S.1-3-1 Managing Resources and Operations	CAT.S.1-3-1-1 Addressing Operational Challenges	CAT.S.1-3-1-1-1 Navigating Logistical and Political Obstacles	C.1.41, C.2.1, C.2.47, C.3.39, C.3.53, C.4.3, C.4.36, C.4.45, C.5.29, C.6.20, C.11.3, C.13.36, C.19.44, C.21.3, C.22.55, C.23.43	12
CAT.S.1 Navigating Organizational Identity and Mission	CAT.S.1-3 Negotiating Organizational Practices	CAT.S.1-3-1 Managing Resources and Operations	CAT.S.1-3-1-2 Addressing Financial Sustainability	CAT.S.1-3-1-2-1 Discussing Funding Models and Challenges	C.2.3, C.2.4, C.5.22, C.5.23, C.5.25, C.6.6, C.6.19, C.7.6, C.20.2, C.20.27, C.12.42, C.18.34	7
CAT.S.1 Navigating Organizational Identity and Mission	CAT.S.1-3 Negotiating Organizational Practices	CAT.S.1-3-2 Building and Maintaining Relationships	CAT.S.1-3-2-1 Engaging with Stakeholders	CAT.S.1-3-2-1-1 Interacting with Donors and Beneficiaries	C.2.3, C.2.33, C.3.55, C.4.47, C.4.48, C.6.22, C.19.36, C.20.2, C.23.48	7
CAT.S.1 Navigating Organizational Identity and Mission	CAT.S.1-3 Negotiating Organizational Practices	CAT.S.1-3-2 Building and Maintaining Relationships	CAT.S.1-3-2-1 Engaging with Stakeholders	CAT.S.1-3-2-1-2 Collaborating with Governmental and Non-Governmental Organizations	C.1.1, C.1.2, C.1.4, C.1.25, C.1.26, C.2.2, C.2.12, C.2.13, C.2.15, C.2.22, C.2.24, C.3.45, C.4.42, C.5.1, C.5.27, C.6.3, C.6.14, C.6.15, C.9.36, C.10.1, C.10.3, C.10.4, C.10.5, C.11.1, C.12.5, C.13.1, C.16.3, C.22.1, C.23.1, C.9.37, C.2.38, C.3.42, C.3.44, C.4.33, C.9.35, C.19.51, C.12.15	15

Category Lvl #1	Category Lvl #2	Category Lvl #3	Category Lvl #4	Category Lvl #5	Supporting Codes	C.
CAT.S.1 Navigating Organizational Identity and Mission	CAT.S.1-1 Defining Organizational Purpose and Scope	CAT.S.1-1-1 Articulating Core Mission	CAT.S.1-1-1-3 Addressing Root Causes of Social Problems	CAT.S.1-1-1-3-1 Analyzing Systemic Issues	C.22.3, C.18.26, C.13.8, C.21.28	4
CAT.S.1 Navigating Organizational Identity and Mission	CAT.S.1-1 Defining Organizational Purpose and Scope	CAT.S.1-1-2 Describing Organizational Activities	CAT.S.1-1-2-1 Detailing Specific Programs and Geographic Focus	CAT.S.1-1-2-1-4 Highlighting Organizational Achievements and Impacts	C.3.47, C.4.1, C.4.37, C.7.5, C.9.2, C.10.2, C.10.25, C.11.1, C.12.5, C.16.2, C.16.3, C.16.4	8
CAT.S.1 Navigating Organizational Identity and Mission	CAT.S.1-1 Defining Organizational Purpose and Scope	CAT.S.1-1-2 Describing Organizational Activities	CAT.S.1-1-2-2 Outlining Operational Strategies	CAT.S.1-1-2-2-2 Implementing Specific Projects and Programs	C.1.35, C.1.38, C.3.54, C.4.1, C.12.2, C.20.19, C.20.12, C.20.1, C.8.7, C.3.27, C.1.35, C.4.36, C.4.45, C.9.2, C.10.1, C.10.2, C.11.3, C.13.1, C.16.1, C.18.1, C.19.1, C.19.2, C.20.1, C.22.3, C.22.7, C.19.27, C.4.44, C.10.25, C.18.24, C.7.6	15
CAT.S.1 Navigating Organizational Identity and Mission	CAT.S.1-3 Negotiating Organizational Practices	CAT.S.1-3-1 Managing Resources and Operations	CAT.S.1-3-1-2 Addressing Financial Sustainability	CAT.S.1-3-1-2-2 Discussing Organizational Structure	C.1.3, C.4.45, C.13.1, C.16.1	4
CAT.S.2 Conceptualizing Social and Environmental Challenges	CAT.S.2-1 Identifying Root Causes of Social Problems	CAT.S.2-1-1 Attributing Need to Systemic Factors	CAT.S.2-1-1-1 Critiquing Structural Inequality	CAT.S.2-1-1-1-1 Linking Poverty to Governance and Exploitation	C.6.5, C.12.7, C.12.8, C.12.9, C.12.10, C.13.5, C.18.4, C.19.35, C.20.7, C.21.6, C.21.8, C.4.32, C.19.38, C.2.44, C.3.52, C.9.41, C.19.37	11
CAT.S.2 Conceptualizing Social and Environmental Challenges	CAT.S.2-1 Identifying Root Causes of Social Problems	CAT.S.2-1-1 Attributing Need to Systemic Factors	CAT.S.2-1-1-1 Critiquing Structural Inequality	CAT.S.2-1-1-1-3 Analyzing the Role of Individualism	C.4.21, C.5.21, C.21.8	3
CAT.S.2 Conceptualizing Social and Environmental Challenges	CAT.S.2-1 Identifying Root Causes of Social Problems	CAT.S.2-1-1 Attributing Need to Systemic Factors	CAT.S.2-1-1-2 Highlighting the Role of External Shocks	CAT.S.2-1-1-2-1 Linking Social Problems to Global Events and Crises	C.2.45, C.2.46, C.2.47, C.3.53, C.4.45, C.16.22, C.22.53, C.23.39, C.23.40	6
CAT.S.2 Conceptualizing Social and Environmental Challenges	CAT.S.2-1 Identifying Root Causes of Social Problems	CAT.S.2-1-1 Attributing Need to Systemic Factors	CAT.S.2-1-1-2 Highlighting the Role of External Shocks	CAT.S.2-1-1-2-2 Analyzing the Disproportionate Impact on Vulnerable Groups	C.22.28, C.22.56, C.10.41	2
CAT.S.2 Conceptualizing Social and Environmental Challenges	CAT.S.2-1 Identifying Root Causes of Social Problems	CAT.S.2-1-2 Highlighting the Role of Human Behavior	CAT.S.2-1-2-1 Critiquing Individualism and Consumerism	CAT.S.2-1-2-1-1 Linking Individual Actions to Broader Social and Environmental Impacts	C.3.21, C.3.24, C.3.27, C.3.39, C.4.22, C.4.4, C.4.44, C.7.13, C.10.35, C.11.3, C.12.16, C.12.11, C.12.12, C.12.13, C.13.6, C.13.42, C.19.17, C.23.14, C.21.9	10
CAT.S.2 Conceptualizing Social and Environmental Challenges	CAT.S.2-2 Understanding Environmental Issues	CAT.S.2-2-1 Framing Environmental Problems	CAT.S.2-2-1-1 Identifying Drivers of Environmental Degradation	CAT.S.2-2-1-1-1 Attributing Environmental Problems to Human Activity	C.1.5, C.1.6, C.2.17, C.2.18, C.2.19, C.2.21, C.3.2, C.3.3, C.3.4, C.3.11, C.4.5, C.4.6, C.4.7, C.4.16, C.5.4, C.5.5, C.5.6, C.7.8, C.8.6, C.8.7, C.8.8, C.9.6, C.9.7, C.9.8, C.10.9, C.10.11, C.10.13, C.11.8, C.11.11, C.12.15, C.12.19, C.12.20, C.16.7, C.18.5, C.18.6, C.18.7, C.18.9, C.19.11, C.20.26, C.22.25, C.22.26, C.4.43, C.5.21, C.13.41, C.21.36	18

Category Lvl #1	Category Lvl #2	Category Lvl #3	Category Lvl #4	Category Lvl #5	Supporting Codes	C.
CAT.S.2 Conceptualizing Social and Environmental Challenges	CAT.S.2-2 Understanding Environmental Issues	CAT.S.2-2-1 Framing Environmental Problems	CAT.S.2-2-1-1 Identifying Drivers of Environmental Degradation	CAT.S.2-2-1-1-4 Analyzing Specific Industries, Practices, and their Environmental Consequences	C.3.1, C.3.42, C.3.43, C.3.44, C.3.51, C.4.1, C.4.36, C.4.44, C.9.1, C.10.25, C.18.24, C.7.6, C.10.11, C.21.36, C.22.26, C.9.46, C.23.48, C.23.39, C.23.43, C.17.21, C.23.46	10
CAT.S.2 Conceptualizing Social and Environmental Challenges	CAT.S.2-2 Understanding Environmental Issues	CAT.S.2-2-1 Framing Environmental Problems	CAT.S.2-2-1-2 Connecting Environmental Issues to Specific Contexts	CAT.S.2-2-1-2-2 Linking Environmental Issues to Social and Economic Factors	C.3.5, C.3.56, C.5.13, C.9.5, C.9.27, C.10.14, C.11.6, C.17.27, C.21.20, C.21.29, C.22.34, C.22.36, C.23.47, C.23.54, C.23.56, C.11.10, C.10.37, C.10.47	9
CAT.S.2 Conceptualizing Social and Environmental Challenges	CAT.S.2-2 Understanding Environmental Issues	CAT.S.2-2-2 Assessing Environmental Awareness and Action	CAT.S.2-2-2-1 Analyzing Levels of Environmental Engagement	CAT.S.2-2-2-1-1 Evaluating Personal and Community Environmental Practices	C.4.30, C.7.12, C.8.33, C.10.2, C.10.34, C.11.21, C.11.40, C.12.35, C.13.25, C.13.29, C.13.33, C.13.36, C.16.20, C.17.10, C.17.25, C.18.21, C.22.31, C.22.37, C.23.37, C.23.40, C.23.45, C.23.58, C.3.46, C.22.35	13
CAT.S.2 Conceptualizing Social and Environmental Challenges	CAT.S.2-2 Understanding Environmental Issues	CAT.S.2-2-2 Assessing Environmental Awareness and Action	CAT.S.2-2-2-1 Analyzing Levels of Environmental Engagement	CAT.S.2-2-2-1-3 Evaluating Societal Responses to Environmental Challenges	C.1.36, C.1.26, C.2.15, C.2.38, C.2.39, C.3.25, C.3.31, C.3.36, C.4.24, C.4.31, C.5.24, C.9.34, C.12.47, C.12.68, C.13.20, C.21.23, C.21.33, C.22.22, C.23.48, C.23.44, C.4.34, C.9.35, C.11.45, C.12.69, C.19.52, C.18.34, C.23.43	14
CAT.S.2 Conceptualizing Social and Environmental Challenges	CAT.S.2-2 Understanding Environmental Issues	CAT.S.2-2-2 Assessing Environmental Awareness and Action	CAT.S.2-2-2-1 Analyzing Levels of Environmental Engagement	CAT.S.2-2-2-1-4 Comparing Environmental Awareness Across Different Groups	C.20.14, C.22.41, C.4.5, C.4.6, C.4.40	3
CAT.S.2 Conceptualizing Social and Environmental Challenges	CAT.S.2-2 Understanding Environmental Issues	CAT.S.2-2-2 Assessing Environmental Awareness and Action	CAT.S.2-2-2-1 Analyzing Levels of Environmental Engagement	CAT.S.2-2-2-1-2 Evaluating Organizational Responses to Environmental Issues	C.1.1, C.1.2, C.1.4, C.16.5, C.17.1, C.4.7, C.2.36, C.19.20, C.3.48, C.3.49, C.6.19, C.4.46, C.5.16, C.5.25	9
CAT.S.3 Articulating Moral and Ethical Frameworks	CAT.S.3-1 Defining Morality and Ethics	CAT.S.3-1-1 Grounding Morality in Diverse Sources	CAT.S.3-1-1-1 Expressing General Moral Principles	CAT.S.3-1-1-1-1 Defining Morality through Social Interaction and Conduct	C.1.9, C.1.10, C.4.13, C.5.7, C.5.8, C.5.9, C.5.10, C.8.10, C.8.11, C.9.9, C.9.11, C.9.12, C.11.14, C.11.15, C.11.17, C.11.18, C.13.13, C.13.14, C.13.15, C.16.8, C.16.9, C.18.10, C.18.11, C.18.12, C.18.16, C.19.7, C.19.8, C.19.28, C.20.9, C.20.10, C.22.13, C.22.15, C.16.11	12
CAT.S.3 Articulating Moral and Ethical Frameworks	CAT.S.3-1 Defining Morality and Ethics	CAT.S.3-1-1 Grounding Morality in Diverse Sources	CAT.S.3-1-1-1 Expressing General Moral Principles	CAT.S.3-1-1-1-3 Advocating for Universal Values and Shared Humanity	C.1.12, C.1.13, C.3.14, C.3.16, C.5.3, C.9.23, C.18.3, C.18.32, C.20.18, C.23.9, C.4.14, C.6.18, C.22.14, C.22.29, C.23.10, C.23.57, C.11.16, C.12.67, C.18.15, C.19.11, C.19.28, C.19.30	12

Category Lvl #1	Category Lvl #2	Category Lvl #3	Category Lvl #4	Category Lvl #5	Supporting Codes	C.
CAT.S.3 Articulating Moral and Ethical Frameworks	CAT.S.3-1 Defining Morality and Ethics	CAT.S.3-1-1 Grounding Morality in Diverse Sources	CAT.S.3-1-2 Referencing Religious Texts and Principles	CAT.S.3-1-2-1 Interpreting Islamic Principles for Ethical Guidance	C.3.12, C.3.13, C.3.15, C.3.22, C.3.23, C.8.14, C.8.15, C.8.16, C.8.17, C.9.13, C.9.14, C.9.17, C.9.19, C.9.21, C.10.14, C.10.16, C.10.18, C.10.20, C.12.26, C.12.27, C.12.30, C.13.12, C.13.16, C.16.12, C.17.4, C.17.5, C.17.8, C.19.21, C.19.22, C.19.34, C.20.16, C.20.19, C.21.18, C.22.39, C.23.12, C.23.26, C.13.28, C.19.39	13
CAT.S.3 Articulating Moral and Ethical Frameworks	CAT.S.3-1 Defining Morality and Ethics	CAT.S.3-1-2 Exploring the Nuances of Moral Decision-Making	CAT.S.3-1-2-1 Recognizing Contextual Factors	CAT.S.3-1-2-1-1 Acknowledging the Complexity of Moral Judgments	C.4.19, C.10.49, C.12.43, C.18.17, C.19.32, C.4.48, C.5.12, C.22.40	7
CAT.S.3 Articulating Moral and Ethical Frameworks	CAT.S.3-3 Integrating Faith and Action	CAT.S.3-3-1 Connecting Religious Beliefs to Daily Life	CAT.S.3-3-1-1 Linking Faith to Personal Conduct	CAT.S.3-3-1-1-1 Integrating Faith into Professional Life	C.1.19, C.1.20, C.3.35, C.7.11, C.9.2, C.13.21, C.13.23, C.19.3, C.19.30, C.21.12, C.21.15, C.21.16, C.22.16, C.22.18, C.23.9, C.23.13, C.19.13, C.20.17, C.8.12	11
CAT.S.3 Articulating Moral and Ethical Frameworks	CAT.S.3-3 Integrating Faith and Action	CAT.S.3-3-1 Connecting Religious Beliefs to Daily Life	CAT.S.3-3-1-2 Expressing Faith as a Coping Mechanism	CAT.S.3-3-1-2-1 Finding Solace and Strength in Faith	C.1.40, C.2.48, C.3.29, C.8.32, C.9.48, C.9.50, C.10.48, C.11.42, C.13.32, C.17.18, C.19.48, C.20.36, C.22.57, C.23.19, C.8.31, C.9.51, C.10.51, C.10.7	13
CAT.S.3 Articulating Moral and Ethical Frameworks	CAT.S.3-3 Integrating Faith and Action	CAT.S.3-3-1 Connecting Religious Beliefs to Daily Life	CAT.S.3-3-1-2 Expressing Faith as a Coping Mechanism	CAT.S.3-3-1-2-2 Praying in Times of Hardships	C.23.52, C.1.18, C.2.35, C.19.46, C.13.24, C.16.15, C.4.27, C.12.52	8
CAT.S.3 Articulating Moral and Ethical Frameworks	CAT.S.3-3 Integrating Faith and Action	CAT.S.3-3-2 Applying Religious Principles to Specific Domains	CAT.S.3-3-2-1 Addressing Environmental Concerns Through Faith	CAT.S.3-3-2-1-1 Promoting Environmental Stewardship as a Religious Duty	C.3.21, C.12.66, C.16.19, C.17.24, C.20.11, C.21.19, C.22.39, C.1.18, C.22.38, C.3.16, C.3.23, C.4.48, C.11.17, C.11.26, C.16.24, C.16.25, C.19.22	11
CAT.S.3 Articulating Moral and Ethical Frameworks	CAT.S.3-3 Integrating Faith and Action	CAT.S.3-3-2 Applying Religious Principles to Specific Domains	CAT.S.3-3-2-1 Addressing Environmental Concerns Through Faith	CAT.S.3-3-2-1-2 Utilizing Religious Discourse to Promote Environmental Action	C.4.24, C.4.28, C.4.31, C.6.15, C.8.16, C.8.17, C.10.28, C.10.29, C.10.33, C.11.21, C.11.26, C.12.64, C.13.22, C.16.14, C.18.20, C.19.29, C.20.23, C.20.24, C.1.28, C.7.11, C.11.22, C.11.25, C.12.47, C.12.49, C.12.50	13
CAT.S.4 Negotiating Uncertainty and Risk	CAT.S.4-1 Perceiving and Responding to Uncertainty	CAT.S.4-1-1 Acknowledging Uncertainty as a Pervasive Condition	CAT.S.4-1-1-1 Defining and Characterizing Uncertainty	CAT.S.4-1-1-1-1 Framing Uncertainty as Inherent to Life	C.1.37, C.2.45, C.9.39, C.9.45, C.10.45, C.11.41, C.12.58, C.13.35, C.17.14, C.17.15, C.18.33, C.19.41, C.19.42, C.20.34, C.20.35, C.22.53, C.23.34, C.23.39, C.23.40, C.23.49, C.4.39, C.4.45, C.6.21, C.10.46	15

Category Lvl #1	Category Lvl #2	Category Lvl #3	Category Lvl #4	Category Lvl #5	Supporting Codes	C.
CAT.S.4 Negotiating Uncertainty and Risk	CAT.S.4-1 Perceiving and Responding to Uncertainty	CAT.S.4-1-1 Acknowledging Uncertainty as a Pervasive Condition	CAT.S.4-1-1-1 Defining and Characterizing Uncertainty	CAT.S.4-1-1-2 Acknowledging the Limits of Human Knowledge and Control	C.1.37, C.9.45, C.10.45, C.12.58, C.13.37, C.17.14, C.19.43, C.22.58, C.16.25, C.17.17, C.23.41	10
CAT.S.4 Negotiating Uncertainty and Risk	CAT.S.4-1 Perceiving and Responding to Uncertainty	CAT.S.4-1-2 Developing Strategies for Managing Uncertainty	CAT.S.4-1-2-1 Employing Proactive Planning and Risk Mitigation	CAT.S.4-1-2-1-1 Implementing Organizational Strategies for Uncertainty	C.1.38, C.1.39, C.4.39, C.4.44, C.6.21, C.7.16, C.8.30, C.11.44, C.13.37, C.13.39, C.17.16, C.18.35, C.19.44, C.19.48, C.22.55, C.23.3, C.23.35, C.23.36, C.23.50, C.11.47, C.12.48, C.12.50, C.12.67, C.12.69, C.13.4, C.16.38, C.17.7, C.18.37, C.19.52, C.4.37	14
CAT.S.4 Negotiating Uncertainty and Risk	CAT.S.4-1 Perceiving and Responding to Uncertainty	CAT.S.4-1-2 Developing Strategies for Managing Uncertainty	CAT.S.4-1-2-2 Seeking Knowledge and Understanding	CAT.S.4-1-2-2-1 Emphasizing the Importance of Data and Analysis	C.4.46, C.9.24, C.11.43, C.18.35, C.22.41, C.23.35, C.23.55	6
CAT.S.4 Negotiating Uncertainty and Risk	CAT.S.4-1 Perceiving and Responding to Uncertainty	CAT.S.4-1-2 Developing Strategies for Managing Uncertainty	CAT.S.4-1-2-2 Seeking Knowledge and Understanding	CAT.S.4-1-2-2-2 Utilizing Personal Strategies for Coping with Uncertainty	C.6.22, C.10.52, C.11.43, C.19.46, C.21.2, C.22.54, C.23.51, C.17.16, C.18.36, C.19.45	9
CAT.S.5 Advocating for Social and Environmental Change	CAT.S.5-1 Promoting Sustainable Practices	CAT.S.5-1-1 Calling for Systemic and Individual Transformations	CAT.S.5-1-1-1 Advocating for Broader Societal Changes	CAT.S.5-1-1-1-1 Critiquing Unsustainable Systems and Practices	C.3.37, C.4.39, C.8.25, C.8.26, C.8.9, C.9.16, C.10.12, C.10.32, C.10.36, C.10.41, C.11.34, C.12.34, C.12.43, C.12.44, C.12.45, C.12.60, C.13.34, C.16.21, C.17.21, C.19.23, C.22.46, C.22.47, C.22.48, C.22.50, C.23.7, C.10.22, C.10.23, C.18.6, C.19.11	14
CAT.S.5 Advocating for Social and Environmental Change	CAT.S.5-1 Promoting Sustainable Practices	CAT.S.5-1-1 Calling for Systemic and Individual Transformations	CAT.S.5-1-1-1 Advocating for Broader Societal Changes	CAT.S.5-1-1-1-4 Supporting Grassroots Efforts and Community Initiatives	C.1.26, C.3.36, C.4.24, C.4.35, C.5.19, C.18.8, C.4.34, C.11.37, C.12.48, C.12.49, C.23.48	8
CAT.S.5 Advocating for Social and Environmental Change	CAT.S.5-1 Promoting Sustainable Practices	CAT.S.5-1-1 Calling for Systemic and Individual Transformations	CAT.S.5-1-1-2 Promoting Individual Action and Awareness	CAT.S.5-1-1-2-1 Emphasizing Personal Responsibility and Behavior Change	C.4.41, C.5.14, C.5.16, C.7.12, C.7.14, C.8.20, C.11.40, C.13.20, C.13.29, C.13.31, C.16.20, C.16.33, C.17.6, C.18.31, C.19.31, C.21.37, C.22.31, C.23.33, C.11.12, C.13.27, C.16.28, C.17.25, C.18.36	13

Category Lvl #1	Category Lvl #2	Category Lvl #3	Category Lvl #4	Category Lvl #5	Supporting Codes	C.
CAT.S.5 Advocating for Social and Environmental Change	CAT.S.5-1 Promoting Sustainable Practices	CAT.S.5-1-1 Calling for Systemic and Individual Transformations	CAT.S.5-1-1-2 Promoting Individual Action and Awareness	CAT.S.5-1-1-2-4 Supporting Education and Awareness-Raising Initiatives	C.4.26, C.4.28, C.4.29, C.5.15, C.5.18, C.5.20, C.6.14, C.7.2, C.7.4, C.7.15, C.8.27, C.9.32, C.10.34, C.11.26, C.11.39, C.12.31, C.12.37, C.13.30, C.16.23, C.17.9, C.17.25, C.18.32, C.18.38, C.19.52, C.20.25, C.22.32, C.22.52, C.23.8, C.23.14, C.23.38, C.23.52, C.23.55, C.4.34, C.8.29, C.12.53, C.4.42, C.8.19, C.8.28, C.10.33, C.11.25, C.11.28, C.11.29, C.12.47, C.12.49, C.12.50, C.12.68, C.13.22, C.13.35, C.16.14, C.19.33	17
CAT.S.5 Advocating for Social and Environmental Change	CAT.S.5-1 Promoting Sustainable Practices	CAT.S.5-1-2 Encouraging Specific Actions and Interventions	CAT.S.5-1-2-1 Promoting Community-Based Initiatives	CAT.S.5-1-2-1-2 Implementing Localized Solutions and Adaptations	C.2.16, C.2.23, C.3.42, C.3.44, C.4.2, C.8.33, C.12.53, C.17.23, C.18.27, C.23.53, C.23.47, C.16.33, C.1.29, C.3.45, C.4.35, C.5.4, C.12.45	11
CAT.S.5 Advocating for Social and Environmental Change	CAT.S.5-2 Mobilizing Collective Action	CAT.S.5-2-1 Encouraging Collaboration and Advocacy	CAT.S.5-2-1-1 Promoting Interfaith and Cross-Cultural Cooperation	CAT.S.5-2-1-1-1 Supporting Interfaith Dialogue and Collaboration	C.1.17, C.1.24, C.2.37, C.3.30, C.4.14, C.4.31, C.6.15, C.16.11, C.18.25, C.19.27, C.22.21, C.23.55, C.2.27, C.2.28, C.9.15, C.10.17, C.10.26	12
CAT.S.6 Engaging with Cultural and Religious Discourse	CAT.S.6-1 Analyzing the Role of Religion in Society	CAT.S.6-1-1 Discussing the Relationship Between Religion and Morality	CAT.S.6-1-1-1 Exploring the Intersections of Faith and Ethics	CAT.S.6-1-1-1-1 Exploring the Interplay of Faith, Culture, and Morality	C.1.11, C.2.26, C.2.27, C.2.28, C.2.29, C.2.30, C.3.18, C.3.19, C.4.12, C.4.18, C.4.19, C.4.23, C.5.11, C.5.12, C.8.14, C.8.15, C.8.16, C.8.17, C.9.18, C.9.23, C.10.17, C.10.19, C.10.24, C.10.26, C.10.39, C.11.16, C.12.32, C.13.17, C.16.13, C.18.14, C.18.15, C.18.16, C.19.24, C.20.12, C.20.13, C.20.14, C.21.17, C.21.21, C.22.11, C.22.14, C.23.9, C.23.13, C.23.14, C.16.10, C.20.17, C.19.8, C.20.18, C.12.27, C.19.10, C.19.9	18

Category Lvl #1	Category Lvl #2	Category Lvl #3	Category Lvl #4	Category Lvl #5	Supporting Codes	C.
CAT.S.6 Engaging with Cultural and Religious Discourse	CAT.S.6-1 Analyzing the Role of Religion in Society	CAT.S.6-1-1 Discussing the Relationship Between Religion and Morality	CAT.S.6-1-1-2 Exploring Religious Interpretations and Applications	CAT.S.6-1-1-2-2 Linking Religious Concepts to Social and Environmental Responsibility	C.3.24, C.4.17, C.8.22, C.9.20, C.9.47, C.9.48, C.9.51, C.9.52, C.10.51, C.11.46, C.12.29, C.13.28, C.16.12, C.18.25, C.18.28, C.19.34, C.19.39, C.19.40, C.20.17, C.21.7, C.21.35, C.22.9, C.22.14, C.22.27, C.22.39, C.23.5, C.23.10, C.23.12, C.23.15, C.23.16, C.23.17, C.23.22, C.23.28, C.23.29, C.23.30, C.21.1, C.21.3, C.3.29, C.3.30, C.9.4, C.10.52, C.18.37, C.4.48, C.10.13	15
CAT.S.6 Engaging with Cultural and Religious Discourse	CAT.S.6-1 Analyzing the Role of Religion in Society	CAT.S.6-1-1 Discussing the Relationship Between Religion and Morality	CAT.S.6-1-1-2 Exploring Religious Interpretations and Applications	CAT.S.6-1-1-2-4 Discussing the Practical Implications of Religious Beliefs	C.4.24, C.4.31, C.5.24, C.6.15, C.8.16, C.10.28, C.10.29, C.11.17, C.11.21, C.11.26, C.12.64, C.13.22, C.16.14, C.18.20, C.22.19, C.2.36, C.4.27, C.4.46, C.12.52, C.13.24, C.16.15	12
CAT.S.6 Engaging with Cultural and Religious Discourse	CAT.S.6-1 Analyzing the Role of Religion in Society	CAT.S.6-1-2 Critiquing Religious Institutions and Practices	CAT.S.6-1-2-1 Addressing Gaps in Religious Discourse and Practice	CAT.S.6-1-2-1-1 Identifying Shortcomings in Religious Leadership and Education	C.1.22, C.4.25, C.4.29, C.5.15, C.7.14, C.9.33, C.10.33, C.11.27, C.11.28, C.11.29, C.12.28, C.12.34, C.12.38, C.12.49, C.12.50, C.13.22, C.16.5, C.18.19, C.19.33, C.20.23, C.20.24, C.22.38, C.23.24, C.23.25, C.4.28, C.11.25, C.6.16, C.4.41, C.4.42, C.8.19	17
CAT.S.6 Engaging with Cultural and Religious Discourse	CAT.S.6-1 Analyzing the Role of Religion in Society	CAT.S.6-1-2 Critiquing Religious Institutions and Practices	CAT.S.6-1-2-2 Discussing Religious Practices	CAT.S.6-1-2-2-1 Adapting Religious Practices to Contemporary Issues	C.4.26, C.12.51, C.17.9, C.23.34, C.12.23, C.16.11, C.19.27	6
CAT.S.6 Engaging with Cultural and Religious Discourse	CAT.S.6-2 Intersecting Religious Discourse with Contemporary Challenges	CAT.S.6-2-1 Framing Contemporary Issues Through a Religious Lens	CAT.S.6-2-1-1 Applying Religious Concepts to Social and Environmental Problems	CAT.S.6-2-1-1-1 Using Religious Language to Interpret and Address Modern Challenges	C.9.47, C.9.48, C.9.51, C.9.52, C.10.51, C.19.47, C.3.21, C.17.24, C.20.11, C.21.19, C.22.39, C.1.18, C.22.38, C.3.16, C.3.23, C.4.48, C.11.17, C.11.26, C.16.24, C.16.25, C.19.22, C.23.12, C.23.26, C.23.13, C.17.4, C.20.7, C.21.35, C.22.27, C.23.10, C.16.12	13
CAT.S.6 Engaging with Cultural and Religious Discourse	CAT.S.6-2 Intersecting Religious Discourse with Contemporary Challenges	CAT.S.6-2-1 Framing Contemporary Issues Through a Religious Lens	CAT.S.6-2-1-2 Analyzing the Role of Religion in Motivating Action	CAT.S.6-2-1-2-1 Connecting Faith to Social Responsibility	C.17.3, C.8.17, C.9.27, C.12.29, C.19.34, C.23.12, C.23.26, C.3.22, C.3.23, C.17.5, C.17.8	7
CAT.S.6 Engaging with Cultural and Religious Discourse	CAT.S.6-2 Intersecting Religious Discourse with Contemporary Challenges	CAT.S.6-2-2 Critiquing Secular Systems from a Religious Perspective	CAT.S.6-2-2-1 Identifying Conflicts Between Religious Values and Secular Practices	CAT.S.6-2-2-1-1 Critiquing Capitalism and its Ethical Implications from a Religious Standpoint	C.9.13, C.9.14, C.9.16, C.9.17, C.9.19, C.9.20, C.10.3, C.10.4, C.10.42, C.10.44, C.10.48	2

Category Lvl #1	Category Lvl #2	Category Lvl #3	Category Lvl #4	Category Lvl #5	Supporting Codes	C.
CAT.S.6 Engaging with Cultural and Religious Discourse	CAT.S.6-3 Assessing the Influence of Globalization and Modernity	CAT.S.6-3-1 Identifying Impacts of Globalization	CAT.S.6-3-1-1 Analyzing Cultural Shifts and Value Changes	CAT.S.6-3-1-1-1 Reflecting on Consumerism and Materialism	C.1.31, C.2.4, C.3.37, C.3.38, C.4.43, C.5.21, C.6.16, C.7.4, C.8.9, C.10.8, C.10.19, C.11.28, C.12.21, C.12.46, C.16.24, C.20.2, C.20.27, C.22.27, C.23.37, C.6.5, C.11.3, C.11.38, C.12.42, C.21.9	16
CAT.S.6 Engaging with Cultural and Religious Discourse	CAT.S.6-3 Assessing the Influence of Globalization and Modernity	CAT.S.6-3-1 Identifying Impacts of Globalization	CAT.S.6-3-1-1 Analyzing Cultural Shifts and Value Changes	CAT.S.6-3-1-1-2 Evaluating the Impact of Modernity on Religious Practice	C.2.31, C.2.33, C.2.34, C.12.35, C.22.48, C.7.4, C.6.5, C.3.38, C.10.15, C.10.24, C.10.27, C.10.34	7
CAT.S.7 Promoting Economic Development and Sustainability	CAT.S.7-1 Integrating Sustainability into Economic Models	CAT.S.7-1-1 Advocating for Sustainable Economic Practices	CAT.S.7-1-1-1 Defining and Applying Sustainability Principles	CAT.S.7-1-1-1-1 Conceptualizing Sustainability in Diverse Contexts	C.1.7, C.1.8, C.1.27, C.1.32, C.2.23, C.3.6, C.3.7, C.3.26, C.3.46, C.7.1, C.9.25, C.9.26, C.9.28, C.10.25, C.10.28, C.10.40, C.11.30, C.11.36, C.12.14, C.12.30, C.12.54, C.12.55, C.13.38, C.16.15, C.16.22, C.17.11, C.18.22, C.18.23, C.20.30, C.20.31, C.21.24, C.21.25, C.22.33, C.22.42, C.23.27, C.23.28, C.23.29, C.23.30, C.1.35, C.3.8, C.3.53, C.4.1, C.4.36, C.4.44, C.4.45, C.7.6, C.8.7, C.8.33, C.9.2, C.10.1, C.10.2, C.11.1, C.11.3, C.12.1, C.12.2, C.12.5, C.13.1, C.16.1, C.16.3, C.18.1, C.19.1, C.19.2, C.19.27, C.20.1, C.20.3, C.20.4, C.20.12, C.20.19, C.22.1, C.22.3, C.22.7	19
CAT.S.7 Promoting Economic Development and Sustainability	CAT.S.7-1 Integrating Sustainability into Economic Models	CAT.S.7-1-1 Advocating for Sustainable Economic Practices	CAT.S.7-1-1-2 Balancing Competing Priorities	CAT.S.7-1-1-2-1 Navigating the Tension Between Economic Growth and Environmental Protection	C.1.31, C.4.39, C.9.38, C.10.31, C.12.62, C.13.39, C.16.21, C.17.1, C.17.2, C.17.21, C.18.30, C.20.21, C.4.16, C.9.40, C.12.60, C.12.63, C.16.38, C.22.46, C.22.44, C.22.47, C.10.44, C.11.45, C.12.43, C.12.46	12
CAT.S.7 Promoting Economic Development and Sustainability	CAT.S.7-1 Integrating Sustainability into Economic Models	CAT.S.7-1-2 Discussing Barriers and Challenges to Sustainable Development	CAT.S.7-1-2-1 Identifying Obstacles to Sustainability	CAT.S.7-1-2-1-1 Analyzing Systemic Barriers to Sustainable Practices	C.3.40, C.3.41, C.4.43, C.5.13, C.5.17, C.9.41, C.10.27, C.10.45, C.11.45, C.12.41, C.18.29, C.23.4, C.6.20, C.18.19, C.3.48, C.3.49, C.6.19, C.4.46, C.5.16, C.5.25, C.13.8, C.21.28	12
CAT.S.7 Promoting Economic Development and Sustainability	CAT.S.7-1 Integrating Sustainability into Economic Models	CAT.S.7-1-2 Discussing Barriers and Challenges to Sustainable Development	CAT.S.7-1-2-1 Identifying Obstacles to Sustainability	CAT.S.7-1-2-1-2 Analyzing Social and Cultural Barriers	C.19.25, C.11.45, C.13.29, C.12.34, C.16.24, C.11.29, C.22.40, C.3.39, C.3.38, C.3.37	7

Category Lvl #1	Category Lvl #2	Category Lvl #3	Category Lvl #4	Category Lvl #5	Supporting Codes	C.
CAT.S.7 Promoting Economic Development and Sustainability	CAT.S.7-1 Integrating Sustainability into Economic Models	CAT.S.7-1-2 Discussing Barriers and Challenges to Sustainable Development	CAT.S.7-1-2-2 Analyzing Challenges Specific to Developing Countries	CAT.S.7-1-2-2-1 Analyzing the Barriers to Sustainability Posed by Underdevelopment	C.12.60, C.10.27, C.4.33	3
CAT.S.7 Promoting Economic Development and Sustainability	CAT.S.7-1 Integrating Sustainability into Economic Models	CAT.S.7-1-3 Exploring Technological Solutions	CAT.S.7-1-3-1 Evaluating the Role of Technology in Sustainability	CAT.S.7-1-3-1-1 Promoting Technological Innovation for Environmental Protection	C.3.42, C.12.44, C.12.45, C.13.41, C.18.30, C.22.44, C.16.23	6
CAT.S.8 Addressing Systemic Issues Through Policy and Governance	CAT.S.8-1 Advocating for Policy Changes and Regulatory Frameworks	CAT.S.8-1-1 Promoting Legal and Institutional Reforms	CAT.S.8-1-1-1 Calling for Enhanced Environmental Regulations and Enforcement	CAT.S.8-1-1-1-1 Strengthening Governance for Sustainability	C.1.30, C.2.41, C.2.42, C.2.43, C.3.43, C.4.33, C.5.23, C.6.17, C.7.9, C.8.27, C.9.31, C.9.35, C.9.36, C.9.37, C.10.43, C.11.35, C.11.37, C.12.36, C.18.17, C.19.37, C.21.31, C.22.49, C.23.11, C.23.18, C.23.31, C.23.32, C.23.35, C.23.36, C.23.50, C.23.51, C.4.7, C.9.18, C.10.31, C.16.26, C.17.1, C.18.13	19
CAT.S.8 Addressing Systemic Issues Through Policy and Governance	CAT.S.8-1 Advocating for Policy Changes and Regulatory Frameworks	CAT.S.8-1-1 Promoting Legal and Institutional Reforms	CAT.S.8-1-1-2 Calling for a Multi-Stakeholder Approach	CAT.S.8-1-1-2-1 Integrating Sustainability into Education and Public Discourse	C.1.29, C.3.28, C.3.32, C.3.33, C.3.34, C.4.28, C.4.29, C.5.14, C.5.15, C.5.18, C.5.20, C.6.14, C.7.2, C.7.4, C.7.14, C.7.15, C.8.28, C.9.32, C.10.34, C.11.26, C.11.39, C.12.31, C.12.37, C.13.30, C.16.23, C.16.25, C.17.9, C.17.25, C.18.32, C.18.38, C.19.52, C.20.25, C.22.32, C.22.52, C.23.8, C.23.14, C.23.38, C.23.52, C.23.55, C.4.34, C.8.29, C.12.53, C.1.21, C.1.23, C.1.24, C.4.42, C.8.18, C.8.19, C.8.28, C.10.33, C.11.25, C.11.28, C.11.29, C.12.47, C.12.49, C.12.50, C.12.68, C.13.22, C.16.14	19

Category Lvl #1	Category Lvl #2	Category Lvl #3	Category Lvl #4	Category Lvl #5	Supporting Codes	C.
CAT.S.8 Addressing Systemic Issues Through Policy and Governance	CAT.S.8-1 Advocating for Policy Changes and Regulatory Frameworks	CAT.S.8-1-1 Promoting Legal and Institutional Reforms	CAT.S.8-1-1-2 Calling for a Multi-Stakeholder Approach	CAT.S.8-1-1-2-2 Emphasizing Collaboration and Partnerships	C.1.25, C.1.26, C.3.30, C.3.36, C.4.14, C.4.24, C.4.31, C.4.35, C.5.19, C.8.27, C.9.30, C.9.40, C.10.26, C.10.43, C.11.37, C.12.48, C.12.49, C.12.50, C.12.67, C.13.35, C.13.37, C.16.26, C.18.8, C.18.35, C.19.34, C.20.15, C.21.2, C.21.21, C.22.1, C.22.4, C.22.49, C.23.1, C.23.15, C.23.16, C.23.17, C.23.18, C.23.20, C.23.21, C.23.22, C.23.23, C.23.31, C.23.32, C.23.35, C.23.36, C.23.50, C.23.51, C.18.36, C.19.51, C.19.37, C.4.47, C.19.50	17
CAT.S.8 Addressing Systemic Issues Through Policy and Governance	CAT.S.8-2 Responding to Global Crises and Challenges	CAT.S.8-2-1 Analyzing the Impact of Global Events	CAT.S.8-2-1-1 Highlighting Specific Global Challenges	CAT.S.8-2-1-1-2 Connecting Global Events to Societal Values	C.2.44, C.3.49, C.3.50, C.3.52, C.4.46, C.5.13, C.5.21, C.6.17, C.8.7, C.8.26, C.9.16, C.9.46, C.9.7, C.10.7, C.10.15, C.10.42, C.11.45, C.12.18, C.13.10, C.13.39, C.13.42, C.17.1, C.17.2, C.17.21, C.20.26, C.21.22, C.22.50, C.23.6, C.23.57, C.8.17, C.12.11, C.22.7, C.10.22, C.10.23, C.10.29, C.10.30, C.10.44, C.3.43	16
CAT.S.8 Addressing Systemic Issues Through Policy and Governance	CAT.S.8-2 Responding to Global Crises and Challenges	CAT.S.8-2-1 Analyzing the Impact of Global Events	CAT.S.8-2-1-2 Highlighting Specific Global Challenges	CAT.S.8-2-1-2-1 Identifying Threats to Global Security and Well-being	C.9.47, C.9.48, C.9.49, C.9.50	1
CAT.S.8 Addressing Systemic Issues Through Policy and Governance	CAT.S.8-2 Responding to Global Crises and Challenges	CAT.S.8-2-2 Developing Strategies for Mitigation and Adaptation	CAT.S.8-2-2-1 Promoting Preparedness and Resilience	CAT.S.8-2-2-1-1 Advocating for Early Warning Systems and Disaster Preparedness	C.4.39, C.4.44, C.22.53, C.23.19, C.23.52, C.23.55, C.6.21, C.11.44, C.13.37, C.19.44, C.19.48	7
CAT.S.9 Reflecting on Personal Experiences and Perspectives	CAT.S.9-1 Sharing Personal Reflections	CAT.S.9-1-1 Expressing Personal Feelings and Concerns	CAT.S.9-1-1-1 Articulating Emotional Responses to Global Challenges	CAT.S.9-1-1-1-1 Expressing Uncertainty, Anxiety, and Hope	C.2.47, C.3.49, C.3.50, C.8.31, C.9.40, C.9.45, C.9.49, C.10.34, C.10.35, C.10.49, C.10.50, C.11.41, C.12.34, C.13.35, C.16.27, C.18.34, C.19.41, C.19.42, C.20.34, C.20.35, C.22.50, C.23.34, C.23.39, C.23.40, C.8.32, C.10.41	14
CAT.S.9 Reflecting on Personal Experiences and Perspectives	CAT.S.9-1 Sharing Personal Reflections	CAT.S.9-1-1 Expressing Personal Feelings and Concerns	CAT.S.9-1-1-2 Reflecting on Personal Values and Beliefs	CAT.S.9-1-1-2-2 Discussing Personal Growth and Transformation	C.6.12, C.19.4	2

Category Lvl #1	Category Lvl #2	Category Lvl #3	Category Lvl #4	Category Lvl #5	Supporting Codes	C.
CAT.S.9 Reflecting on Personal Experiences and Perspectives	CAT.S.9-1 Sharing Personal Reflections	CAT.S.9-1-2 Describing Motivations and Career Paths	CAT.S.9-1-2-1 Narrating Personal Journeys in the Charitable Sector	CAT.S.9-1-2-1-1 Explaining Career Transitions and Motivations	C.5.27, C.5.28, C.5.29, C.6.1, C.8.2, C.8.4, C.8.5, C.11.2, C.11.4, C.11.7, C.12.3, C.12.4, C.12.5, C.13.2, C.13.3, C.13.7, C.16.1, C.18.1, C.18.2, C.19.13, C.19.15, C.19.19, C.20.1, C.20.5, C.20.6, C.22.5, C.23.2, C.23.4, C.23.6, C.16.28, C.19.49, C.1.41, C.2.1, C.22.57, C.23.12, C.23.15, C.23.16, C.23.17, C.23.18, C.23.20, C.23.21	14
CAT.S.9 Reflecting on Personal Experiences and Perspectives	CAT.S.9-2 Analyzing Societal Trends	CAT.S.9-2-1 Identifying Broader Social and Cultural Shifts	CAT.S.9-2-1-1 Observing Changes in Social Norms and Values	CAT.S.9-2-1-1-1 Recognizing Shifting Perceptions and Priorities	C.1.21, C.2.31, C.4.20, C.4.21, C.4.22, C.4.31, C.6.6, C.7.3, C.8.29, C.9.22, C.9.24, C.10.46, C.11.22, C.12.32, C.12.51, C.13.11, C.13.29, C.16.6, C.16.28, C.19.25, C.21.23, C.21.38, C.22.7, C.22.24, C.22.35, C.22.37, C.22.38, C.23.5, C.23.44, C.23.46, C.12.53, C.17.28, C.19.20, C.19.5, C.23.41, C.23.49, C.3.14, C.3.17, C.3.20, C.3.33, C.3.34, C.4.48, C.5.12, C.5.17, C.6.7, C.6.8, C.8.24, C.10.19, C.10.21, C.10.32, C.10.48, C.10.50, C.10.9, C.11.46, C.12.46, C.16.27, C.16.4, C.16.8, C.16.9, C.18.11, C.18.15, C.18.2, C.18.29, C.18.4, C.18.5, C.18.6, C.19.45, C.20.8, C.20.9, C.20.13, C.20.14, C.22.25, C.22.43	21
CAT.S.9 Reflecting on Personal Experiences and Perspectives	CAT.S.9-2 Analyzing Societal Trends	CAT.S.9-2-1 Identifying Broader Social and Cultural Shifts	CAT.S.9-2-1-1 Observing Changes in Social Norms and Values	CAT.S.9-2-1-1-3 Analyzing Changing Lifestyles and their Impacts	C.3.1, C.3.55, C.7.7 , C.8.31, C.8.32	3
CAT.S.9 Reflecting on Personal Experiences and Perspectives	CAT.S.9-2 Analyzing Societal Trends	CAT.S.9-2-2 Critiquing Dominant Economic and Political Systems	CAT.S.9-2-2-1 Examining the Impact of Capitalism and Industrialization	CAT.S.9-2-2-1-1 Analyzing the Consequences of Economic Systems	C.1.14, C.1.15, C.1.35, C.2.20, C.2.44, C.3.52, C.4.44, C.9.1, C.10.3, C.10.4, C.10.42, C.11.45, C.13.16, C.16.27, C.17.1, C.17.21, C.19.38, C.21.34, C.22.8, C.22.23, C.23.41, C.23.42, C.9.50	14
CAT.S.9 Reflecting on Personal Experiences and Perspectives	CAT.S.9-2 Analyzing Societal Trends	CAT.S.9-2-2 Critiquing Dominant Economic and Political Systems	CAT.S.9-2-2-1 Examining the Impact of Capitalism and Industrialization	CAT.S.9-2-2-1-2 Analyzing the Consequences of Political Systems	C.10.29, C.4.33, C.6.23, C.10.31	3

LLM-Generated Focused Codes (Psychological)

Category Lvl #1	Category Lvl #2	Category Lvl #3	Category Lvl #4	Category Lvl #5	Supporting Codes	C.
CAT.P.1 Conceptualizing Sustainability	CAT.P.1-1 Defining Sustainability Holistically	CAT.P.1-1-1 Integrating Multiple Dimensions	CAT.P.1-1-1-1 Holistic Sustainability Cognition	CAT.P.1-1-1-1-1 Exhibiting Systems Thinking & Interdependence Awareness	C.3.7, C.3.26, C.5.1, C.5.3, C.10.40, C.12.39, C.21.24	5
CAT.P.1 Conceptualizing Sustainability	CAT.P.1-1 Defining Sustainability Holistically	CAT.P.1-1-1 Integrating Multiple Dimensions	CAT.P.1-1-1-1 Holistic Sustainability Cognition	CAT.P.1-1-1-1-2 Integrating Environmental Concerns into Broader Concepts	C.2.9, C.2.15	1
CAT.P.1 Conceptualizing Sustainability	CAT.P.1-1 Defining Sustainability Holistically	CAT.P.1-1-1 Integrating Multiple Dimensions	CAT.P.1-1-1-1 Holistic Sustainability Cognition	CAT.P.1-1-1-1-3 Highlighting Social Dimension of Sustainability	C.8.3	1
CAT.P.1 Conceptualizing Sustainability	CAT.P.1-1 Defining Sustainability Holistically	CAT.P.1-1-2 Emphasizing Intergenerational Equity	CAT.P.1-1-2-1 Prioritizing Future Generations	CAT.P.1-1-2-1-1 Exhibiting Future-Oriented Thinking & Familial Altruism	C.3.5, C.3.6, C.3.7, C.4.8, C.8.23, C.11.31, C.11.33, C.13.33, C.19.33, C.20.33	7
CAT.P.1 Conceptualizing Sustainability	CAT.P.1-1 Defining Sustainability Holistically	CAT.P.1-1-2 Emphasizing Intergenerational Equity	CAT.P.1-1-2-1 Prioritizing Future Generations	CAT.P.1-1-2-1-2 Exhibiting Universal Altruism & Moral Cosmopolitanism	C.10.29, C.12.40, C.12.55, C.12.56, C.12.57, C.16.17, C.16.18, C.17.22, C.18.27, C.20.30, C.22.62	7
CAT.P.1 Conceptualizing Sustainability	CAT.P.1-2 Defining Sustainability Operationally	CAT.P.1-2-1 Emphasizing Long-Term Viability	CAT.P.1-2-1-1 Focusing on Continuity	CAT.P.1-2-1-1-1 Prioritizing Resource Preservation & Conscientiousness	C.1.7, C.2.3, C.7.5, C.9.25, C.9.26, C.17.11, C.20.30	6
CAT.P.1 Conceptualizing Sustainability	CAT.P.1-2 Defining Sustainability Operationally	CAT.P.1-2-1 Emphasizing Long-Term Viability	CAT.P.1-2-1-1 Focusing on Continuity	CAT.P.1-2-1-1-2 Prioritizing Long-Term Project Planning and Management	C.4.3, C.4.36	1
CAT.P.1 Conceptualizing Sustainability	CAT.P.1-2 Defining Sustainability Operationally	CAT.P.1-2-1 Emphasizing Long-Term Viability	CAT.P.1-2-1-1 Focusing on Continuity	CAT.P.1-2-1-1-3 Exhibiting Outcome-Focused Impact Orientation	C.8.22, C.12.30,	2
CAT.P.1 Conceptualizing Sustainability	CAT.P.1-2 Defining Sustainability Operationally	CAT.P.1-2-1 Emphasizing Long-Term Viability	CAT.P.1-2-1-1 Focusing on Continuity	CAT.P.1-2-1-1-4 Prioritizing Resource Preservation	C.23.39	1
CAT.P.2 Integrating Faith and Values	CAT.P.2-1 Connecting Faith to Action	CAT.P.2-1-1 Applying Islamic Principles to Daily Life	CAT.P.2-1-1-1 Applying Sharia Principles	CAT.P.2-1-1-1-1 Demonstrating Integrated Religious Identity & Praxis	C.1.10, C.1.11, C.1.14, C.2.8, C.3.1, C.3.8, C.3.9, C.3.10, C.3.12, C.4.37, C.5.23, C.6.8, C.6.14, C.6.22, C.7.15, C.8.1, C.8.11, C.9.35, C.9.36, C.10.2, C.10.33, C.12.4, C.12.5, C.12.11, C.12.38, C.13.1, C.13.34, C.13.39, C.16.26, C.17.2, C.17.5, C.17.21, C.17.25, C.17.26, C.18.1, C.18.13, C.18.21, C.18.30, C.19.1, C.20.1, C.20.3, C.21.13, C.22.9, C.23.10, C.23.31, C.23.35, C.23.55	20
CAT.P.2 Integrating Faith and Values	CAT.P.2-1 Connecting Faith to Action	CAT.P.2-1-1 Applying Islamic Principles to Daily Life	CAT.P.2-1-1-1 Applying Sharia Principles	CAT.P.2-1-1-1-2 Employing Religious Cognitive Schemas	C.2.16, C.3.2, C.3.11, C.3.38, C.4.38, C.11.15, C.17.9, C.17.10, C.17.13, C.18.32, C.23.11, C.23.20	7

Category Lvl #1	Category Lvl #2	Category Lvl #3	Category Lvl #4	Category Lvl #5	Supporting Codes	C.
CAT.P.2 Integrating Faith and Values	CAT.P.2-1 Connecting Faith to Action	CAT.P.2-1-1 Applying Islamic Principles to Daily Life	CAT.P.2-1-1-1 Applying Sharia Principles	CAT.P.2-1-1-3 Applying Islamic Principles in Conflict Resolution	C.19.14, C.19.16, C.19.17, C.19.18, C.19.19, C.19.21, C.19.24, C.19.27, C.19.28, C.19.29, C.19.30, C.19.36, C.19.39, C.19.40, C.23.21	2
CAT.P.2 Integrating Faith and Values	CAT.P.2-1 Connecting Faith to Action	CAT.P.2-1-2 Applying Islamic Principles to Environmental Concerns	CAT.P.2-1-2-1 Connecting Environmental Stewardship to Faith	CAT.P.2-1-2-1-1 Manifesting Islamic Eco-Theology	C.2.10, C.2.12, C.2.14, C.2.17, C.2.20, C.2.23, C.2.24, C.2.38, C.2.40, C.2.41, C.4.9, C.4.10, C.8.16, C.8.26, C.9.8, C.9.13, C.9.41, C.10.9, C.11.8, C.11.10, C.11.27, C.11.30, C.11.32, C.12.22, C.13.9, C.18.26, C.18.28, C.22.20, C.22.22, C.23.6, C.23.11, C.23.14, C.23.24, C.23.47, C.23.48, C.23.54	11
CAT.P.2 Integrating Faith and Values	CAT.P.2-1 Connecting Faith to Action	CAT.P.2-1-2 Applying Islamic Principles to Environmental Concerns	CAT.P.2-1-2-1 Connecting Environmental Stewardship to Faith	CAT.P.2-1-2-1-2 Extending Moral Consideration to Nature	C.3.4, C.4.39	2
CAT.P.2 Integrating Faith and Values	CAT.P.2-2 Defining Charity Through a Faith-Based Lens	CAT.P.2-2-1 Interpreting Charity as a Religious Duty	CAT.P.2-2-1-1 Conceptualizing Charity Beyond Material Aid	CAT.P.2-2-1-1-1 Exhibiting Holistic Altruism	C.1.9, C.1.25, C.1.36, C.7.14, C.8.17, C.9.31, C.11.28, C.12.7, C.17.24, C.18.25, C.21.6, C.21.8, C.21.18, C.21.26, C.22.59	10
CAT.P.2 Integrating Faith and Values	CAT.P.2-3 Experiencing Faith as a Source of Strength	CAT.P.2-3-1 Finding Resilience in Faith	CAT.P.2-3-1-1 Relying on Faith as a Coping Mechanism	CAT.P.2-3-1-1-1 Employing Religious Coping Strategies	C.1.32, C.1.40, C.2.27, C.2.37, C.3.23, C.3.27, C.3.36, C.4.31, C.4.34, C.4.41, C.4.43, C.4.48, C.6.23, C.7.18, C.8.31, C.8.32, C.8.33, C.10.5, C.10.26, C.10.30, C.11.23, C.11.26, C.12.37, C.12.49, C.13.29, C.13.37, C.13.38, C.16.15, C.16.16, C.17.30, C.18.36, C.18.40, C.19.2, C.19.12, C.19.13, C.19.43, C.20.9, C.20.21, C.20.25, C.21.29, C.22.6, C.22.8, C.22.39, C.22.46, C.22.64, C.23.36, C.23.46	19
CAT.P.2 Integrating Faith and Values	CAT.P.2-3 Experiencing Faith as a Source of Strength	CAT.P.2-3-1 Finding Resilience in Faith	CAT.P.2-3-1-2 Integrating Faith into Strategic Thinking	CAT.P.2-3-1-2-1 Exhibiting Faith-Informed Decision Making	C.23.50, C.23.52, C.23.55	1
CAT.P.2 Integrating Faith and Values	CAT.P.2-4 Understanding the Role of Religion in Society	CAT.P.2-4-1 Discussing the Relationship Between Religion and Culture	CAT.P.2-4-1-1 Analyzing the Interplay of Religion and Culture	CAT.P.2-4-1-1-1 Acknowledging the Influence of Culture on Religious Expression	C.9.32, C.12.50, C.19.26	3
CAT.P.2 Integrating Faith and Values	CAT.P.2-4 Understanding the Role of Religion in Society	CAT.P.2-4-1 Discussing the Relationship Between Religion and Culture	CAT.P.2-4-1-1 Analyzing the Interplay of Religion and Culture	CAT.P.2-4-1-1-2 Differentiating Religious Identity	C.23.51	1

Category Lvl #1	Category Lvl #2	Category Lvl #3	Category Lvl #4	Category Lvl #5	Supporting Codes	C.
CAT.P.3 Defining Morality	CAT.P.3-1 Articulating Universal Moral Principles	CAT.P.3-1-1 Identifying Shared Moral Values	CAT.P.3-1-1-1 Affirming Universal Principles	CAT.P.3-1-1-1-1 Exhibiting Moral Universalism	C.1.12, C.1.17, C.2.28, C.5.9, C.8.12, C.10.17, C.11.17, C.13.16, C.16.10, C.18.15, C.20.18, C.22.15	11
CAT.P.3 Defining Morality	CAT.P.3-1 Articulating Universal Moral Principles	CAT.P.3-1-1 Identifying Shared Moral Values	CAT.P.3-1-1-1 Affirming Universal Principles	CAT.P.3-1-1-1-2 Exhibiting Moral Objectivism	C.2.27, C.3.14, C.9.13, C.9.22, C.9.23, C.11.18, C.12.24, C.16.8, C.19.11, C.19.28, C.21.19, C.22.17	9
CAT.P.3 Defining Morality	CAT.P.3-1 Articulating Universal Moral Principles	CAT.P.3-1-1 Identifying Shared Moral Values	CAT.P.3-1-1-2 Extending Universality to Environmental Care	CAT.P.3-1-1-2-1 Exhibiting Eco- Centric Moral Reasoning	C.8.12, C.11.19, C.19.29, C.22.17	4
CAT.P.3 Defining Morality	CAT.P.3-2 Conceptualizing Moral Action	CAT.P.3-2-1 Defining Morality as Beneficence and Non- Maleficence	CAT.P.3-2-1-1 Prioritizing Prosocial Behavior	CAT.P.3-2-1-1-1 Exhibiting Moral Internalization & Self-Regulation	C.4.10, C.6.12, C.19.8, C.22.57	4
CAT.P.3 Defining Morality	CAT.P.3-2 Conceptualizing Moral Action	CAT.P.3-2-1 Defining Morality as Beneficence and Non- Maleficence	CAT.P.3-2-1-1 Prioritizing Prosocial Behavior	CAT.P.3-2-1-1-2 Exhibiting Moral Condemnation of Harm	C.1.15, C.13.10, C.18.9, C.20.13	4
CAT.P.3 Defining Morality	CAT.P.3-2 Conceptualizing Moral Action	CAT.P.3-2-1 Defining Morality as Beneficence and Non- Maleficence	CAT.P.3-2-1-1 Prioritizing Prosocial Behavior	CAT.P.3-2-1-1-3 Emphasizing Active Moral Agency & Overcoming Bystander Effect	C.1.8, C.4.11, C.5.8, C.8.5, C.11.7, C.11.14, C.13.14, C.18.12	7
CAT.P.3 Defining Morality	CAT.P.3-2 Conceptualizing Moral Action	CAT.P.3-2-1 Defining Morality as Beneficence and Non- Maleficence	CAT.P.3-2-1-1 Prioritizing Prosocial Behavior	CAT.P.3-2-1-1-4 Describing Morality in General Terms	C.11.15, C.12.3, C.13.5, C.16.9, C.18.11, C.20.2, C.22.13, C.23.9, C.23.13	8
CAT.P.3 Defining Morality	CAT.P.3-2 Conceptualizing Moral Action	CAT.P.3-2-2 Acknowledging Moral Complexity	CAT.P.3-2-2-1 Recognizing Cultural Relativism	CAT.P.3-2-2-1-1 Demonstrating Cognitive Flexibility & Perspective-Taking	C.4.19, C.5.12, C.16.8, C.21.32	4
CAT.P.3 Defining Morality	CAT.P.3-2 Conceptualizing Moral Action	CAT.P.3-2-2 Acknowledging Moral Complexity	CAT.P.3-2-2-2 Acknowledging Moral Fallibility	CAT.P.3-2-2-2-1 Exhibiting Self- Awareness & Humility	C.3.17, C.10.49, C.13.22, C.22.48, C.23.19	5
CAT.P.4 Coping with Uncertainty	CAT.P.4-1 Acknowledging Uncertainty	CAT.P.4-1-1 Defining Uncertainty	CAT.P.4-1-1-1 Recognizing Uncertainty as Inherent	CAT.P.4-1-1-1-1 Exhibiting Epistemic Humility & Acceptance	C.1.37, C.17.14, C.17.15, C.17.17, C.18.33, C.20.34, C.23.33, C.23.49	5
CAT.P.4 Coping with Uncertainty	CAT.P.4-1 Acknowledging Uncertainty	CAT.P.4-1-1 Defining Uncertainty	CAT.P.4-1-1-2 Experiencing Increased Uncertainty	CAT.P.4-1-1-2-1 Exhibiting Heightened Cognitive Vigilance & Risk Perception	C.9.39, C.9.45, C.11.41, C.13.35, C.22.53	4
CAT.P.4 Coping with Uncertainty	CAT.P.4-1 Acknowledging Uncertainty	CAT.P.4-1-2 Assessing the Degree of Uncertainty	CAT.P.4-1-2-1 Differentiating Between Types of Uncertainty	CAT.P.4-1-2-1-1 Distinguishing Between Short- Term and Long- Term Uncertainty	C.9.40, C.10.45, C.13.36	3
CAT.P.4 Coping with Uncertainty	CAT.P.4-1 Acknowledging Uncertainty	CAT.P.4-1-2 Assessing the Degree of Uncertainty	CAT.P.4-1-2-1 Differentiating Between Types of Uncertainty	CAT.P.4-1-2-1-2 Distinguishing Between General and Domain- Specific Uncertainty	C.9.44, C.13.36	2
CAT.P.4 Coping with Uncertainty	CAT.P.4-2 Developing Adaptive Strategies	CAT.P.4-2-1 Employing Proactive Planning	CAT.P.4-2-1-1 Utilizing Risk Management Strategies	CAT.P.4-2-1-1-1 Exhibiting Future- Oriented Thinking and Proactive Coping	C.1.38, C.1.39, C.4.44, C.7.16, C.11.44, C.13.39, C.17.16, C.18.35, C.19.44, C.22.55, C.23.35, C.23.39	10

Category Lvl #1	Category Lvl #2	Category Lvl #3	Category Lvl #4	Category Lvl #5	Supporting Codes	C.
CAT.P.4 Coping with Uncertainty	CAT.P.4-2 Developing Adaptive Strategies	CAT.P.4-2-1 Employing Proactive Planning	CAT.P.4-2-1-1 Utilizing Risk Management Strategies	CAT.P.4-2-1-1-2 Describing planning activities related to organizational level	C.1.38, C.1.39, C.4.44, C.7.16, C.13.39, C.22.55, C.23.35, C.23.39	6
CAT.P.4 Coping with Uncertainty	CAT.P.4-2 Developing Adaptive Strategies	CAT.P.4-2-1 Employing Proactive Planning	CAT.P.4-2-1-1 Utilizing Risk Management Strategies	CAT.P.4-2-1-1-3 Describing planning activities related to personal level	C.11.44, C.17.16, C.18.35, C.19.44	4
CAT.P.4 Coping with Uncertainty	CAT.P.4-2 Developing Adaptive Strategies	CAT.P.4-2-1 Employing Proactive Planning	CAT.P.4-2-1-1 Utilizing Risk Management Strategies	CAT.P.4-2-1-1-4 Expressing a Belief in Control Despite Uncertainty	C.18.35, C.19.44	2
CAT.P.4 Coping with Uncertainty	CAT.P.4-2 Developing Adaptive Strategies	CAT.P.4-2-2 Seeking External Information and Expertise	CAT.P.4-2-2-1 Consulting Experts and Seeking Information	CAT.P.4-2-2-1-1 Exhibiting Information- Seeking Behavior & Trust in External Authority	C.23.50, C.23.52, C.23.55	1
CAT.P.4 Coping with Uncertainty	CAT.P.4-2 Developing Adaptive Strategies	CAT.P.4-2-3 Practicing Acceptance and Detachment	CAT.P.4-2-3-1 Accepting Limits of Control	CAT.P.4-2-3-1-1 Demonstrating Cognitive Flexibility & Acceptance of Uncertainty	C.8.33, C.10.48, C.19.43, C.23.36, C.23.46	4
CAT.P.5 Engaging with Societal Issues	CAT.P.5-1 Identifying Societal Problems	CAT.P.5-1-2 Recognizing Environmental Problems	CAT.P.5-1-2-1 Exhibiting Environmental Awareness and Concern	CAT.P.5-1-2-1-2 Demonstrating Emotional Engagement with Environmental Issues	C.2.18, C.2.19, C.3.3, C.4.5, C.4.6, C.4.16, C.8.7, C.8.24, C.10.10, C.10.11, C.11.9, C.12.15, C.12.18, C.12.20, C.12.63, C.18.7, C.19.31, C.20.26, C.22.26, C.22.33, C.22.54, C.23.16, C.23.33, C.23.54	12
CAT.P.5 Engaging with Societal Issues	CAT.P.5-1 Identifying Societal Problems	CAT.P.5-1-2 Recognizing Environmental Problems	CAT.P.5-1-2-1 Exhibiting Environmental Awareness and Concern	CAT.P.5-1-2-1-3 Describing Environmental Issues	C.2.10, C.2.11, C.2.12, C.2.13, C.2.14, C.2.15, C.2.16, C.2.22, C.2.23, C.2.25, C.2.26, C.2.4, C.2.45, C.21.24, C.22.35	3
CAT.P.5 Engaging with Societal Issues	CAT.P.5-1 Identifying Societal Problems	CAT.P.5-1-2 Recognizing Environmental Problems	CAT.P.5-1-2-1 Exhibiting Environmental Awareness and Concern	CAT.P.5-1-2-1-4 Linking Environmental Problems to Specific Regions or Communities	C.4.3, C.23.54	2
CAT.P.5 Engaging with Societal Issues	CAT.P.5-1 Identifying Societal Problems	CAT.P.5-1-3 Identifying Challenges in Charitable Sector	CAT.P.5-1-3-1 Recognizing Obstacles to Charitable Work	CAT.P.5-1-3-1-1 Identifying Systemic and Regulatory Barriers	C.5.23, C.9.46, C.19.48	3
CAT.P.5 Engaging with Societal Issues	CAT.P.5-2 Advocating for Solutions	CAT.P.5-2-1 Promoting Systemic Change	CAT.P.5-2-1-1 Exhibiting Social Justice Orientation	CAT.P.5-2-1-1-1 Advocating for Structural Reforms	C.1.30, C.4.26, C.8.26, C.9.8, C.10.41, C.12.9, C.12.10, C.19.39	7
CAT.P.5 Engaging with Societal Issues	CAT.P.5-2 Advocating for Solutions	CAT.P.5-2-1 Promoting Systemic Change	CAT.P.5-2-1-1 Exhibiting Social Justice Orientation	CAT.P.5-2-1-1-2 Advocating for Policy and Institutional Changes	C.6.16, C.6.17, C.10.26	2
CAT.P.5 Engaging with Societal Issues	CAT.P.5-2 Advocating for Solutions	CAT.P.5-2-2 Promoting Individual Action and Awareness	CAT.P.5-2-2-1 Exhibiting Personal Responsibility and Agency	CAT.P.5-2-2-1-1 Promoting Individual Behavior Change & Pro- Environmental Action	C.1.27, C.1.28, C.1.29, C.3.28, C.3.37, C.5.6, C.5.18, C.5.20, C.8.20, C.11.38, C.17.23, C.18.31, C.21.33, C.23.28	9
CAT.P.5 Engaging with Societal Issues	CAT.P.5-2 Advocating for Solutions	CAT.P.5-2-2 Promoting Individual Action and Awareness	CAT.P.5-2-2-1 Exhibiting Personal Responsibility and Agency	CAT.P.5-2-2-1-2 Promoting Awareness and Consciousness	C.16.23, C.23.35, C.23.38	2

Category Lvl #1	Category Lvl #2	Category Lvl #3	Category Lvl #4	Category Lvl #5	Supporting Codes	C.
CAT.P.5 Engaging with Societal Issues	CAT.P.5-2 Advocating for Solutions	CAT.P.5-2-3 Promoting Collaboration and Collective Action	CAT.P.5-2-3-1 Exhibiting Collective Efficacy and Social Connectedness	CAT.P.5-2-3-1-1 Advocating for Interfaith & Cross-Cultural Cooperation	C.1.24, C.4.30, C.4.31, C.10.42, C.23.8, C.23.36	4
CAT.P.5 Engaging with Societal Issues	CAT.P.5-2 Advocating for Solutions	CAT.P.5-2-3 Promoting Collaboration and Collective Action	CAT.P.5-2-3-1 Exhibiting Collective Efficacy and Social Connectedness	CAT.P.5-2-3-1-2 Promoting Community Involvement & Participation	C.3.30, C.8.27, C.18.8, C.18.32, C.18.49, C.22.49, C.23.36	5
CAT.P.5 Engaging with Societal Issues	CAT.P.5-2 Advocating for Solutions	CAT.P.5-2-3 Promoting Collaboration and Collective Action	CAT.P.5-2-3-1 Exhibiting Collective Efficacy and Social Connectedness	CAT.P.5-2-3-1-3 Describing Societal Response to Environmental Issues	C.1.21, C.1.25, C.1.26, C.17.25, C.18.31	3
CAT.P.5 Engaging with Societal Issues	CAT.P.5-2 Advocating for Solutions	CAT.P.5-2-4 Promoting Technological Solutions	CAT.P.5-2-4-1 Exhibiting Techno-Optimism	CAT.P.5-2-4-1-1 Believing in Technological Innovation for Sustainability	C.7.13, C.12.44, C.12.45, C.18.30, C.22.44, C.22.61, C.22.62	4
CAT.P.5 Engaging with Societal Issues	CAT.P.5-2 Advocating for Solutions	CAT.P.5-2-4 Promoting Technological Solutions	CAT.P.5-2-4-1 Exhibiting Techno-Optimism	CAT.P.5-2-4-1-2 Highlighting Specific Examples of Technological Solutions	C.3.42, C.3.44, C.3.45	1
CAT.P.6 Analyzing the Role of Religion	CAT.P.6-1 Critiquing Religious Institutions and Practices	CAT.P.6-1-1 Identifying Gaps Between Teachings and Practice	CAT.P.6-1-1-1 Observing Disconnects Between Religious Principles and Actions	CAT.P.6-1-1-1-1 Critiquing Religious Leadership & Institutions	C.21.34, C.23.27, C.23.40	2
CAT.P.6 Analyzing the Role of Religion	CAT.P.6-1 Critiquing Religious Institutions and Practices	CAT.P.6-1-1 Identifying Gaps Between Teachings and Practice	CAT.P.6-1-1-1 Observing Disconnects Between Religious Principles and Actions	CAT.P.6-1-1-1-2 Highlighting the Role of External Factors	C.20.24, C.21.14, C.22.40	3
CAT.P.6 Analyzing the Role of Religion	CAT.P.6-1 Critiquing Religious Institutions and Practices	CAT.P.6-1-1 Identifying Gaps Between Teachings and Practice	CAT.P.6-1-1-1 Observing Disconnects Between Religious Principles and Actions	CAT.P.6-1-1-1-3 Noticing Inconsistency in Environmental Practices within Religious Contexts	C.4.25, C.8.18, C.10.33, C.11.23, C.11.25, C.11.27, C.11.28, C.11.29, C.12.28, C.12.34, C.12.48, C.12.65, C.13.22, C.20.23, C.20.24, C.22.34, C.23.34, C.23.47, C.23.56	9
CAT.P.6 Analyzing the Role of Religion	CAT.P.6-1 Critiquing Religious Institutions and Practices	CAT.P.6-1-2 Analyzing Religious Discourse	CAT.P.6-1-2-1 Assessing Content of Religious Sermons	CAT.P.6-1-2-1-1 Perceiving Limited Environmental Focus in Religious Discourse	C.4.25, C.8.18, C.10.33, C.11.25, C.12.28, C.12.48, C.12.65, C.13.22, C.20.23, C.20.24, C.23.48	8
CAT.P.6 Analyzing the Role of Religion	CAT.P.6-1 Critiquing Religious Institutions and Practices	CAT.P.6-1-2 Analyzing Religious Discourse	CAT.P.6-1-2-1 Assessing Content of Religious Sermons	CAT.P.6-1-2-1-2 Advocating for Increased Environmental Focus in Religious Discourse	C.1.18, C.1.22, C.4.29, C.8.19, C.11.30, C.12.50, C.16.14	6
CAT.P.6 Analyzing the Role of Religion	CAT.P.6-1 Critiquing Religious Institutions and Practices	CAT.P.6-1-2 Analyzing Religious Discourse	CAT.P.6-1-2-1 Assessing Content of Religious Sermons	CAT.P.6-1-2-1-3 Identifying Barriers to Understanding Religious Discourse	C.12.49	1
CAT.P.6 Analyzing the Role of Religion	CAT.P.6-1 Critiquing Religious Institutions and Practices	CAT.P.6-1-2 Analyzing Religious Discourse	CAT.P.6-1-2-1 Assessing Content of Religious Sermons	CAT.P.6-1-2-1-4 Describing the Content of Religious Discourse	C.13.22	1

Category Lvl #1	Category Lvl #2	Category Lvl #3	Category Lvl #4	Category Lvl #5	Supporting Codes	C.
CAT.P.6 Analyzing the Role of Religion	CAT.P.6-2 Highlighting the Potential of Religion	CAT.P.6-2-1 Promoting Faith- Based Solutions	CAT.P.6-2-1-1 Advocating for Religious Engagement in Social and Environmental Issues	CAT.P.6-2-1-1-1 Believing in Religion's Capacity to Motivate Ethical Behavior	C.1.22, C.4.28, C.8.17, C.11.26, C.12.64, C.18.46, C.22.64	7
CAT.P.6 Analyzing the Role of Religion	CAT.P.6-2 Highlighting the Potential of Religion	CAT.P.6-2-1 Promoting Faith- Based Solutions	CAT.P.6-2-1-1 Advocating for Religious Engagement in Social and Environmental Issues	CAT.P.6-2-1-1-2 Conceptualizing Religion as a Holistic Framework	C.1.18, C.1.20, C.2.32, C.9.21, C.10.39, C.12.33, C.18.14, C.18.16, C.19.30, C.21.12, C.23.9, C.23.17, C.23.32	9
CAT.P.6 Analyzing the Role of Religion	CAT.P.6-2 Highlighting the Potential of Religion	CAT.P.6-2-1 Promoting Faith- Based Solutions	CAT.P.6-2-1-1 Advocating for Religious Engagement in Social and Environmental Issues	CAT.P.6-2-1-1-3 Highlighting Potential for Religious Influence	C.22.41, C.23.26, C.23.32	2
CAT.P.6 Analyzing the Role of Religion	CAT.P.6-2 Highlighting the Potential of Religion	CAT.P.6-2-1 Promoting Faith- Based Solutions	CAT.P.6-2-1-1 Advocating for Religious Engagement in Social and Environmental Issues	CAT.P.6-2-1-1-4 Perceiving Religion as a Source of Moral Authority	C.3.35, C.3.38, C.4.38, C.4.42, C.5.29, C.9.34, C.9.40, C.10.34, C.10.48, C.11.24, C.12.54, C.12.67, C.13.2, C.13.3, C.19.13, C.20.32, C.21.4, C.21.20, C.22.2, C.22.5, C.22.6, C.23.44	13
CAT.P.6 Analyzing the Role of Religion	CAT.P.6-2 Highlighting the Potential of Religion	CAT.P.6-2-2 Conceptualizing Religion's Influence on Behavior	CAT.P.6-2-2-1 Attributing Moral Behavior to Religious Influence	CAT.P.6-2-2-1-1 Viewing Religion as a Source of Moral Guidance	C.3.16, C.3.18, C.23.32	2
CAT.P.7 Experiencing and Expressing Emotions	CAT.P.7-1 Expressing Negative Emotions	CAT.P.7-1-1 Expressing Concern and Worry	CAT.P.7-1-1-1 Experiencing Anxiety and Distress about Societal and Environmental Issues	CAT.P.7-1-1-1-1 Acknowledging Emotional Impacts of Societal Issues	C.23.41	1
CAT.P.7 Experiencing and Expressing Emotions	CAT.P.7-1 Expressing Negative Emotions	CAT.P.7-1-1 Expressing Concern and Worry	CAT.P.7-1-1-1 Experiencing Anxiety and Distress about Societal and Environmental Issues	CAT.P.7-1-1-1-2 Demonstrating Empathy and Compassion for Vulnerable Populations	C.13.51, C.20.50, C.22.56	3
CAT.P.7 Experiencing and Expressing Emotions	CAT.P.7-1 Expressing Negative Emotions	CAT.P.7-1-1 Expressing Concern and Worry	CAT.P.7-1-1-1 Experiencing Anxiety and Distress about Societal and Environmental Issues	CAT.P.7-1-1-1-3 Expressing Fear about AI	C.9.47	1
CAT.P.7 Experiencing and Expressing Emotions	CAT.P.7-1 Expressing Negative Emotions	CAT.P.7-1-2 Expressing Moral Outrage	CAT.P.7-1-2-1 Condemning Unethical Practices	CAT.P.7-1-2-1-1 Expressing Disgust and Frustration with Perceived Hypocrisy and Injustice	C.9.18, C.10.23, C.12.47, C.18.37, C.22.28, C.22.65, C.23.17, C.23.25, C.23.31, C.23.34, C.23.45, C.23.51	6
CAT.P.7 Experiencing and Expressing Emotions	CAT.P.7-1 Expressing Negative Emotions	CAT.P.7-1-2 Expressing Moral Outrage	CAT.P.7-1-2-1 Condemning Unethical Practices	CAT.P.7-1-2-1-2 Expressing Anger and Disapproval	C.3.52, C.23.41	2
CAT.P.7 Experiencing and Expressing Emotions	CAT.P.7-2 Expressing Positive Emotions	CAT.P.7-2-1 Expressing Gratitude and Appreciation	CAT.P.7-2-1-1 Experiencing Positive Affect	CAT.P.7-2-1-1-1 Expressing Joy and Fulfillment from Helping Others	C.1.41, C.2.1, C.2.46, C.13.29, C.16.27, C.17.20, C.19.49, C.20.6, C.21.37, C.23.2, C.23.20	9

Category Lvl #1	Category Lvl #2	Category Lvl #3	Category Lvl #4	Category Lvl #5	Supporting Codes	C.
CAT.P.8 Engaging with Work and Career	CAT.P.8-1 Describing Professional Roles and Responsibilities	CAT.P.8-1-1 Defining Work Roles	CAT.P.8-1-1-1 Exhibiting Professional Identity and Expertise	CAT.P.8-1-1-1-1 Demonstrating Specialized Knowledge and Competence	C.10.1, C.11.1, C.11.3, C.12.1, C.13.1, C.16.1, C.18.1, C.19.1, C.20.1, C.22.1, C.22.3, C.23.1	10
CAT.P.8 Engaging with Work and Career	CAT.P.8-1 Describing Professional Roles and Responsibilities	CAT.P.8-1-1 Defining Work Roles	CAT.P.8-1-1-1 Exhibiting Professional Identity and Expertise	CAT.P.8-1-1-1-2 Demonstrating Professional Engagement	C.21.2	1
CAT.P.8 Engaging with Work and Career	CAT.P.8-1 Describing Professional Roles and Responsibilities	CAT.P.8-1-1 Defining Work Roles	CAT.P.8-1-1-2 Exhibiting Organizational Awareness and Strategic Thinking	CAT.P.8-1-1-2-1 Demonstrating Strategic Mindset and Organizational Commitment	C.1.3, C.1.35, C.13.6, C.19.2, C.20.31, C.22.4, C.22.47	5
CAT.P.8 Engaging with Work and Career	CAT.P.8-2 Reflecting on Career Trajectory	CAT.P.8-2-1 Describing Career Transitions	CAT.P.8-2-1-1 Exhibiting Adaptability and a Search for Meaning	CAT.P.8-2-1-1-1 Demonstrating Value-Driven Career Shifts	C.1.1, C.6.1, C.11.2, C.12.3, C.13.2, C.13.3, C.19.13, C.21.4, C.22.2, C.22.5	8
CAT.P.8 Engaging with Work and Career	CAT.P.8-2 Reflecting on Career Trajectory	CAT.P.8-2-2 Identifying Motivations for Charitable Work	CAT.P.8-2-2-1 Exhibiting Prosocial Motivation and Altruism	CAT.P.8-2-2-1-1 Demonstrating Empathy and Social Responsibility	C.6.9, C.8.2, C.8.3, C.8.5, C.10.4, C.11.4, C.11.5, C.11.7, C.12.4, C.12.5, C.12.11, C.13.4, C.16.2, C.18.2, C.18.3, C.18.4, C.18.11, C.18.26, C.20.4, C.20.5, C.22.6, C.23.4	11
CAT.P.8 Engaging with Work and Career	CAT.P.8-2 Reflecting on Career Trajectory	CAT.P.8-2-2 Identifying Motivations for Charitable Work	CAT.P.8-2-2-1 Exhibiting Prosocial Motivation and Altruism	CAT.P.8-2-2-1-2 Describing Personal Motives for Charity	C.19.10, C.21.28, C.22.37	3
CAT.P.8 Engaging with Work and Career	CAT.P.8-2 Reflecting on Career Trajectory	CAT.P.8-2-2 Identifying Motivations for Charitable Work	CAT.P.8-2-2-1 Exhibiting Prosocial Motivation and Altruism	CAT.P.8-2-2-1-3 Linking Personal Values with Professional Life	C.19.14, C.19.4, C.20.4	2
CAT.P.8 Engaging with Work and Career	CAT.P.8-3 Conceptualizing the Charitable Sector	CAT.P.8-3-1 Defining the Nature of Charitable Work	CAT.P.8-3-1-1 Understanding Charity as a Multifaceted Concept	CAT.P.8-3-1-1-1 Differentiating Charity from Other Forms of Social Action	C.9.1, C.9.4, C.19.14, C.19.16, C.23.2	3
CAT.P.8 Engaging with Work and Career	CAT.P.8-3 Conceptualizing the Charitable Sector	CAT.P.8-3-1 Defining the Nature of Charitable Work	CAT.P.8-3-1-1 Understanding Charity as a Multifaceted Concept	CAT.P.8-3-1-1-2 Describing Charitable Sector Operations	C.19.20, C.20.2, C.23.3	3
CAT.P.9 Understanding and Applying Islamic Concepts	CAT.P.9-1 Interpreting Key Islamic Concepts	CAT.P.9-1-1 Defining Core Islamic Principles	CAT.P.9-1-1-1 Exhibiting Religious Knowledge and Understanding	CAT.P.9-1-1-1-1 Demonstrating Theological Literacy	C.2.26, C.2.29, C.3.15, C.3.29, C.4.14, C.4.20, C.9.4, C.9.5, C.10.7, C.13.8, C.13.20, C.16.19, C.18.25, C.19.6, C.19.9, C.19.36, C.19.38, C.20.17, C.21.6, C.21.7, C.21.13, C.22.30, C.22.43, C.23.14, C.23.19, C.23.46	13
CAT.P.9 Understanding and Applying Islamic Concepts	CAT.P.9-1 Interpreting Key Islamic Concepts	CAT.P.9-1-1 Defining Core Islamic Principles	CAT.P.9-1-1-1 Exhibiting Religious Knowledge and Understanding	CAT.P.9-1-1-1-2 Articulating Islamic Principles	C.1.11, C.3.34, C.4.24, C.8.2, C.8.25, C.10.18, C.10.50, C.12.36, C.12.59, C.13.11, C.13.15, C.13.26, C.18.3, C.19.17, C.19.32, C.19.39, C.20.12, C.20.21, C.21.38, C.22.4, C.22.47, C.22.64, C.22.66, C.23.11	13

Category Lvl #1	Category Lvl #2	Category Lvl #3	Category Lvl #4	Category Lvl #5	Supporting Codes	C.
CAT.P.9 Understanding and Applying Islamic Concepts	CAT.P.9-1 Interpreting Key Islamic Concepts	CAT.P.9-1-1 Defining Core Islamic Principles	CAT.P.9-1-1-1 Exhibiting Religious Knowledge and Understanding	CAT.P.9-1-1-3 Defining Islamic Terms/Concepts	C.1.16, C.1.40, C.2.13, C.2.20, C.2.24, C.2.47, C.3.31, C.3.55, C.4.31, C.4.45, C.5.28, C.6.18, C.6.21, C.7.16, C.9.12, C.9.34, C.10.14, C.10.45, C.11.1, C.11.3, C.11.27, C.12.1, C.12.21, C.12.37, C.12.49, C.12.53, C.12.54, C.13.20, C.13.36, C.13.38, C.16.4, C.17.17, C.17.18, C.17.23, C.18.2, C.18.10, C.18.35, C.18.45, C.19.26, C.19.51, C.19.52, C.20.31, C.20.34, C.20.34, C.21.1, C.21.11, C.21.15, C.21.38, C.22.4, C.22.51, C.23.11, C.23.57	20
CAT.P.9 Understanding and Applying Islamic Concepts	CAT.P.9-1 Interpreting Key Islamic Concepts	CAT.P.9-1-1 Defining Core Islamic Principles	CAT.P.9-1-1-2 Referencing Religious Texts	CAT.P.9-1-1-2-1 Demonstrating Scriptural Reasoning	C.9.24, C.11.21, C.12.30, C.13.21, C.16.4, C.19.38, C.22.16, C.23.12	8
CAT.P.9 Understanding and Applying Islamic Concepts	CAT.P.9-1 Interpreting Key Islamic Concepts	CAT.P.9-1-2 Explaining Islamic Principles Related to Charity	CAT.P.9-1-2-1 Articulating the Scope of Zakat	CAT.P.9-1-2-1-1 Extending Zakat Beyond Local Communities	C.23.5	1
CAT.P.9 Understanding and Applying Islamic Concepts	CAT.P.9-1 Interpreting Key Islamic Concepts	CAT.P.9-1-2 Explaining Islamic Principles Related to Charity	CAT.P.9-1-2-1 Articulating the Scope of Zakat	CAT.P.9-1-2-1-2 Connecting Zakat to Contemporary Challenges	C.4.46	1
CAT.P.9 Understanding and Applying Islamic Concepts	CAT.P.9-2 Applying Islamic Principles to Contemporary Issues	CAT.P.9-2-1 Applying Islamic Principles to Sustainability	CAT.P.9-2-1-1 Integrating Islamic Ethics with Sustainable Development	CAT.P.9-2-1-1-1 Promoting Islamic Environmental Ethics	C.1.19, C.1.36, C.13.37, C.18.4, C.20.37	4
CAT.P.9 Understanding and Applying Islamic Concepts	CAT.P.9-2 Applying Islamic Principles to Contemporary Issues	CAT.P.9-2-1 Applying Islamic Principles to Sustainability	CAT.P.9-2-1-2 Applying Islamic Principles to Environmental Challenges	CAT.P.9-2-1-2-1 Connecting Specific Environmental Actions to Islamic Principles	C.20.16, C.20.37	1
CAT.P.9 Understanding and Applying Islamic Concepts	CAT.P.9-2 Applying Islamic Principles to Contemporary Issues	CAT.P.9-2-1 Applying Islamic Principles to Sustainability	CAT.P.9-2-1-2 Applying Islamic Principles to Environmental Challenges	CAT.P.9-2-1-2-2 Referencing Islamic Texts to Promote Environmental Protection	C.7.10, C.7.14	1
CAT.P.9 Understanding and Applying Islamic Concepts	CAT.P.9-2 Applying Islamic Principles to Contemporary Issues	CAT.P.9-2-1 Applying Islamic Principles to Sustainability	CAT.P.9-2-1-2 Applying Islamic Principles to Environmental Challenges	CAT.P.9-2-1-2-3 Describing Islamic Perspective on Resource Utilization	C.1.31, C.1.32, C.3.39, C.3.40, C.4.16	3
CAT.P.9 Understanding and Applying Islamic Concepts	CAT.P.9-2 Applying Islamic Principles to Contemporary Issues	CAT.P.9-2-2 Applying Islamic Principles to Charity and Social Justice	CAT.P.9-2-2-1 Interpreting Islamic Teachings on Social Responsibility	CAT.P.9-2-2-1-1 Promoting Social Responsibility based on Islamic Teachings	C.22.11, C.22.17, C.22.34, C.23.24	2
CAT.P.9 Understanding and Applying Islamic Concepts	CAT.P.9-2 Applying Islamic Principles to Contemporary Issues	CAT.P.9-2-2 Applying Islamic Principles to Charity and Social Justice	CAT.P.9-2-2-1 Interpreting Islamic Teachings on Social Responsibility	CAT.P.9-2-2-1-2 Critiquing Social and Economic Systems through an Islamic Lens	C.21.21, C.21.22	1

Category Lvl #1	Category Lvl #2	Category Lvl #3	Category Lvl #4	Category Lvl #5	Supporting Codes	C.
CAT.P.9 Understanding and Applying Islamic Concepts	CAT.P.9-2 Applying Islamic Principles to Contemporary Issues	CAT.P.9-2-3 Applying Islamic Principles to Personal Conduct	CAT.P.9-2-3-1 Integrating Islamic Values into Everyday Actions	CAT.P.9-2-3-1-1 Using Islamic Principles as a Guide for Ethical Decision-Making in Daily Life	C.16.25, C.16.26, C.21.25, C.23.24	3
CAT.P.9 Understanding and Applying Islamic Concepts	CAT.P.9-2 Applying Islamic Principles to Contemporary Issues	CAT.P.9-2-4 Applying Islamic Principles to Governance and Leadership	CAT.P.9-2-4-1 Connecting Leadership with Islamic Values	CAT.P.9-2-4-1-1 Referencing Historical Islamic Examples	C.13.8	1
CAT.P.10 Responding to Environmental Challenges	CAT.P.10-1 Acknowledging Environmental Degradation	CAT.P.10-1-1 Recognizing the Reality of Climate Change and its Impacts	CAT.P.10-1-1-1 Demonstrating Awareness of Climate Change Impacts	CAT.P.10-1-1-1-1 Observing Environmental Changes and Connecting them to Global Issues	C.1.33, C.1.34, C.2.40, C.4.40, C.5.2, C.8.40, C.11.34, C.12.41, C.13.9, C.13.10, C.22.18, C.22.33, C.23.47	10
CAT.P.10 Responding to Environmental Challenges	CAT.P.10-1 Acknowledging Environmental Degradation	CAT.P.10-1-1 Recognizing the Reality of Climate Change and its Impacts	CAT.P.10-1-1-1 Demonstrating Awareness of Climate Change Impacts	CAT.P.10-1-1-1-2 Connecting Climate Change to Human Activities and Systemic Issues	C.2.41, C.3.40, C.4.39, C.9.41, C.18.29, C.23.54	6
CAT.P.10 Responding to Environmental Challenges	CAT.P.10-1 Acknowledging Environmental Degradation	CAT.P.10-1-1 Recognizing the Reality of Climate Change and its Impacts	CAT.P.10-1-1-1 Demonstrating Awareness of Climate Change Impacts	CAT.P.10-1-1-1-3 Linking Environmental Issues to Other Global Challenges	C.3.51, C.3.53, C.3.54, C.3.55, C.4.44, C.5.10, C.5.28, C.6.19, C.7.7, C.8.33, C.9.19, C.9.26, C.10.4, C.10.34, C.10.46, C.10.47, C.10.48, C.10.52, C.11.35, C.11.36, C.12.42, C.13.30, C.18.29, C.18.34, C.19.20, C.19.35, C.19.37, C.19.41, C.19.42, C.19.44, C.19.48, C.20.15, C.20.26, C.20.32, C.20.35, C.20.36, C.21.36, C.22.14, C.22.27, C.22.37, C.22.40, C.22.41, C.22.45, C.22.49, C.23.13, C.23.14, C.23.22, C.23.35, C.23.41, C.23.57	17
CAT.P.10 Responding to Environmental Challenges	CAT.P.10-1 Acknowledging Environmental Degradation	CAT.P.10-1-1 Recognizing the Reality of Climate Change and its Impacts	CAT.P.10-1-1-1 Demonstrating Awareness of Climate Change Impacts	CAT.P.10-1-1-1-4 Expressing Concern about Future Impacts	C.4.1, C.4.36, C.7.2, C.7.8, C.11.40, C.12.6, C.12.23, C.12.31, C.12.34, C.12.35, C.12.43, C.12.51, C.12.52, C.12.54, C.12.61, C.12.62, C.12.69, C.13.32, C.13.35, C.16.22, C.17.6, C.18.23, C.19.37, C.20.35, C.21.35, C.23.18, C.23.56	12
CAT.P.10 Responding to Environmental Challenges	CAT.P.10-1 Acknowledging Environmental Degradation	CAT.P.10-1-2 Identifying Causes of Environmental Problems	CAT.P.10-1-2-1 Attributing Environmental Problems to Human Actions	CAT.P.10-1-2-1-1 Critiquing Industrialization, Capitalism, and Consumerism	C.2.21, C.3.4, C.4.7, C.4.33, C.5.5, C.8.7, C.8.9, C.9.6, C.9.7, C.9.16, C.9.20, C.10.11, C.10.12, C.10.15, C.11.11, C.12.21, C.18.6, C.18.19, C.20.28, C.22.21, C.22.25, C.22.27, C.23.6, C.23.23	13
CAT.P.10 Responding to Environmental Challenges	CAT.P.10-1 Acknowledging Environmental Degradation	CAT.P.10-1-2 Identifying Causes of Environmental Problems	CAT.P.10-1-2-1 Attributing Environmental Problems to Human Actions	CAT.P.10-1-2-1-2 Critiquing Specific Industries and Practices	C.2.18, C.3.42, C.3.43, C.3.44, C.3.45, C.4.36, C.18.20, C.18.22, C.23.23	5

Category Lvl #1	Category Lvl #2	Category Lvl #3	Category Lvl #4	Category Lvl #5	Supporting Codes	C.
CAT.P.10 Responding to Environmental Challenges	CAT.P.10-2 Developing Strategies and Solutions	CAT.P.10-2-1 Advocating for Multifaceted Approaches	CAT.P.10-2-1-1 Integrating Individual and Systemic Solutions	CAT.P.10-2-1-1-1 Recognizing the Need for Holistic Approaches	C.1.32, C.3.31, C.4.37, C.9.31, C.9.32, C.12.36, C.22.48, C.23.36, C.23.48	7
CAT.P.10 Responding to Environmental Challenges	CAT.P.10-2 Developing Strategies and Solutions	CAT.P.10-2-1 Advocating for Multifaceted Approaches	CAT.P.10-2-1-1 Integrating Individual and Systemic Solutions	CAT.P.10-2-1-1-2 Analyzing failures in current approaches	C.12.35, C.23.51, C.23.48	2
CAT.P.10 Responding to Environmental Challenges	CAT.P.10-2 Developing Strategies and Solutions	CAT.P.10-2-2 Emphasizing Education and Awareness	CAT.P.10-2-2-1 Promoting Environmental Literacy	CAT.P.10-2-2-1-1 Highlighting the Role of Knowledge in Shaping Behavior	C.3.32, C.3.33, C.3.34, C.5.15, C.5.19, C.5.25, C.10.28, C.11.37, C.12.68, C.17.25, C.17.27, C.18.32, C.21.23, C.22.37, C.23.38	10
CAT.P.10 Responding to Environmental Challenges	CAT.P.10-2 Developing Strategies and Solutions	CAT.P.10-2-3 Advocating for Policy and Regulatory Interventions	CAT.P.10-2-3-1 Promoting Government Action and Accountability	CAT.P.10-2-3-1-1 Recognizing the Role of Governance in Environmental Protection	C.4.41, C.4.43, C.6.17, C.12.46, C.23.45	4
CAT.P.10 Responding to Environmental Challenges	CAT.P.10-2 Developing Strategies and Solutions	CAT.P.10-2-5 Addressing Specific Environmental Challenges	CAT.P.10-2-5-1 Promoting Waste Reduction and Responsible Consumption	CAT.P.10-2-5-1-1 Highlighting Individual Actions for Environmental Protection	C.11.39, C.13.26, C.20.25, C.23.37	4
CAT.P.10 Responding to Environmental Challenges	CAT.P.10-2 Developing Strategies and Solutions	CAT.P.10-2-6 Promoting Adaptation to Environmental Changes	CAT.P.10-2-6-1 Advocating for Adaptive Strategies	CAT.P.10-2-6-1-1 Highlighting the Need for Infrastructure Adjustments	C.23.37	1
CAT.P.10 Responding to Environmental Challenges	CAT.P.10-2 Developing Strategies and Solutions	CAT.P.10-2-7 Promoting Sustainable Consumption	CAT.P.10-2-7-1 Addressing Overconsumption	CAT.P.10-2-7-1-1 Advocating Sustainable Consumption	C.21.33	1
CAT.P.10 Responding to Environmental Challenges	CAT.P.10-3 Linking Specific Issues to Sustainability Discourses	CAT.P.10-3-1 Connecting Water Scarcity to Sustainability	CAT.P.10-3-1-1 Recognizing Resource Constraints	CAT.P.10-3-1-1-1 Highlighting the Urgency of Water Conservation	C.4.2, C.7.1, C.13.28, C.22.19, C.23.28	5
CAT.P.11 Expressing Personal Views and Experiences	CAT.P.11-1 Sharing Personal Anecdotes and Observations	CAT.P.11-1-1 Relating Personal Experiences to Broader Issues	CAT.P.11-1-1-1 Using Personal Narratives to Illustrate Concepts	CAT.P.11-1-1-1-1 Connecting Lived Experience to Abstract Ideas	C.4.1, C.4.5, C.7.3, C.11.10, C.12.37, C.13.25, C.19.46, C.21.2, C.21.20, C.21.38, C.22.31, C.22.32, C.22.35, C.22.36, C.23.37	9
CAT.P.11 Expressing Personal Views and Experiences	CAT.P.11-1 Sharing Personal Anecdotes and Observations	CAT.P.11-1-1 Relating Personal Experiences to Broader Issues	CAT.P.11-1-1-1 Using Personal Narratives to Illustrate Concepts	CAT.P.11-1-1-1-2 Linking Personal Experiences with Social Issues	C.6.4	1
CAT.P.11 Expressing Personal Views and Experiences	CAT.P.11-1 Sharing Personal Anecdotes and Observations	CAT.P.11-1-2 Expressing Emotional Connection to Nature	CAT.P.11-1-2-1 Experiencing Nature's Impact on Well-being	CAT.P.11-1-2-1-1 Describing Nature- Related Activities and Experiences	C.21.24	1
CAT.P.11 Expressing Personal Views and Experiences	CAT.P.11-2 Reflecting on Personal Practices and Beliefs	CAT.P.11-2-1 Describing Personal Actions Related to Research Topics	CAT.P.11-2-1-1 Integrating Environmental Consciousness into Daily Life	CAT.P.11-2-1-1-1 Demonstrating Pro- Environmental Behavior	C.5.21, C.7.12, C.8.21, C.11.20, C.13.40, C.19.31, C.21.25	7
CAT.P.11 Expressing Personal Views and Experiences	CAT.P.11-2 Reflecting on Personal Practices and Beliefs	CAT.P.11-2-1 Describing Personal Actions Related to Research Topics	CAT.P.11-2-1-1 Integrating Environmental Consciousness into Daily Life	CAT.P.11-2-1-1-2 Connecting Personal Actions to Broader Impacts	C.16.23, C.23.35	2

Category Lvl #1	Category Lvl #2	Category Lvl #3	Category Lvl #4	Category Lvl #5	Supporting Codes	C.
CAT.P.11 Expressing Personal Views and Experiences	CAT.P.11-2 Reflecting on Personal Practices and Beliefs	CAT.P.11-2-1 Describing Personal Actions Related to Research Topics	CAT.P.11-2-1-1 Integrating Environmental Consciousness into Daily Life	CAT.P.11-2-1-1-3 Motivating Environmental Action through Aesthetics	C.13.25, C.13.26	1
CAT.P.11 Expressing Personal Views and Experiences	CAT.P.11-2 Reflecting on Personal Practices and Beliefs	CAT.P.11-2-1 Describing Personal Actions Related to Research Topics	CAT.P.11-2-1-2 Reflecting on Spirituality and Faith in Daily Life	CAT.P.11-2-1-2-1 Describing Personal Religious Commitment	C.1.10, C.1.11, C.1.14, C.1.31, C.2.8, C.2.35, C.3.1, C.3.8, C.3.9, C.3.10, C.3.12, C.3.21, C.3.24, C.3.25, C.3.27, C.3.36, C.3.39, C.3.41, C.3.46, C.3.47, C.3.48, C.4.37, C.4.45, C.4.48, C.5.23, C.6.8, C.6.14, C.6.21, C.6.22, C.6.23, C.7.15, C.8.1, C.8.11, C.8.25, C.9.1, C.9.35, C.9.36, C.9.37, C.10.2, C.10.4, C.10.33, C.10.46, C.10.52, C.11.4, C.12.4, C.12.5, C.12.11, C.12.12, C.12.38, C.12.51, C.12.52, C.13.1, C.13.28, C.13.34, C.13.38, C.13.39, C.16.26, C.17.2, C.17.5, C.17.21, C.17.25, C.17.26, C.18.1, C.18.13, C.18.21, C.18.30, C.19.1, C.19.13, C.19.15, C.19.41, C.20.1, C.20.3, C.20.4, C.20.22, C.20.24, C.20.29, C.21.13, C.21.31, C.21.33, C.22.9, C.22.11, C.22.44, C.23.10, C.23.31, C.23.35, C.23.55	21
CAT.P.11 Expressing Personal Views and Experiences	CAT.P.11-2 Reflecting on Personal Practices and Beliefs	CAT.P.11-2-1 Describing Personal Actions Related to Research Topics	CAT.P.11-2-1-2 Reflecting on Spirituality and Faith in Daily Life	CAT.P.11-2-1-2-2 Practicing Personal Faith	C.13.40, C.19.26, C.20.5, C.21.25, C.22.57	5
CAT.P.11 Expressing Personal Views and Experiences	CAT.P.11-2 Reflecting on Personal Practices and Beliefs	CAT.P.11-2-2 Acknowledging Personal Limitations and Inconsistencies	CAT.P.11-2-2-1 Demonstrating Self-Awareness and Honesty	CAT.P.11-2-2-1-1 Admitting to Gaps Between Beliefs and Actions	C.1.13, C.1.23, C.4.27, C.5.16, C.5.17, C.5.24, C.5.26, C.8.30, C.8.33, C.10.20, C.11.16, C.11.43, C.13.22, C.16.15, C.17.26, C.18.4, C.19.18, C.20.20, C.20.28, C.22.20, C.22.42, C.23.37	14
CAT.P.11 Expressing Personal Views and Experiences	CAT.P.11-2 Reflecting on Personal Practices and Beliefs	CAT.P.11-2-2 Acknowledging Personal Limitations and Inconsistencies	CAT.P.11-2-2-1 Demonstrating Self-Awareness and Honesty	CAT.P.11-2-2-1-2 Admitting to Insufficiency of Personal Actions	C.23.14, C.23.23, C.23.34, C.23.47, C.23.56	1

Category Lvl #1	Category Lvl #2	Category Lvl #3	Category Lvl #4	Category Lvl #5	Supporting Codes	C.
CAT.P.11 Expressing Personal Views and Experiences	CAT.P.11-2 Reflecting on Personal Practices and Beliefs	CAT.P.11-2-3 Reflecting on the Interplay of Faith and Action	CAT.P.11-2-3-1 Integrating Religious Beliefs with Daily Life	CAT.P.11-2-3-1-1 Navigating the Tension Between Religious Ideals and Practical Realities	C.2.16, C.3.13, C.3.18, C.3.19, C.4.12, C.4.18, C.5.11, C.5.14, C.5.26, C.6.10, C.6.13, C.8.14, C.9.11, C.9.15, C.9.28, C.10.21, C.10.24, C.11.16, C.11.42, C.12.23, C.12.33, C.13.11, C.13.18, C.13.24, C.13.30, C.16.11, C.16.13, C.18.3, C.18.13, C.18.36, C.19.25, C.20.12, C.20.25, C.21.10, C.21.10, C.21.12, C.21.16, C.21.23, C.22.23, C.23.17, C.23.27, C.23.30, C.23.57	18
CAT.P.11 Expressing Personal Views and Experiences	CAT.P.11-2 Reflecting on Personal Practices and Beliefs	CAT.P.11-2-3 Reflecting on the Interplay of Faith and Action	CAT.P.11-2-3-1 Integrating Religious Beliefs with Daily Life	CAT.P.11-2-3-1-2 Expressing a Sense of Moral Accountability to a Higher Power	C.6.18, C.6.20, C.9.47, C.19.42	3
CAT.P.11 Expressing Personal Views and Experiences	CAT.P.11-2 Reflecting on Personal Practices and Beliefs	CAT.P.11-2-3 Reflecting on the Interplay of Faith and Action	CAT.P.11-2-3-1 Integrating Religious Beliefs with Daily Life	CAT.P.11-2-3-1-3 Conceptualizing 'Deen' holistically	C.13.18, C.13.24, C.16.13, C.20.21, C.23.9, C.23.17, C.23.32	4
CAT.P.11 Expressing Personal Views and Experiences	CAT.P.11-2 Reflecting on Personal Practices and Beliefs	CAT.P.11-2-3 Reflecting on the Interplay of Faith and Action	CAT.P.11-2-3-1 Integrating Religious Beliefs with Daily Life	CAT.P.11-2-3-1-4 Integrating Religious Practice with Secular Concerns	C.21.25, C.22.34, C.22.35, C.22.36	2
CAT.P.11 Expressing Personal Views and Experiences	CAT.P.11-2 Reflecting on Personal Practices and Beliefs	CAT.P.11-2-3 Reflecting on the Interplay of Faith and Action	CAT.P.11-2-3-1 Integrating Religious Beliefs with Daily Life	CAT.P.11-2-3-1-5 Expressing Personal Beliefs Explicitly	C.10.25, C.11.42, C.12.53, C.19.28, C.19.45, C.20.7, C.21.5, C.21.9, C.21.35, C.22.3, C.22.47, C.22.64, C.22.66, C.23.1, C.23.11, C.23.20, C.23.22, C.23.24, C.23.57	8

LLM Prompts: Initial Coding

--- START OF INSTRUCTIONS ---

1. Assume role of a researcher who intends to do qualitative analysis by applying Charmazian 'initial coding' step of 'constructivist grounded theory' methodology on input data.
2. Keep in mind research overview with motivation, objectives, and research questions, as shared before, when doing analysis to provide a perspective.
3. Before conducting Initial Coding keep in mind the following:
 - In order to generate richer and more nuanced insights that go beyond self-reported statements by participants, adopt a 'religio-socio-psychological perspective' (RSP) to uncover underlying motivations, major behavioral patterns, and implicit attitudes to prepare for agent-based modeling.
 - An uploaded transcript might have many Interviews included, if so, they will be separated by headers and footers. Distinguish between different Interviews/Interviewees by the unique [INTERVIEW_NUMBER].
 - [INTERVIEW_NUMBER] = 14 and 15 are excluded from the series. So, active [INTERVIEW_NUMBER] are 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 16, 17, 18, 19, 20, 21, 22, and 23.
 - Focus on language and narrative but keep in mind that most of participants are non-native English speakers, some are not proficient with English at all. [INTERVIEW_NUMBER] = 6 and 21, were assisted by interpreters. [INTERVIEW_NUMBER] = 7, 16, 17, and 18, requested and received interview questions in advance, so, they might have been prepared for questions.
 - Identify social and cultural context, keep in mind that all participants are executives and senior managers at Islamic charities that are primarily invested in humanitarian relief. Interviewees denoted by [INTERVIEW_NUMBER] = 8, 9, 10, 11, 12, 13 and 19 work at UK-based charities, some of them are Muslim converts from European heritage while some come from families who might have immigrated to the UK from historically Muslim countries long time ago. Other non-UK interviewees are based in the GCC with [INTERVIEW_NUMBER] = 18, 22, and 23 acting as expats in the region, and all other GCC participants being natives of Gulf countries.
4. Conduct Initial Coding as follows:
 - Very important! When coding, read but do not code lines and responses by the 'Interviewer'. Code only lines by 'Interviewee' and lines by 'Interpreter' when they are translating responses by 'Interviewee'.
 - Start coding from the very first meaningful Interviewee response in transcript. Do not skip any early response.
 - Code transcripts by meaningful segments of text that express a complete idea or concept related to the code. Each segment should be long enough to provide sufficient context for understanding, avoiding isolated words or extremely short phrases (like "OK" or "Hmm") unless they carry significant meaning in the specific context. Prioritize capturing complete thoughts and arguments relevant to the research objectives.
 - It is crucial that you capture 'Verbatim Quotes' by respondents that have been coded, that is, exact quotes as provided word for word in the transcript (no correcting, no summarizing, etc.) that went into a code.

- A code may have many quotes that are listed under it. A quote may also correspond to more than one code, if it contains relevant information.
- No artificial boundaries. There is no standard number of quotes that should go under each code. It depends on that particular code and richness of the interview transcript.
- If you have to, you may take breaks when printing output and do it in steps or 'Batches' or passes, asking for my input to proceed after each batch. Unless otherwise instructed try to include 8 codes in every batch to avoid mid-sentence cutoff in the table. If you start getting cutoffs you may lower the number of codes per batch.
- Constant Comparison: As you code subsequent interviews (and subsequent data segments within each interview), constantly compare the new data segments to the existing codes.
- a) If a new data segment expresses exactly (that is, as per an RSP assessment) the same idea or concept as an existing code, assign it to that code and add the new verbatim quote to the 'Supporting Quote' column of the existing code.
- b) If a new data segment adds a nuance or dimension to an existing code, refine the Code Name, Observable Behavior, or any of the RSP Insight cells as needed to reflect this added depth, and add the new Verbatim Quote to the 'Supporting Quote' column.
- c) If a new data segment represents a genuinely new concept not captured by existing codes, create a new code, following the specified format.

5. Generate outputs for your analysis as a 'Coding Table' in the following spreadsheet format:

- The title row in the format of [CODE_NUMBER] | [CODE_NAME] | [OBSERVABLE_BEHAVIOR] | [PI] | [SI] | [RI] | [QUOTE_NUMBER] & [VERBATIM_QUOTE] | [MEMO]
- The titles should read 'Code #' | 'Code Name' | 'Observable Behavior' | 'Psychological Insight' | 'Sociological Insight' | 'Religious Insight' | 'Supporting Quote' | 'Memo'
- 'Code #' refers to [CODE_NUMBER], named according to C.[INTERVIEW_NUMBER].[CODE_SERIAL], e.g., C.1.1, C.1.2, ... C.1.14 for [INTERVIEW_NUMBER] = 1.
- 'Code Name' refers to [CODE_NAME], given according to religio-socio-psychological perspective. Use gerunds. Do not include proper nouns, e.g., ORGANIZATION_1, ORGANIZATION_2, etc. in 'Code Name'.
- 'Observable Behavior' refers to [OBSERVABLE_BEHAVIOR], as a concrete and objective evidence from the interview as to on what basis it was coded, that should be the first part/sentence. The second part/sentence of the field should start with 'Bias:' and analyze the potential for self-reporting biases in the interviewee's statement. Consider whether the interviewee might be motivated to present themselves or their organization in a favorable light, if they are downplaying negative aspects, or using specific language to manage their image. Also, cross-compare the current statement with other statements made by the same participant in the interview to identify any potential inconsistencies or contradictions that might suggest bias. If there are no obvious signs of self-reporting biases, or if it is not applicable to the specific quote, simply state: 'No apparent self-reporting bias.'
- 'Psychological Insight' refers to [PI], as psychological insight or interpretation that focuses purely on individual cognitive, emotional, behavioral, developmental, personality, or social psychology mechanisms.

Maximize the use of specific and relevant psychological terms. Explicitly connect interviewee statements to specific psychological phenomena. Go beyond surface-level observations; aim for depth and specificity in your analysis.

- 'Sociological Insight' refers to [SI], as sociological insight or interpretation that captures social structures, culture, social change, social problems, and group or organizational dynamics. Maximize the use of specific and relevant sociological terms. Explicitly connect interviewee statements to specific sociological concepts. Go beyond surface-level observations; aim for depth and specificity in your analysis.

- 'Religious Insight' refers to [RI], as religious insight or interpretation that focuses on faith-based meaning-making and provides religious-Islamic explanation of the code. Distinguish between explicit references by participant, preceded by 'Explicit:', and interpretations by analyst (you the AI), preceded by 'Interpretative:'. In the explicit part do not quote the participant for this would take up too much space, just summarize the explicit evidence, you may refer to specific religious terms if spoken by the participant. In the interpretative part employ proper religious-Islamic terminology. Use anglicized Arabic terms but do not use non-Latin fonts. A cell accommodates both explicit and interpretative comments simultaneously if applicable. If no explicit evidence is available in the code do not print 'Explicit:' at all, and just leave the explicit part empty. 'Interpretative:' on the other you never leave blank, try to provide a religious-Islamic commentary for every code regardless based on your assessment.

- 'Supporting Quote' refers to [QUOTE_NUMBER] with [VERBATIM_QUOTE] of the verbatim quote by the Interviewee that you selected in support of a respective code named as per Q.[INTERVIEW_NUMBER].[QUOTE_SERIAL], e.g., Q.1.1, Q.1.2, ... Q.1.14 for [INTERVIEW_NUMBER] = 1. Code and include only quotes by Interviewees and Interpreters (if translating from the Interviewee to the Interviewer). Do not include any quotes by Interviewers.

- 'Memo' refers to [MEMO], as your suggestions on the code level for potential coding operations of mergers, consolidations, renaming, or subcoding. Do not include trivial and redundant information such as re-explaining or re-describing the code. Do not include "Explore..." type of future-oriented suggestions since all interviews have been already completed. Include numbers for codes or categories when referring to existing ones. Leave simply blank if no relevant information is available.

6. End sentences in all cells except [CODE_NUMBER], [CODE_NAME], and [QUOTE_NUMBER] with a period or full stop.

7. Make sure [QUOTE_SERIAL] numbers for the same interview follow without skipping any numbers in sequence. The same for Batches, make sure you keep track of all [CODE_NUMBER] and [QUOTE_NUMBER]. If, let's say, the last quote in a Batch is Q.7.53 and the last code is C.7.18, the quotes and codes in the next Batch should start from where it was left off, that is, Q.7.54 and C.7.19, respectively. Do not reset them unless you start a new interview.

8. As a checkpoint, provide me with both the first and the last sentence in the text pasted in the chat box before you start coding. Proceed only after I give you a go. Prompt for these checkpoints only for once for each data entry, you don't need to show them in each iterative Batch.

--- END OF INSTRUCTIONS ---

Prompt me when you're ready to receive the data.

LLM Prompts: Focused Coding (Religious)

--- START OF INSTRUCTIONS ---

Instruction 1: Assume role of a researcher who intends to conduct Charmazian 'focused coding' of 'constructivist grounded theory' on initial coding data.

Instruction 2: Keep in mind research overview with motivation, objectives, and research questions, as shared in this thread, when doing analysis to provide a perspective.

Instruction 3: In this thread only the Islamic religious lens, that is the 'R', out of three in 'RSP', will be adopted, supported by Observable Behavior field (if provided by the user) including hints at potential self-reporting biases by the participants.

Instruction 4: To familiarize you with the input data, Initial Coding was previously done by AI according to the following instructions up to Instruction 5:

- In order to generate richer and more nuanced insights that go beyond self-reported statements by participants, adopt a 'religio-socio-psychological perspective' (RSP) to uncover underlying motivations, major behavioral patterns, and implicit attitudes to prepare for agent-based modeling.
- An uploaded transcript might have many Interviews included, if so, they will be separated by headers and footers. Distinguish between different Interviews/Interviewees by the unique [INTERVIEW_NUMBER].
- [INTERVIEW_NUMBER] = 14 and 15 are excluded from the series. So, active [INTERVIEW_NUMBER] are 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 16, 17, 18, 19, 20, 21, 22, and 23.
- Focus on language and narrative but keep in mind that most of participants are non-native English speakers, some are not proficient with English at all. [INTERVIEW_NUMBER] = 6 and 21, were assisted by interpreters. [INTERVIEW_NUMBER] = 7, 16, 17, and 18, requested and received interview questions in advance, so, they might have been prepared for questions.
- Identify social and cultural context, keep in mind that all participants are executives and senior managers at Islamic charities that are primarily invested in humanitarian relief. Interviewees denoted by [INTERVIEW_NUMBER] = 8, 9, 10, 11, 12, 13 and 19 work at UK-based charities, some of them are Muslim converts from European heritage while some come from families who might have immigrated to the UK from historically Muslim countries long time ago. Other non-UK interviewees are based in the GCC with [INTERVIEW_NUMBER] = 18, 22, and 23 acting as expats in the region, and all other GCC participants being natives of Gulf countries.

Instruction 5: An uploaded/pasted Initial Coding Table has the following format:

- The title row has the format of [CODE_NUMBER] | [CODE_NAME] | [OBSERVABLE_BEHAVIOR] | [RI]
- The titles should read 'Code #' | 'Code Name' | 'Observable Behavior' | 'Religious Insight'

- 'Code #' refers to [CODE_NUMBER], named according to C.[INTERVIEW_NUMBER].[CODE_SERIAL], e.g., C.7.1, C.7.2, ... C.7.14 for [INTERVIEW_NUMBER] = 7.

- 'Code Name' refers to [CODE_NAME], given according to religio-socio-psychological perspective using gerunds.

- 'Observable Behavior' refers to [OBSERVABLE_BEHAVIOR], as a concrete and objective evidence from the interview as to on what basis it was coded, that should be the first part/sentence. The second part/sentence of the field should start with 'Bias:' and analyze the potential for self-reporting biases in the interviewee's statement. Depending on the text input limitations of the AI model the 'Observable Behavior' column might (or not) be removed from the source data.

- 'Religious Insight' refers to [RI], as religious insight or interpretation that focuses on faith-based meaning-making and provides religious-Islamic explanation of the code. Explicit references by participant are preceded by 'Explicit:', and interpretations by analyst (the AI) are preceded by 'Interpretative:'. A cell accommodates both explicit and interpretative comments simultaneously if applicable.

5. Conduct Focused Coding as follows:

- Initial Coding Table will be uploaded/pasted by the user.

- Wait until all parts, 885 codes from 21 interviews have been successfully provided by the user.

- Once all initial codes have been provided, integrate them and treat them as single dataset (Initial Coding Table), do an initial scan of all codes in the integrated dataset to identify recurring major themes, patterns across interviews, and to map relationships to research objectives.

- Perform a comprehensive cross-interview analysis of all data on the Initial Coding Table. Identify all patterns, themes, categories, subcategories, etc. assessing the Observable Behavior (if available) and Religious Insight. Leave no code unassessed.

- Adopt a simple hierarchy for categorization of codes with 'Category Lvl 1 -> Category Lvl 2 -> Category Lvl 3 -> Category Lvl 4 -> Category Lvl 5' structure, with increasing levels ('Lvl') being more particular and specific, each level subordinated by its parent level (Lvl 1 is a parent of Lvl 2, which is a parent of Lvl 3, and so on). There can be no subordinate/child categories without their parent categories. For the rest of this instructions document the word 'category' is used to represent generally any level of category.

- Due to this hierarchical structure it is assumed that parent categories have sum or aggregate of their child categories' respective fields, i.e., don't provide separate rows where only parent categories are shown, remain loyal to 5-level structure.

- Populate all first four level (Lvl 1, Lvl 2, Lvl 3, and Lvl 4) category cells on a table row. Break Lvl 4 categories into Lvl 5 if supporting codes in Lvl 4 category cell are rich and many. Leave Lvl 5 category cell empty if it is not feasible to subcategorize the respective Lvl 4 category. We can do this manually later on.

- Do not create a category first and then try to relate it, instead create categories based on their relationships to other categories. How categories relate to each other is crucial for theory development.

- When creating a category, make sure you always consider codes from all interviews in the Initial Coding Table. Unless a code is an important outlier that needs to be made into a category by itself do not build categories consisting of a single code, or of codes from a single interview, instead always maintain a rich cross-interview and cross-code assessment before creating categories.
- When creating a category, create focused categories that are highly detailed and nuanced in their specificity. Each category should thoroughly capture the Islamic religious and behavioral nuances of the supporting codes, using precise Islamic religious terminology and detailed descriptions. Strive for a level of granularity at Lvl 5 that eliminates the need for splitting Lvl 5 categories further in future stages, while still allowing for potential merging or consolidation.
- Ensure each category is relevant to the research objectives and that all codes are exhaustively mapped. Provide detailed justifications in the 'Memo' section for keeping categories separate and note any alternative categorizations considered.
- The same code may be ascribed to more than one category.
- No artificial boundaries. There is no fixed number of codes that should go under each category. It depends on your analysis. Avoid single-code categories.
- Try to limit the number of categories (basically rows) to print out per batch (if any) to 10 to avoid cutoffs.

6. Generate outputs for your analysis as a 'Focused Coding Table' in the following spreadsheet format:

- The title row in the format of

```
[CATEGORY_LVL1_NUMBER]+[CATEGORY_LVL1_NAME] |
[CATEGORY_LVL2_NUMBER]+[CATEGORY_LVL2_NAME] |
[CATEGORY_LVL3_NUMBER]+[CATEGORY_LVL3_NAME] |
[CATEGORY_LVL4_NUMBER]+[CATEGORY_LVL4_NAME] |
[CATEGORY_LVL5_NUMBER]+[CATEGORY_LVL5_NAME] | [CODE_NUMBER] | [RI] |
[RELATIONSHIP] | [MEMO] | [AUDIT_TRAIL]
```
- Titles in the first row should read 'Category Lvl #1' | 'Category Lvl #2' | 'Category Lvl #3' | 'Category Lvl #4' | 'Category Lvl #5' | 'Supporting Code' | 'Religious Insight' | 'Relationship' | 'Memo' | 'Audit Trail'

- 'Category Lvl #1' refers to [CATEGORY_LVL1_NUMBER] followed by [CATEGORY_LVL1_NAME] with a whitespace between them. [CATEGORY_LVL1_NUMBER] is named according to CAT.X.[CODE_SERIAL] where X is 'R' for focused coding based on Religious Insight data, e.g., CAT.R.1, CAT.R.2, ... CAT.R.3. Keep track of all given [CATEGORY_LVL1_NUMBER] so numbering between batches proceeds uninterrupted. [CATEGORY_LVL1_NAME] should be given to reflect on the respective Islamic religious insights for the codes that are grouped under itself. Do not give merely descriptive names. Give nuanced, explanatory, and sophisticated category names using Islamic terminology. Use gerunds. Do not include proper nouns, e.g., ORGANIZATION_1, Kuwait, etc. for naming.

- 'Category Lvl #2' refers to [CATEGORY_LVL2_NUMBER] followed by [CATEGORY_LVL2_NAME] with a whitespace between them. [CATEGORY_LVL2_NUMBER] is named similar to its parent [CATEGORY_LVL1_NUMBER], add a numerical suffix with a dash, e.g., CAT.R.1-1, CAT.R.1-2, CAT.R.1-3 etc. Keep track of all given

[CATEGORY_LVL2_NUMBER] so numbering between batches proceeds uninterrupted. [CATEGORY_LVL2_NAME] should be given to reflect on the respective Islamic religious insights for the codes that are grouped under itself. Do not give merely descriptive names. Give nuanced, explanatory, and sophisticated category names using Islamic terminology. Use gerunds. Do not include proper nouns, e.g., ORGANIZATION_1, Kuwait, etc. for naming.

- 'Category Lvl #3' refers to [CATEGORY_LVL3_NUMBER] followed by [CATEGORY_LVL3_NAME] with a whitespace between them. [CATEGORY_LVL3_NUMBER] is named similar to its parent [CATEGORY_LVL2_NUMBER], add a numerical suffix with a dash, e.g., CAT.R.1-1-1, CAT.R.1-1-2, CAT.R.1-1-3 etc. Keep track of all given [CATEGORY_LVL3_NUMBER] so numbering between batches proceeds uninterrupted. [CATEGORY_LVL3_NAME] should be given to reflect on the respective Islamic religious insights for the codes that are grouped under itself. Do not give merely descriptive names. Give nuanced, explanatory, and sophisticated category names using Islamic terminology. Use gerunds. Do not include proper nouns, e.g., ORGANIZATION_1, Kuwait, etc. for naming.

- 'Category Lvl #4' refers to [CATEGORY_LVL4_NUMBER] followed by [CATEGORY_LVL4_NAME] with a whitespace between them. [CATEGORY_LVL4_NUMBER] is named similar to its parent [CATEGORY_LVL3_NUMBER], add a numerical suffix with a dash, e.g., CAT.R.1-1-1-1, CAT.R.1-1-1-2, CAT.R.1-1-1-3 etc. Keep track of all given [CATEGORY_LVL4_NUMBER] so numbering between batches proceeds uninterrupted. [CATEGORY_LVL4_NAME] should be given to reflect on the respective Islamic religious insights for the codes that are grouped under itself. Do not give merely descriptive names. Give nuanced, explanatory, and sophisticated category names using Islamic terminology. Use gerunds. Do not include proper nouns, e.g., ORGANIZATION_1, Kuwait, etc. for naming.

- 'Category Lvl #5' refers to [CATEGORY_LVL5_NUMBER] followed by [CATEGORY_LVL5_NAME] with a whitespace between them. [CATEGORY_LVL5_NUMBER] is named similar to its parent [CATEGORY_LVL4_NUMBER], add a numerical suffix with a dash, e.g., CAT.R.1-1-1-1-1, CAT.R.1-1-1-1-2, CAT.R.1-1-1-1-3 etc. Keep track of all given [CATEGORY_LVL5_NUMBER] so numbering between batches proceeds uninterrupted. [CATEGORY_LVL5_NAME] should be given to reflect on the respective Islamic religious insights for the codes that are grouped under itself. Do not give merely descriptive names. Give nuanced, explanatory, and sophisticated category names using Islamic terminology. It is the level of category with the most specificity and granularity compared to other levels. Use gerunds. Do not include proper nouns, e.g., ORGANIZATION_1, Kuwait, etc. for naming.

- 'Supporting Code' refers to [CODE_NUMBER], showing codes used to create that category. Print them as they are without using any brackets, parentheses, or quotation marks, separate codes with commas, e.g., C.1.1, C.2.7, C.14.9 etc.

- 'Religious Insight' refers to [RI], as religious insight or interpretation that focuses on faith-based meaning-making and provides religious-Islamic explanation of the code. Distinguish between explicit references by participant, preceded by 'Explicit:', and interpretations by analyst (you the AI), preceded by 'Interpretative:'. In the explicit part do not quote the participant for this would take up too much space, just summarize the explicit evidence, you may refer to specific religious terms if spoken by the participant. In the interpretative part employ proper

religious-Islamic terminology. Use anglicized Arabic terms but do not use non-Latin fonts. A cell accommodates both explicit and interpretative comments simultaneously if applicable. If no explicit evidence is available in the code do not print 'Explicit:' at all, and just leave the explicit part empty. 'Interpretative:' on the other you never leave blank, try to provide a religious-Islamic commentary for every code regardless based on your assessment. When generating a [RI] field for a category make sure that the category [RI] field covers and properly corresponds to [RI] data from the individual codes it entails, reformulate and rephrase instead of simply aggregating [RI] from codes. Make sure the new data do not contradict their constituents. End with a period or full stop.

- 'Relationship' refers to [RELATIONSHIP], showing what other category this category is related to as with nodes of a network diagram. Use only the following words to describe these categorical relationships: 'accelerates', 'contributes toward', 'depends on the types of', 'drives', 'facilitates', 'harnesses', 'increases', 'increases the difficulty of', 'is affected by', 'is essential for', 'is necessary for', 'provides', 'reconciles', 'reduces', 'results in', 'results in achieving', 'triggers', 'varies according to', 'will help to'. Include respective Category Number when describing the relationship. Do not relate to codes, relate to other categories (of any level) only. Do not include statements without respective Category Number mentioned. It should look like, 'Is affected by CAT.R.1', 'Increases CAT.R.1-3', etc.

- 'Memo' refers to [MEMO], where you show suggestions to connect findings to existing religious or Islamic theories without suppressing emergence, develop hunches by articulating a tentative hypothesis or a potential explanation for the observed phenomenon, propose concrete next steps for investigation such as specific variables to explore or relationships to test, briefly discuss the potential implications of the category and its relationships for understanding the broader research problem, and point out any internal contradictions within the category or any nuances that deserve further investigation.

- 'Audit Trail' refers to [AUDIT_TRAIL], keeping track of all changes made during the coding process to respective category, such as, refining, renaming, merging, etc. For initial category generation type: Initially generated as 'Category Number'.

7. Do the following only for once after I uploaded/pasted as source data an Initial Coding Table or part of it:

- As a checkpoint, show the exact number of unique codes from each interview contained in the uploaded/pasted Initial Coding Table or part thereof.

- As a checkpoint, provide both first and last Code Number and Code Name for each interview contained in the uploaded/pasted Initial Coding Table. Do this once for each uploaded/pasted Initial Coding Table or part thereof.

Example Output:

Interview 1

of Codes: 41

First Code: C.1.1 Establishing Organizational Identity

Last Code: C.7.16 Consulting Experts and Planning for Managing Uncertainty

- Proceed generating output only after you receive my approval.

8. After each batch processing do the following:

- Show the cumulative number of codes used in categorization out of the total number of codes from each interview, e.g., if Interview 1 has 41 codes it should show 16/41 after Batch 1, 27/41 after Batch 2 (if more than one batch), ..., 41/41 after last Batch, so I can track if all codes have been properly assigned to a category. Even if an initial code from an Interview has been used for more than once (e.g., for different categories, etc.) count it only once. It is like answering the questions 'has this code been used at least once', 1 if yes, 0 if no.

Example Output:

Codes Coverage (Batch 1)

Interview 1

Cumulative # of Codes Used: 13/41 (32%)

Interview 2

Cumulative # of Codes Used: 12/48 (25%)

...

Interview 23

Cumulative # of Codes Used: 12/36 (33%)

Total Cumulative # of Codes Used: 85/885 (10%)

--- END OF INSTRUCTIONS ---

Prompt me when you're ready to receive my input for the Initial Coding Table or part of it.

LLM Prompts: Focused Coding (Sociological)

--- START OF INSTRUCTIONS ---

Instruction 1: Assume role of a researcher who intends to conduct Charmazian 'focused coding' of 'constructivist grounded theory' on initial coding data.

Instruction 2: Keep in mind research overview with motivation, objectives, and research questions, as shared in this thread, when doing analysis to provide a perspective.

Instruction 3: In this thread only the sociological lens, that is the 'S', out of three in 'RSP', will be adopted, supported by Observable Behavior field (if provided by me, the user) including hints at potential self-reporting biases by the participants.

Instruction 4: To familiarize you with the input data, Initial Coding was previously done by AI according to the following instructions up to Instruction 5:

- In order to generate richer and more nuanced insights that go beyond self-reported statements by participants, adopt a 'religio-socio-psychological perspective' (RSP) to uncover underlying motivations, major behavioral patterns, and implicit attitudes to prepare for agent-based modeling.
- An uploaded transcript might have many Interviews included, if so, they will be separated by headers and footers. Distinguish between different Interviews/Interviewees by the unique [INTERVIEW_NUMBER].
- [INTERVIEW_NUMBER] = 14 and 15 are excluded from the series. So, active [INTERVIEW_NUMBER] are 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 16, 17, 18, 19, 20, 21, 22, and 23.
- Focus on language and narrative but keep in mind that most of participants are non-native English speakers, some are not proficient with English at all. [INTERVIEW_NUMBER] = 6 and 21, were assisted by interpreters. [INTERVIEW_NUMBER] = 7, 16, 17, and 18, requested and received interview questions in advance, so, they might have been prepared for questions.
- Identify social and cultural context, keep in mind that all participants are executives and senior managers at Islamic charities that are primarily invested in humanitarian relief. Interviewees denoted by [INTERVIEW_NUMBER] = 8, 9, 10, 11, 12, 13 and 19 work at UK-based charities, some of them are Muslim converts from European heritage while some come from families who might have immigrated to the UK from historically Muslim countries long time ago. Other non-UK interviewees are based in the GCC with [INTERVIEW_NUMBER] = 18, 22, and 23 acting as expats in the region, and all other GCC participants being natives of Gulf countries.

Instruction 5: An uploaded/pasted Initial Coding Table comes with the following format:

- The title row has the format of [CODE_NUMBER] | [CODE_NAME] | [OBSERVABLE_BEHAVIOR] | [SI]
- The titles should read 'Code #' | 'Code Name' | 'Observable Behavior' | 'Sociological Insight'

- 'Code #' refers to [CODE_NUMBER], named according to C.[INTERVIEW_NUMBER].[CODE_SERIAL], e.g., C.7.1, C.7.2, ... C.7.14 for [INTERVIEW_NUMBER] = 7.
- 'Code Name' refers to [CODE_NAME], given according to religio-socio-psychological perspective using gerunds.
- 'Observable Behavior' refers to [OBSERVABLE_BEHAVIOR], as a concrete and objective evidence from the interview as to on what basis it was coded, that should be the first part/sentence. The second part/sentence of the field should start with 'Bias:' and analyze the potential for self-reporting biases in the interviewee's statement. Depending on the text input limitations of the AI model the 'Observable Behavior' column might (or not) be removed from the source data.
- 'Sociological Insight' refers to [SI], as sociological insight or interpretation that captures social structures, culture, social change, social problems, and group or organizational dynamics.

Instruction 6: Conduct Focused Coding as follows:

- Initial Coding Table will be uploaded/pasted by the user.
- Wait until all parts, 885 codes from 21 interviews have been successfully provided by the user.
- Once all initial codes have been provided, integrate them and treat them as single dataset (Initial Coding Table), do an initial scan of all codes in the integrated dataset to identify recurring major themes, patterns across interviews, and to map relationships to research objectives.
- Perform a comprehensive cross-interview analysis of all data on the Initial Coding Table. Identify all patterns, themes, categories, subcategories, etc. assessing the Observable Behavior (if available) and Sociological Insight. Leave no code unassessed.
- Adopt a simple hierarchy for categorization of codes with 'Category Lvl 1 -> Category Lvl 2 -> Category Lvl 3 -> Category Lvl 4 -> Category Lvl 5' structure, with increasing levels ('Lvl') getting more particular and specific, each level subordinated by its parent level (Lvl 1 is a parent of Lvl 2, which is a parent of Lvl 3, and so on). There can be no subordinate/child categories without their parent categories. For the rest of this instructions document the word 'category' is used to represent generally any level of category.
- Due to this hierarchical structure it is assumed that parent categories have sum or aggregate of their child categories' respective fields, i.e., don't provide separate rows where only parent categories are shown, remain loyal to 5-level structure.
- Break lower level (like Level 1, Level 2, etc.) categories into higher level child categories if supporting codes in parent category are rich and many. Try to build and finish the backbone (lower level parent categories) first by employing almost all of the initial codes. The user can ask for further breaking them down into child categories if necessary.
- Do not create a category first and then try to relate it, instead create categories based on their relationships to other categories. How categories relate to each other is crucial for theory development.
- When creating a category, make sure you always consider codes from all interviews in the Initial Coding Table. Do not build categories consisting of a single code, or of codes from a single interview, instead always

maintain a rich cross-interview and cross-code assessment before creating categories.

- When creating the lowest level category (i.e., Level 5), create focused categories that are highly detailed and nuanced in their specificity. Each Level 5 category should thoroughly capture the sociological and behavioral nuances of the supporting codes, using precise sociology terminology and detailed descriptions. Strive for a level of granularity at Level 5 that eliminates the need for splitting Lvl 5 categories further in future stages, while still allowing for potential merging or consolidation.

- Ensure each category is relevant to the research objectives and that all codes are exhaustively mapped. Provide detailed justifications in the 'Memo' section for keeping categories separate and note any alternative categorizations considered.

- The same code may be ascribed to more than one category.

- No artificial boundaries. There is no fixed number of codes that should go under each category. It depends on your analysis. Avoid single-code categories.

- Try to limit the number of categories (basically rows) to print out per batch (if any) to 10 to avoid cutoffs.

Instruction 7: Generate outputs for your analysis as a 'Focused Coding Table' in the following spreadsheet format:

- The title row in the format of
[CATEGORY_LVL1_NUMBER]+[CATEGORY_LVL1_NAME] |
[CATEGORY_LVL2_NUMBER]+[CATEGORY_LVL2_NAME] |
[CATEGORY_LVL3_NUMBER]+[CATEGORY_LVL3_NAME] |
[CATEGORY_LVL4_NUMBER]+[CATEGORY_LVL4_NAME] |
[CATEGORY_LVL5_NUMBER]+[CATEGORY_LVL5_NAME] | [CODE_NUMBER] | [SI] |
[RELATIONSHIP] | [MEMO] | [AUDIT_TRAIL]

- Titles in the first row should read 'Category Lvl #1' | 'Category Lvl #2' | 'Category Lvl #3' | 'Category Lvl #4' | 'Category Lvl #5' | 'Supporting Code' | 'Sociological Insight' | 'Relationship' | 'Memo' | 'Audit Trail'

- 'Category Lvl #1' refers to [CATEGORY_LVL1_NUMBER] followed by [CATEGORY_LVL1_NAME] with a whitespace between them. [CATEGORY_LVL1_NUMBER] is named according to CAT.X.[CODE_SERIAL] where X is 'S' for focused coding based on Sociological Insight data, e.g., CAT.S.1, CAT.S.2, ... CAT.S.3. Keep track of all given [CATEGORY_LVL1_NUMBER] so numbering between batches proceeds uninterrupted. [CATEGORY_LVL1_NAME] should be given to reflect on the respective sociological insights for the codes that are grouped under itself. Do not give merely descriptive names. Give nuanced, explanatory, and sophisticated category names using sociology terminology. Use gerunds. Do not include proper nouns, e.g., ORGANIZATION_1, Kuwait, etc. for naming.

- 'Category Lvl #2' refers to [CATEGORY_LVL2_NUMBER] followed by [CATEGORY_LVL2_NAME] with a whitespace between them. [CATEGORY_LVL2_NUMBER] is named similar to its parent [CATEGORY_LVL1_NUMBER], add a numerical suffix with a dash, e.g., CAT.S.1-1, CAT.S.1-2, CAT.S.1-3 etc. Keep track of all given [CATEGORY_LVL2_NUMBER] so numbering between batches proceeds uninterrupted. [CATEGORY_LVL2_NAME] should be given to reflect on the respective sociological insights for the codes that are grouped under

itself. Do not give merely descriptive names. Give nuanced, explanatory, and sophisticated category names using sociology terminology. Use gerunds. Do not include proper nouns, e.g., ORGANIZATION_1, Kuwait, etc. for naming.

- 'Category Lvl #3' refers to [CATEGORY_LVL3_NUMBER] followed by [CATEGORY_LVL3_NAME] with a whitespace between them. [CATEGORY_LVL3_NUMBER] is named similar to its parent [CATEGORY_LVL2_NUMBER], add a numerical suffix with a dash, e.g., CAT.S.1-1-1, CAT.S.1-1-2, CAT.S.1-1-3 etc. Keep track of all given [CATEGORY_LVL3_NUMBER] so numbering between batches proceeds uninterrupted. [CATEGORY_LVL3_NAME] should be given to reflect on the respective sociological insights for the codes that are grouped under itself. Do not give merely descriptive names. Give nuanced, explanatory, and sophisticated category names using sociology terminology. Use gerunds. Do not include proper nouns, e.g., ORGANIZATION_1, Kuwait, etc. for naming.

- 'Category Lvl #4' refers to [CATEGORY_LVL4_NUMBER] followed by [CATEGORY_LVL4_NAME] with a whitespace between them. [CATEGORY_LVL4_NUMBER] is named similar to its parent [CATEGORY_LVL3_NUMBER], add a numerical suffix with a dash, e.g., CAT.S.1-1-1-1, CAT.S.1-1-1-2, CAT.S.1-1-1-3 etc. Keep track of all given [CATEGORY_LVL4_NUMBER] so numbering between batches proceeds uninterrupted. [CATEGORY_LVL4_NAME] should be given to reflect on the respective sociological insights for the codes that are grouped under itself. Do not give merely descriptive names. Give nuanced, explanatory, and sophisticated category names using sociology terminology. Use gerunds. Do not include proper nouns, e.g., ORGANIZATION_1, Kuwait, etc. for naming.

- 'Category Lvl #5' refers to [CATEGORY_LVL5_NUMBER] followed by [CATEGORY_LVL5_NAME] with a whitespace between them. [CATEGORY_LVL5_NUMBER] is named similar to its parent [CATEGORY_LVL4_NUMBER], add a numerical suffix with a dash, e.g., CAT.S.1-1-1-1-1, CAT.S.1-1-1-1-2, CAT.S.1-1-1-1-3 etc. Keep track of all given [CATEGORY_LVL5_NUMBER] so numbering between batches proceeds uninterrupted. [CATEGORY_LVL5_NAME] should be given to reflect on the respective sociological insights for the codes that are grouped under itself. Do not give merely descriptive names. Give nuanced, explanatory, and sophisticated category names using sociology terminology. It is the level of category with the most specificity and granularity compared to other levels. Use gerunds. Do not include proper nouns, e.g., ORGANIZATION_1, Kuwait, etc. for naming.

- 'Supporting Code' refers to [CODE_NUMBER], showing codes used to create that category. Print them as they are without using any brackets, parentheses, or quotation marks, separate codes with commas, e.g., C.1.1, C.2.7, C.14.9 etc.

- 'Sociological Insight' refers to [SI], as sociological insight or interpretation that captures social structures, culture, social change, social problems, and group or organizational dynamics. Maximize the use of specific and relevant sociological terms. Explicitly connect interviewee statements to specific sociological concepts. Go beyond surface-level observations; aim for depth and specificity in your analysis. When generating a [SI] field for a category make sure that the category [SI] field covers and properly corresponds to [SI] data from the individual codes it entails, reformulate and rephrase instead of simply aggregating [SI] from codes. Make sure the new data do not contradict their constituents. End with a period or full stop.

- 'Relationship' refers to [RELATIONSHIP], showing what other category or categories (of any level) the particular category (technically the category with the highest level/specificity on the row that is being populated) is related to as with nodes of a network diagram. Use only the following words to describe these categorical relationships: 'accelerates', 'contributes toward', 'depends on the types of', 'drives', 'facilitates', 'harnesses', 'increases', 'increases the difficulty of', 'is affected by', 'is essential for', 'is necessary for', 'provides', 'reconciles', 'reduces', 'results in', 'results in achieving', 'triggers', 'varies according to', 'will help to'. If, for example, a row is being generated for CAT.S.1-2-2-4-1 and it has relations to, let's say, CAT.S-2-3-1 and CAT.S-1-2-2-4-2, the cell info should look like e.g., 'Is affected by CAT.S-1-2-2-4-2; Increases CAT.S-2-3-1'

- 'Memo' refers to [MEMO], where you show suggestions to connect findings to existing sociological theories without suppressing emergence, develop hunches by articulating a tentative hypothesis or a potential explanation for the observed phenomenon, propose concrete next steps for investigation such as specific variables to explore or relationships to test, briefly discuss the potential implications of the category and its relationships for understanding the broader research problem, and point out any internal contradictions within the category or any nuances that deserve further investigation.

- 'Audit Trail' refers to [AUDIT_TRAIL], keeping track of all changes made during the coding process to respective category, such as, refining, renaming, merging, etc. For initial category generation type: Initially generated as 'Category Number'.

Instruction 8: Do the following only for once after I uploaded/pasted as source data an Initial Coding Table or part of it:

- As a checkpoint, show the exact number of unique codes from each interview contained in the uploaded/pasted Initial Coding Table or part thereof.

- As a checkpoint, provide both first and last Code Number and Code Name for each interview contained in the uploaded/pasted Initial Coding Table. Do this once for each uploaded/pasted Initial Coding Table or part thereof.

Example Output:

Interview 1

of Codes: 41

First Code: C.1.1 Establishing Organizational Identity

Last Code: C.7.16 Consulting Experts and Planning for Managing Uncertainty

- Proceed generating output only after you receive my approval.

Instruction 9: After each batch processing do the following:

- Show the cumulative number of codes used in categorization out of the total number of codes from each interview, e.g., if Interview 1 has 41 codes it should show 16/41 after Batch 1, 27/41 after Batch 2 (if more than one batch), ..., 41/41 after last Batch, so I can track if all codes have been properly assigned to a category. Even if an initial code from an Interview has been used for more than once (e.g., for different categories, etc.) count it only once. It is like answering the questions 'has this code been used at least once', 1 if yes, 0 if no.

Example Output:

Codes Coverage (Batch 1)

Interview 1

Cumulative # of Codes Used: 13/41 (32%)

Interview 2

Cumulative # of Codes Used: 12/48 (25%)

...

Interview 23

Cumulative # of Codes Used: 12/36 (33%)

Total Cumulative # of Codes Used: 85/885 (10%)

--- END OF INSTRUCTIONS ---

Prompt me when you're ready to receive my input for the Initial Coding Table or part of it.

LLM Prompts: Focused Coding (Psychological)

--- START OF INSTRUCTIONS ---

1. Assume role of a researcher who intends to conduct Charmazian 'focused coding' of 'constructivist grounded theory' on initial coding data.

2. Keep in mind research overview with motivation, objectives, and research questions, as shared in this thread, when doing analysis to provide a perspective.

3. To familiarize you with the input data, Initial Coding was previously done by AI according to the following instructions:

- In order to generate richer and more nuanced insights that go beyond self-reported statements by participants, adopt a 'religio-socio-psychological perspective' (RSP) to uncover underlying motivations, major behavioral patterns, and implicit attitudes to prepare for agent-based modeling.

- In this thread only the psychological lens, that is the 'P', out of three in 'RSP', will be adopted, supported by Observable Behavior field (if provided by me, the user) including hints at potential self-reporting biases by the participants.

- An uploaded transcript might have many Interviews included, if so, they will be separated by headers and footers. Distinguish between different Interviews/Interviewees by the unique [INTERVIEW_NUMBER].

- [INTERVIEW_NUMBER] = 14 and 15 are excluded from the series. So, active [INTERVIEW_NUMBER] are 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 16, 17, 18, 19, 20, 21, 22, and 23.

- Focus on language and narrative but keep in mind that most of participants are non-native English speakers, some are not proficient with English at all. [INTERVIEW_NUMBER] = 6 and 21, were assisted by interpreters. [INTERVIEW_NUMBER] = 7, 16, 17, and 18, requested and received interview questions in advance, so, they might have been prepared for questions.

- Identify social and cultural context, keep in mind that all participants are executives and senior managers at Islamic charities that are primarily invested in humanitarian relief. Interviewees denoted by [INTERVIEW_NUMBER] = 8, 9, 10, 11, 12, 13 and 19 work at UK-based charities, some of them are Muslim converts from European heritage while some come from families who might have immigrated to the UK from historically Muslim countries long time ago. Other non-UK interviewees are based in the GCC with [INTERVIEW_NUMBER] = 18, 22, and 23 acting as expats in the region, and all other GCC participants being natives of Gulf countries.

4. An uploaded/pasted Initial Coding Table has the following format:

- The title row has the format of [CODE_NUMBER] | [CODE_NAME] | [OBSERVABLE_BEHAVIOR] | [PI]

- The titles should read 'Code #' | 'Code Name' | 'Observable Behavior' | 'Psychological Insight'

- 'Code #' refers to [CODE_NUMBER], named according to C.[INTERVIEW_NUMBER].[CODE_SERIAL], e.g., C.7.1, C.7.2, ... C.7.14 for [INTERVIEW_NUMBER] = 7.

- 'Code Name' refers to [CODE_NAME], given according to religio-socio-psychological perspective using gerunds.

- 'Observable Behavior' refers to [OBSERVABLE_BEHAVIOR], as a concrete and objective evidence from the interview as to on what basis it was coded, that should be the first part/sentence. The second part/sentence of the field should start with 'Bias:' and analyze the potential for self-reporting biases in the interviewee's statement. Depending on the context window and text input limitations of the AI model the 'Observable Behavior' column might be removed from the source data. If available, make use of it.

- 'Psychological Insight' refers to [PI], as psychological insight or interpretation that focuses purely on individual cognitive, emotional, behavioral, developmental, personality, or social psychology mechanisms.

5. Conduct Focused Coding as follows:

- Initial Coding Table will be uploaded/pasted by me.

- Initially scan all codes in the uploaded/pasted data to identify recurring major themes, patterns across interviews, and to map relationships to research objectives.

- Perform a comprehensive cross-interview analysis of all data on the Initial Coding Table. Identify all patterns, themes, categories, subcategories, etc. assessing the Observable Behavior and Psychological Insight. Leave no code unassessed.

- Adopt a simple hierarchy for categorization of codes with 'Category Lvl 1 -> Category Lvl 2 -> Category Lvl 3 -> Category Lvl 4' structure, with increasing levels ('Lvl') being more particular and specific, each level subordinated by its parent level (Lvl 1 is a parent of Lvl 2, which is a parent of Lvl 3, and so on). There can be categories with no subordinate categories but there can exist no subordinate categories without their parent categories. For the rest of this instructions document the word 'category' is used to represent generally any level of category.

- Due to this hierarchical structure it is assumed that parent categories have sum or aggregate of their child categories' respective fields, i.e., don't provide separate rows where only parent categories are shown, remain loyal to 5-level structure.

- Do not create a category first and then try to relate it, instead create categories based on their relationships to other categories. How categories relate to each other is crucial for theory development.

- When creating a category, make sure you always consider codes from all interviews in the uploaded/pasted data. Unless a code is an important outlier that needs to be made into a category by itself do not build categories consisting of a single code, or of codes from a single interview, instead always maintain a rich cross-interview and cross-code assessment before creating categories.

- When creating a category, create focused categories that are highly detailed and nuanced in their specificity. Each category should thoroughly capture the psychological and behavioral nuances of the supporting codes, using precise psychology terminology and detailed descriptions. Strive for a level of granularity at Lvl 5 that eliminates the need for splitting Lvl 5 categories further in future stages, while still allowing for potential merging or consolidation.

- Aim for organic, natural branching, avoid artificial branching. Create as many or as few Lvl 4 subcategories as the data justifies. If a Lvl 3 category is broad and touches on multiple distinct psychological insights, create 3, 4, 5 or more Lvl 4 categories. If it is narrow, keep it to 1.
- Instead of launching many new Lvl 1 categories in each batch, try to enrich existing Lvl 1 categories with additional Lvl 2, Lvl 3, and Lvl 4 branches if the data resonates with them. Only create a new Lvl 1 if a new major theme arises that does not fit under the existing ones. Same with Lvl 2 or Lvl 3 categories. Prioritize adding to existing categories over creating brand new ones assuming data supports this.
- Ensure each category is relevant to the research objectives and that all codes are exhaustively mapped. Provide detailed justifications in the 'Memo' section for keeping categories separate and note any alternative categorizations considered.
- The same code may be ascribed to more than one category.
- No artificial boundaries. There is no fixed number of codes that should go under each category. It depends on your analysis. Avoid single-code categories.
- Try to limit the number of categories (basically rows) to print out per batch (if any) to 8 to avoid cutoffs. E.g., a list of CAT.P.1, CAT.P.2, CAT.P.2-1, and CAT.P.2-2 would count as 3 'rows' since CAT.P.2 would constitute two rows with each of its 2 subordinate categories holding a single row.

6. Generate outputs for your analysis as a 'Focused Coding Table' in the following spreadsheet format:

- The title row in the format of

```
[CATEGORY_LVL1_NUMBER]+[CATEGORY_LVL1_NAME] |
[CATEGORY_LVL2_NUMBER]+[CATEGORY_LVL2_NAME] |
[CATEGORY_LVL3_NUMBER]+[CATEGORY_LVL3_NAME] |
[CATEGORY_LVL4_NUMBER]+[CATEGORY_LVL4_NAME] |
[CATEGORY_LVL5_NUMBER]+[CATEGORY_LVL5_NAME] | [CODE_NUMBER] | [PI] |
[RELATIONSHIP] | [MEMO] | [AUDIT_TRAIL]
```

- Titles in the first row should read 'Category Lvl #1' | 'Category Lvl #2' | 'Category Lvl #3' | 'Category Lvl #4' | 'Category Lvl #5' | 'Supporting Code' | 'Psychological Insight' | 'Relationship' | 'Memo' | 'Audit Trail'

- 'Category Lvl #1' refers to [CATEGORY_LVL1_NUMBER] followed by [CATEGORY_LVL1_NAME] with a whitespace between them. [CATEGORY_LVL1_NUMBER] is named according to CAT.X.[CODE_SERIAL] where X is 'P' for focused coding based on Psychological Insight data, e.g., CAT.P.1, CAT.P.2, ... CAT.P.3. Keep track of all given [CATEGORY_LVL1_NUMBER] so numbering between batches proceeds uninterrupted. [CATEGORY_LVL1_NAME] should be given to reflect on the respective psychological insights for the codes that are grouped under itself. Do not give merely descriptive names. Give nuanced, explanatory, and sophisticated category names using psychology terminology. Use gerunds. Do not include proper nouns, e.g., ORGANIZATION_1, Kuwait, etc. for naming.

- 'Category Lvl #2' refers to [CATEGORY_LVL2_NUMBER] followed by [CATEGORY_LVL2_NAME] with a whitespace between them. [CATEGORY_LVL2_NUMBER] is named similar to its parent [CATEGORY_LVL1_NUMBER], add a numerical suffix with a dash, e.g., CAT.P.1-

1, CAT.P.1-2, CAT.P.1-3 etc. Keep track of all given [CATEGORY_LVL2_NUMBER] so numbering between batches proceeds uninterrupted. [CATEGORY_LVL2_NAME] should be given to reflect on the respective psychological insights for the codes that are grouped under itself. Do not give merely descriptive names. Give nuanced, explanatory, and sophisticated category names using psychology terminology. Use gerunds. Do not include proper nouns, e.g., ORGANIZATION_1, Kuwait, etc. for naming.

- 'Category Lvl #3' refers to [CATEGORY_LVL3_NUMBER] followed by [CATEGORY_LVL3_NAME] with a whitespace between them. [CATEGORY_LVL3_NUMBER] is named similar to its parent [CATEGORY_LVL2_NUMBER], add a numerical suffix with a dash, e.g., CAT.P.1-1-1, CAT.P.1-1-2, CAT.P.1-1-3 etc. Keep track of all given [CATEGORY_LVL3_NUMBER] so numbering between batches proceeds uninterrupted. [CATEGORY_LVL3_NAME] should be given to reflect on the respective psychological insights for the codes that are grouped under itself. Do not give merely descriptive names. Give nuanced, explanatory, and sophisticated category names using psychology terminology. Use gerunds. Do not include proper nouns, e.g., ORGANIZATION_1, Kuwait, etc. for naming.

- 'Category Lvl #4' refers to [CATEGORY_LVL4_NUMBER] followed by [CATEGORY_LVL4_NAME] with a whitespace between them. [CATEGORY_LVL4_NUMBER] is named similar to its parent [CATEGORY_LVL3_NUMBER], add a numerical suffix with a dash, e.g., CAT.P.1-1-1-1, CAT.P.1-1-1-2, CAT.P.1-1-1-3 etc. Keep track of all given [CATEGORY_LVL4_NUMBER] so numbering between batches proceeds uninterrupted. [CATEGORY_LVL4_NAME] should be given to reflect on the respective psychological insights for the codes that are grouped under itself. Do not give merely descriptive names. Give nuanced, explanatory, and sophisticated category names using psychology terminology. Use gerunds. Do not include proper nouns, e.g., ORGANIZATION_1, Kuwait, etc. for naming.

- 'Category Lvl #5' refers to [CATEGORY_LVL5_NUMBER] followed by [CATEGORY_LVL5_NAME] with a whitespace between them. [CATEGORY_LVL5_NUMBER] is named similar to its parent [CATEGORY_LVL4_NUMBER], add a numerical suffix with a dash, e.g., CAT.P.1-1-1-1-1, CAT.P.1-1-1-1-2, CAT.P.1-1-1-1-3 etc. Keep track of all given [CATEGORY_LVL5_NUMBER] so numbering between batches proceeds uninterrupted. [CATEGORY_LVL5_NAME] should be given to reflect on the respective psychological insights for the codes that are grouped under itself. Do not give merely descriptive names. Give nuanced, explanatory, and sophisticated category names using psychology terminology. It is the level of category with the most specificity and granularity compared to other levels. Use gerunds. Do not include proper nouns, e.g., ORGANIZATION_1, Kuwait, etc. for naming.

- 'Supporting Code' refers to [CODE_NUMBER], showing codes used to create that category. Print them as they are without using any brackets, parentheses, or quotation marks, separate codes with commas, e.g., C.1.1, C.2.7, C.14.9 etc.

- 'Psychological Insight' refers to [PI], as psychological insight or interpretation that focuses purely on individual cognitive, emotional, behavioral, developmental, personality, or social psychology mechanisms. Maximize the use of specific and relevant psychological terms. Explicitly connect interviewee statements to specific psychological phenomena. Go beyond surface-level observations; aim for depth and specificity in your analysis. When generating a [PI] field for a category make sure that the

category [PI] field covers and properly corresponds to [PI] data from the individual codes it entails, reformulate and rephrase instead of simply aggregating [PI] from codes. Make sure the new data do not contradict their constituents. End with a period or full stop.

- 'Relationship' refers to [RELATIONSHIP], showing what other category this category is related to as with nodes of a network diagram. Use only the following words to describe these categorical relationships: 'accelerates', 'contributes toward', 'depends on the types of', 'drives', 'facilitates', 'harnesses', 'increases', 'increases the difficulty of', 'is affected by', 'is essential for', 'is necessary for', 'provides', 'reconciles', 'reduces', 'results in', 'results in achieving', 'triggers', 'varies according to', 'will help to'. Include respective Category Number when describing the relationship. Do not relate to codes, relate to other categories (of any level) only. Do not include statements without respective Category Number mentioned. It should look like, 'Is affected by CAT.P.1', 'Increases CAT.P.1-3', etc.

- 'Memo' refers to [MEMO], where you show suggestions to connect findings to existing psychological theories without suppressing emergence, develop hunches by articulating a tentative hypothesis or a potential explanation for the observed phenomenon, propose concrete next steps for investigation such as specific variables to explore or relationships to test, briefly discuss the potential implications of the category and its relationships for understanding the broader research problem, and point out any internal contradictions within the category or any nuances that deserve further investigation.

- 'Audit Trail' refers to [AUDIT_TRAIL], keeping track of all changes made during the coding process to respective category, such as, refining, renaming, merging, etc. For initial category generation simply type: Initially generated as 'Category Number'.

7. Do the following only for once after I uploaded/pasted the initial codes table:

- As a checkpoint, show the exact number of unique codes from each interview contained in the Initial Coding Table provided by me.

- As a checkpoint, provide both first and last Code Number and Code Name for each interview contained in the uploaded/pasted Initial Coding Table. Do this once for each Initial Coding Table.

Example Output:

Interview 1

of Codes: 41

First Code: C.1.1 Establishing Organizational Identity

Last Code: C.7.16 Consulting Experts and Planning for Managing Uncertainty

- Proceed generating output only after you receive my approval.

8. After each batch processing do the following:

- Show the cumulative number of codes used in categorization out of the total number of codes from each interview, e.g., if Interview 1 has 41 codes it should show 16/41 after Batch 1, 27/41 after Batch 2 (if more than one batch), ..., 41/41 after last Batch, so I can track if all codes have been properly assigned to a category. Even if an initial code from an Interview has been used for more than once (e.g., for different

categories, etc.) count it only once. It is like answering the questions 'has this code been used at least once', 1 if yes, 0 if no.

Example Output:

Batch 1

Interview 1

Cumulative # of Codes Used: 13/41 (32%)

Interview 2

Cumulative # of Codes Used: 12/48 (25%)

...

Total Cumulative # of Codes Used: 85/425 (20%)

--- END OF INSTRUCTIONS ---

Prompt me when you're ready to receive my input for the Initial Coding Table.



LLM Prompts: Axial/Theoretical Coding

--- START OF FIRST PART OF AXIAL CODING INSTRUCTIONS ---

Instruction #1: Assume role of a researcher who intends to conduct 'axial coding' of 'grounded theory' on focused coding data AI-generated through three different 'lenses', psychological, sociological, and religious.

Instruction #2: Keep in mind research overview with motivation, objectives, and research questions, as shared in this thread, when doing analysis to provide a perspective.

Instruction #3: To familiarize you with the input data, Initial Coding was previously done by AI according to the following instructions below up to Instruction #4:

- In order to generate richer and more nuanced insights that go beyond self-reported statements by participants, adopt a 'religio-socio-psychological perspective' (RSP) to uncover underlying motivations, major behavioral patterns, and implicit attitudes to prepare for agent-based modeling.

- An uploaded transcript might have many Interviews included, if so, they will be separated by headers and footers. Distinguish between different Interviews/Interviewees by the unique [INTERVIEW_NUMBER].

- [INTERVIEW_NUMBER] = 14 and 15 are excluded from the series. So, active [INTERVIEW_NUMBER] are 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 16, 17, 18, 19, 20, 21, 22, and 23.

- Focus on language and narrative but keep in mind that most of participants are non-native English speakers, some are not proficient with English at all. [INTERVIEW_NUMBER] = 6 and 21, were assisted by interpreters. [INTERVIEW_NUMBER] = 7, 16, 17, and 18, requested and received interview questions in advance, so, they might have been prepared for questions.

- Identify social and cultural context, keep in mind that all participants are executives and senior managers at Islamic charities that are primarily invested in humanitarian relief. Interviewees denoted by [INTERVIEW_NUMBER] = 8, 9, 10, 11, 12, 13 and 19 work at UK-based charities, some of them are Muslim converts from European heritage while some come from families who might have immigrated to the UK from historically Muslim countries long time ago. Other non-UK interviewees are based in the GCC with [INTERVIEW_NUMBER] = 18, 22, and 23 acting as expats in the region, and all other GCC participants being natives of Gulf countries.

Instruction #4 Familiarizing with Source Format: To remind you, Focused Coding was done by AI according to the following instructions below up to Instruction #5:

- The title row in the format of ID |
[CATEGORY_LVL1_NUMBER]+[CATEGORY_LVL1_NAME] |
|[CATEGORY_LVL2_NUMBER]+[CATEGORY_LVL2_NAME] |
[CATEGORY_LVL3_NUMBER]+[CATEGORY_LVL3_NAME] |
[CATEGORY_LVL4_NUMBER]+[CATEGORY_LVL4_NAME] |
[CATEGORY_LVL5_NUMBER]+[CATEGORY_LVL5_NAME] | [CODE_NUMBER] |
[COMMONALITY] | [RI] or [SI] or [PI] | [RELATIONSHIP] | [MEMO] |
[AUDIT_TRAIL]

- Titles in the first row should read 'ID' | 'Category Lvl #1' | 'Category Lvl #2' | 'Category Lvl #3' | 'Category Lvl #4' | 'Category Lvl #5' | 'Supporting Code' | 'Commonality' | 'Religious Insight' or 'Sociological Insight' or 'Psychological Insight' | 'Relationship' | 'Memo' | 'Audit Trail'

- 'ID' refers to unique integer to keep track of each row or line on the table excluding the title (1st) row of the table. Each row with a unique ID would have categories from different levels listed from left to right in a hierarchical order from the highest (parent with broadest coverage) to the lowest (child with most specificity). All other cells on the row refer to the category with the lowest level on that row, e.g., if CAT.R.1, CAT.R.1-1, and CAT.R.1-1-1 are listed on the same row the columns such as Supporting Code, Commonality, Relationship, Memo, and Audit Trail are all meant for CAT.R.1-1-1.

- 'Category Lvl #1' refers to [CATEGORY_LVL1_NUMBER] followed by [CATEGORY_LVL1_NAME] with a whitespace between them. [CATEGORY_LVL1_NUMBER] is named according to CAT.X.[CODE_SERIAL] where X is 'R' for focused coding based on Religious Insight data, 'S' for Sociological Insight, and 'P' for Psychological Insight, e.g. CAT.R.1, CAT.R.2, CAT.P.1, CAT.S.3, etc. Keep track of all given [CATEGORY_LVL1_NUMBER] so numbering between batches proceeds uninterrupted. [CATEGORY_LVL1_NAME] should be given to reflect on the respective religious/sociological/psychological insights for the codes that are grouped under itself. Do not give merely descriptive names. Give nuanced, explanatory, and sophisticated category names using religious/sociological/psychological terminology. Use gerunds. Do not include proper nouns, e.g., ORGANIZATION_1, Kuwait, etc. for naming.

- 'Category Lvl #2' refers to [CATEGORY_LVL2_NUMBER] followed by [CATEGORY_LVL2_NAME] with a whitespace between them. [CATEGORY_LVL2_NUMBER] is named similarly to its parent [CATEGORY_LVL1_NUMBER], add a numerical suffix with a dash, e.g., CAT.R.1-1, CAT.R.1-2, CAT.R.1-3 etc. Keep track of all given [CATEGORY_LVL2_NUMBER] so numbering between batches proceeds uninterrupted. [CATEGORY_LVL2_NAME] should be given to reflect on the respective religious/sociological/psychological insights for the codes that are grouped under itself. Do not give merely descriptive names. Give nuanced, explanatory, and sophisticated category names using religious/sociological/psychological terminology. Use gerunds. Do not include proper nouns, e.g., ORGANIZATION_1, Kuwait, etc. for naming. Depending on the richness of available data for the particular lens this categorical level may or may not come populated.

- 'Category Lvl #3' refers to [CATEGORY_LVL3_NUMBER] followed by [CATEGORY_LVL3_NAME] with a whitespace between them. [CATEGORY_LVL3_NUMBER] is named similarly to its parent [CATEGORY_LVL2_NUMBER], add a numerical suffix with a dash, e.g., CAT.R.1-1-1, CAT.R.1-1-2, CAT.R.1-1-3 etc. Keep track of all given [CATEGORY_LVL3_NUMBER] so numbering between batches proceeds uninterrupted. [CATEGORY_LVL3_NAME] should be given to reflect on the respective religious/sociological/psychological insights for the codes that are grouped under itself. Do not give merely descriptive names. Give nuanced, explanatory, and sophisticated category names using religious/sociological/psychological terminology. Use gerunds. Do not include proper nouns, e.g., ORGANIZATION_1, Kuwait, etc. for naming. Depending on the richness of available data for the particular lens this categorical level may or may not come populated.

- 'Category Lvl #4' refers to [CATEGORY_LVL4_NUMBER] followed by [CATEGORY_LVL4_NAME] with a whitespace between them. [CATEGORY_LVL4_NUMBER] is named similarly to its parent [CATEGORY_LVL3_NUMBER], add a numerical suffix with a dash, e.g., CAT.R.1-1-1-1, CAT.R.1-1-1-2, CAT.R.1-1-1-3 etc. Keep track of all given [CATEGORY_LVL4_NUMBER] so numbering between batches proceeds uninterrupted. [CATEGORY_LVL4_NAME] should be given to reflect on the respective religious/sociological/psychological insights for the codes that are grouped under itself. Do not give merely descriptive names. Give nuanced, explanatory, and sophisticated category names using religious/sociological/psychological terminology. Use gerunds. Do not include proper nouns, e.g., ORGANIZATION_1, Kuwait, etc. for naming. Depending on the richness of available data for the particular lens this categorical level may or may not come populated.

- 'Category Lvl #5' refers to [CATEGORY_LVL5_NUMBER] followed by [CATEGORY_LVL5_NAME] with a whitespace between them. [CATEGORY_LVL5_NUMBER] is named similarly to its parent [CATEGORY_LVL4_NUMBER], add a numerical suffix with a dash, e.g., CAT.R.1-1-1-1-1, CAT.R.1-1-1-1-2, CAT.R.1-1-1-1-3 etc. Keep track of all given [CATEGORY_LVL5_NUMBER] so numbering between batches proceeds uninterrupted. [CATEGORY_LVL5_NAME] should be given to reflect on the respective religious/sociological/psychological insights for the codes that are grouped under itself. Do not give merely descriptive names. Give nuanced, explanatory, and sophisticated category names using religious/sociological/psychological terminology. It is the level of category with the most specificity and focus compared to other levels. It is the level of category with the most specificity and focus compared to other levels. Use gerunds. Do not include proper nouns, e.g., ORGANIZATION_1, Kuwait, etc. for naming. Depending on the richness of available data for the particular lens this categorical level may or may not come populated.

- 'Supporting Code' refers to [CODE_NUMBER], showing codes used to create that category. Print them as they are without using any brackets, parentheses, or quotation marks, separate codes with commas, e.g., C.1.1, C.2.7, C.14.9 etc.

- 'Commonality' refers to [COMMONALITY], showing the number of unique participants/interviewees subscribing to a generated category, that is, it shows how widespread or commonly-shared a certain category is among 21 participants. To calculate it, you find the [INTERVIEW_NUMBER] of the Supporting Codes for the category, which is the 'X' in any code formatted according to C.X.Y template. Interviewee number or identifier is same as [INTERVIEW_NUMBER]. Counting each unique [INTERVIEW_NUMBER] only for once is sufficient, since it shows the category is supported by that participant/interviewee. E.g., commonality for a Supporting Code cell with the following codes of 'C.1.5, C.3.14, C.3.15, C.4.9, C.6.11, C.8.10, C.8.22, C.10.19, C.11.7, C.11.8, C.11.9' would be '7/21 (33%)'. Full commonality would be 21 out of 21, shown as '21/21 (100%)'. Show no decimals for percentages. Note that any commonality value shown on a row corresponds to the lowest (child) category on that row. If you are asked to calculate commonality for a parent category you do not simply add up for there might be redundancies among child categories. You need to assume the Supporting Codes for the parent category consisting of Supporting Codes of all of its child categories combined as a whole, and then look for unique interviewee identifier in the lot, counting each interviewee only for once.

- 'Religious Insight' refers to [RI], as religious insight or interpretation that focuses on faith-based meaning-making and provides

religious-Islamic explanation of the code. Distinguish between explicit references by participant, preceded by 'Explicit:', and interpretations by analyst (you the AI), preceded by 'Interpretative:'. In the explicit part do not quote the participant for this would take up too much space, just summarize the explicit evidence, you may refer to specific religious terms if spoken by the participant. In the interpretative part employ proper religious-Islamic terminology. Use anglicized Arabic terms but do not use non-Latin fonts. A cell accommodates both explicit and interpretative comments simultaneously if applicable. If no explicit evidence is available in the code do not print 'Explicit:' at all, and just leave the explicit part empty. 'Interpretative:' on the other you never leave blank, try to provide a religious-Islamic commentary for every code regardless based on your assessment. When generating a [RI] field for a category make sure that the category [RI] field covers and properly corresponds to [RI] data from the individual codes it entails, reformulate and rephrase instead of simply aggregating [RI] from codes. Make sure the new data do not contradict their constituents. End with a period or full stop.

- 'Sociological Insight' refers to [SI], as sociological insight or interpretation that captures social structures, culture, social change, social problems, and group or organizational dynamics. Maximize the use of specific and relevant sociological terms. Explicitly connect interviewee statements to specific sociological concepts. Go beyond surface-level observations; aim for depth and specificity in your analysis. When generating a [SI] field for a category make sure that the category [SI] field covers and properly corresponds to [SI] data from the individual codes it entails, reformulate and rephrase instead of simply aggregating [SI] from codes. Make sure the new data do not contradict their constituents. End with a period or full stop.

- 'Psychological Insight' refers to [PI], as psychological insight or interpretation that focuses purely on individual cognitive, emotional, behavioral, developmental, personality, or social psychology mechanisms. Maximize the use of specific and relevant psychological terms. Explicitly connect interviewee statements to specific psychological phenomena. Go beyond surface-level observations; aim for depth and specificity in your analysis. When generating a [PI] field for a category make sure that the category [PI] field covers and properly corresponds to [PI] data from the individual codes it entails, reformulate and rephrase instead of simply aggregating [PI] from codes. Make sure the new data do not contradict their constituents. End with a period or full stop.

- 'Relationship' refers to [RELATIONSHIP], showing what other categories the lowest level category on the respective row is related to as with nodes of a network diagram. Use only the following words to describe these categorical relationships: 'accelerates', 'contributes toward', 'depends on the types of', 'drives', 'facilitates', 'harnesses', 'increases', 'increases the difficulty of', 'is affected by', 'is essential for', 'is necessary for', 'provides', 'reconciles', 'reduces', 'results in', 'results in achieving', 'triggers', 'varies according to', 'will help to'. Include respective Category Number when describing the relationship. Do not relate to codes, relate to other categories (of any level) only. Do not include statements without respective Category Number mentioned. It should look like, 'Is affected by CAT.R.1', 'Increases CAT.R.1-3', etc.

- 'Memo' refers to [MEMO], where you show suggestions to connect findings to existing religious/sociological/psychological theories without suppressing emergence, develop hunches by articulating a tentative hypothesis or a potential explanation for the observed phenomenon, propose concrete next steps for investigation such as specific variables to explore or relationships to test, briefly discuss the potential

implications of the category and its relationships for understanding the broader research problem, and point out any internal contradictions within the category or any nuances that deserve further investigation.

- 'Audit Trail' refers to [AUDIT_TRAIL], keeping track of all changes made during the coding process to respective lowest level category on the table row, such as, refining, renaming, merging, etc. For initial category generation type: Initially generated as 'Category Number' where it refers to the lowest level (the most subordinated) category.

Instruction #5 Inputting Source Data and Checkpoint: To Conduct Axial Coding, the Focused Coding Table (FCT) for the Religious Lens (~91 rows), Sociological Lens (~74 rows), and Psychological Lens (~127 rows) will be uploaded/pasted by me. Depending on the AI context window you may receive FCT for only one lens or all three in this thread. These tables will come according to the spreadsheet format as explained in Instruction #4 Familiarizing with Source Format, each one with only one of the three RSP lenses present. As a checkpoint, provide the total number of rows [NUMBER_OF_ROWS] excluding the title row, the lowest level (the most subordinated) category number [CATEGORY_NUMBER] and name [CATEGORY_NAME] on the last row for each uploaded/pasted FCT for once, so I can see if you can read until the end of the table.

Example Checkpoint Output:

Focused Coding Table: [LENS_TYPE]

of Rows in the Table: [NUMBER_OF_ROWS]

Lowest Level Category on the Last Row of the Table: [CATEGORY_NUMBER]
[CATEGORY_NAME]

Prompt me when you are ready to receive the FCT. Be prepared to preserve it in your memory 'as is' and verbatim throughout this thread. Do not overwrite it. Do not start axial coding until I give you a go based on the checkpoint you generated.

--- END OF FIRST PART OF AXIAL CODING INSTRUCTIONS ---

Just absorb it. Do not generate any reports. Preserve it 'as is' in your memory. Do not start the axial coding yet. Provide checks as instructed. After confirming the checkpoint, I will provide the next FCT.

Instruction #Optional# Data Preparation (within each lens): Review Relationship cells for each FCT from all three lenses separately, refine (populate if missing, correct if wrong) the Relationship cells accordingly based on their relations to other categories from all levels within the same lens. Do not build cross-lens relations yet. Print your suggested refinements in text and wait for user approval before executing.

--- START OF SECOND PART OF AXIAL CODING INSTRUCTIONS ---

Instruction #6 Preserving Source Dataset: Checks look good. From now on treat this FCT as your primary source dataset for the axial and theoretical coding from the respective lens (Psychological, Religious, Sociological) in this thread. Preserve it 'as is' in your memory, verbatim, word for word. Do not do any summarizing, rephrasing, reformatting on source data unless clearly instructed to do so. It is of utmost importance that you should always be able to reference the original data in the FCT throughout this thread. Absorb this and wait for my next instruction.

Instruction #7 Calculating Commonality: When and if asked to calculate Commonality follow these steps. Clearly map out the hierarchical relationships between the category in question and its parent and child categories. This includes identifying all levels of the hierarchy, from the highest parent category to the lowest child categories. This will help in identifying all relevant Supporting Codes. For the category you are calculating Commonality for, list ALL of its child categories. This is crucial for aggregating Supporting Codes accurately. For each child category, list all the Supporting Codes associated with it. This will give you a comprehensive list of all Supporting Codes related to the parent category. Combine all the Supporting Codes from all child categories into a single set. This aggregated set will be used to determine the unique interviewees. For each Supporting Code in the aggregated set, identify the corresponding interviewee. Then, list all unique interviewees, ensuring that each interviewee is counted only once, regardless of how many times they appear in the Supporting Codes. Count the number of unique interviewees identified. Divide the number of unique interviewees by the total number of interviewees in the study (which is 21). This instruction is meant to prepare you in advance. Do not conduct any calculation right away.

Instruction #8 Review and Familiarization: Review the most recently uploaded FCT from the respective lens. Pay close attention to the Category Names (at all levels), Commonality, (Psychological, Religious, or Sociological) Insight, Relationship, and Memo. When assessing Commonality follow the calculation rules for Commonality as instructed in Instruction #7 Calculating Commonality. When evaluating Relationship data keep in mind that they are not perfect or final and many within-lens connections might have been missed or ignored when they were first generated. Absorb this and wait for my next instruction.

Instruction #9 Identifying Potential Core Categories: Use the respective (Psychological, Religious, or Sociological) FCT. Based on the following criteria (Relevance being the most important among all, followed by Centrality, then Connectedness, and then Frequency/Commonality) identify potential core categories. Remain strictly loyal to data, do not hypothesize, do not assume (e.g., like assigning wishful content to initial codes C.X.Y to which you practically have no access other than their code numbers), do not claim anything that cannot be justified by directly accessing the source data (FCT).

- Relevance: How useful and serving is the category in responding to the Research Objectives and Research Questions, does it address multiple relationship dimensions identified in the Research Questions, does it integrate religious, psychological, and behavioral aspects of decision-making, and explain variations in how participants navigate uncertainty through?

- Centrality: A central category appears as a main theme across various dimensions of the data, connects to most other significant categories either directly or indirectly, explains a substantial portion of the variation in participant experiences, represents the main concern or process evident in the data, remains stable even when conditions vary, can subsume and organize other categories without forcing the data.

- Connectedness: Indicates if the potential core category forms logical, coherent relationships with other major categories. For each potential core category, systematically analyze its relationships with all other categories within the same lens (FCT). Use the 'Relationship' column as a starting point, but go beyond this and look for relationships that are not shown in the table but are evidenced by participant statement or behavior

when the contents of the relevant 'Insight' and 'Memo' columns are thoroughly assessed. If you happen to find categories in the FCT that are

- Frequent Occurrence: Indicates the category's significance within the data and provides empirical validation for its importance, if it appears consistently across multiple participants (high Commonality rating), recurs throughout different contexts discussed by participants, is represented by numerous codes and instances in the data, emerges naturally rather than being forced by the researcher. For proper quantification of frequency for parent categories not separately listed in the FCT refer to Instruction #7 Calculating Commonality.

List your potential core categories with their numbers and names, and provide detailed justification referencing each of the above criteria as to why it was designated as a core category. Core categories do not have to be Level 1 categories, a category from any level can be selected as a potential core category. Given the above criteria have been met, the higher the specificity (e.g., Level 5, Level 4, etc. better than Level 1, Level 2, etc.) of a core category the better or more useful it is as a core category. Otherwise we may end up with a broad thematic analysis instead of a grounded theory. We want to have a theory or set of assertions that can be modeled, at least to some degree, in social simulation.

Instruction #10 Relationship Matrix: Look for relationships between designated potential core categories, explicitly evident in source data. Go beyond Relationship data present in FCT and investigate thoroughly. Print out your findings in the following spreadsheet format:

ID	Reference Core Category	Related Core Category	Relationship to Reference Core Category	Explanation
----	-------------------------	-----------------------	-----------------------------------------	-------------

'ID' is the unique identifier for each row on the table for traceability. Use integers starting with 1.

'Reference Core Category' is the category in question for which the list is being populated, include category number and names.

'Related Core Category' is any of the other core categories for which the categorical relationship is being assessed, include category number and names.

'Relationship to Reference Core Category' shows the relationship 'from' the Related Core Category 'to' the Reference Core Category. Use only the following words to describe these categorical relationships: 'accelerates', 'contributes toward', 'depends on the types of', 'drives', 'facilitates', 'harnesses', 'increases', 'increases the difficulty of', 'is affected by', 'is essential for', 'is necessary for', 'provides', 'reconciles', 'reduces', 'results in', 'results in achieving', 'triggers', 'varies according to', 'will help to'. Include [CATEGORY_NUMBER] to clarify the direction of the relationship, e.g., 'CAT.XYZ triggers CAT.ABC'.

'Explanation' is the detailed description and justification of the respective relationship between the two core categories on the table row.

Instruction #11 Relationship Mapping: Identify causal, contextual, and consequential relationships between categories. Map conditional relationships (when, where, why certain phenomena occur). Remain strictly loyal do data. Print in text.

Instruction #12 Proposition Development: Based on the relationships identified, formulate a number of comprehensive (either Psychological, or

Religious, or Sociological, depending on the type of FCT) propositions that describe the key relationships between core categories. Each proposition should be a clear statement that can be supported by the source data. Print in text.

Instruction #13 Framework Development: Create an integrated framework to explain Muslim moral agency under uncertainty as seen through the respective lens. Write a roughly 1000-word narrative thoroughly explaining the theoretical framework employing the propositions developed.

Instruction #14 Theoretical Diagram: Generate Graphviz DOT code for the high-level theoretical framework developed for Muslim moral agency under uncertainty. Refer to the below sample DOT code for formatting standards (ignore non-formatting information):

```
digraph MuslimMoralAgency {
    rankdir=TD;
    label="Muslim Moral Agency under Uncertainty";
    labelloc=top;
    fontsize=16;
    node [shape=box, style=rounded, fontname="Times-Roman", fontsize=12];
    edge [style="dashed", labelfloat=false, decorate=true, color="blue",
    dir=forward, penwidth=1.5, arrowsize=1.0, arrowhead=normal,
    arrowtail=normal, fontname="Times-Roman", fontsize=11, fontcolor="blue"];
```

Instruction #15 Categorical Diagram: Generate Graphviz DOT code for the theoretical framework developed for Muslim moral agency under uncertainty, showing all core categories and their relationships. Follow the below formatting sample in addition to the universal formatting mentioned in Instruction #13 Theoretical Diagram:

```
// Core Categories
CAT_P_2_1_1_1 [label="CAT.P.2-1-1-1\nDemonstrating Integrated
\nReligious Identity & Praxis \n 20/21 (95%)"];
// Relationships
// CAT.P.2-1-1-1 Demonstrating Integrated Religious Identity & Praxis
CAT_P_2_1_1_1 -> CAT_P_3_2_1_1_1 [label="facilitates"]
--- END OF SECOND PART OF AXIAL CODING INSTRUCTIONS ---
```

NetLogo Code

```
;; --- Interface Input Variables ---
;; The following variables are to be provided on the Interface by the
user:
;; NUMBER_OF_COMMONERS           (Input) ; Number of COMMONER agents
to initialize
;; NUMBER_OF_GRASSROOTERS       (Input) ; Number of GRASSROOTER
agents to initialize
;; BASE_GRASSROOTER_INFLUENCE   (Input) ; Base GRASSROOTER influence
;; BASE_GRASSROOTER_FADE_RATE   (Input) ; GRASSROOTER base rate for
influence fading
;; BASE_GRASSROOTER_RANGE       (Input) ; GRASSROOTER influence
radius
;; NUMBER_OF_INSTITUTIONALISTS  (Input) ; Number of INSTITUTIONALIST
agents to initialize
;; BASE_INSTITUTIONALIST_INFLUENCE (Input) ; Base INSTITUTIONALIST
influence
;; BASE_INSTITUTIONALIST_FADE_RATE (Input) ; INSTITUTIONALIST base rate
for influence fading
;; BASE_INSTITUTIONALIST_RANGE   (Input) ; INSTITUTIONALIST
establishment influence radius
;; BASE_GRASSROOTER_RESILIENCE   (Slider 0-100) ; Base GRASSROOTER
resilience
;; BASE_INSTITUTIONALIST_RESILIENCE (Slider 0-100) ; Base
INSTITUTIONALIST resilience
;; BASE_COMMONER_RESILIENCE     (Slider 0-100) ; Base COMMONER
resilience
;; UNCERTAINTY_LEVEL            (Slider 0-100) ;
General/environmental uncertainty
;; INSTITUTIONAL_VALIDATION_FACTOR (Slider 0-1) ; How much
INSTITUTIONALIST presence reduces GRASSROOTER fade rate

;; --- Breed Declarations ---
breed [GRASSROOTERS GRASSROOTER]           ; Represents Grassrooters
breed [INSTITUTIONALISTS INSTITUTIONALIST] ; Represents Institutionalists
breed [COMMONERS COMMONER]               ; Represents the general population

;; --- Global Variables ---
globals [
  INSTITUTION_GAP           ; Defines the minimum empty space required
between the influence radii of two established institutional zones.
  MIN_INST_INFLUENCE        ; Lower bound for visualizing institutional
influence strength on patches (typically 0).
  MAX_INST_INFLUENCE        ; Upper bound for visualizing institutional
influence strength on patches, derived from
BASE_INSTITUTIONALIST_INFLUENCE.
]

;; --- Agent Variables (GRASSROOTERS) ---
GRASSROOTERS-own [
  GRASSROOTER_INFLUENCE     ; Individual GRASSROOTER's base influence
potential per interaction, initialized from BASE_GRASSROOTER_INFLUENCE.
  INFLUENCE_RANGE           ; The radius within which this GRASSROOTER can
directly influence Commoners.
  RESILIENCE                ; This GRASSROOTER's resilience level (0-100),
affects its influence effectiveness under uncertainty.
]
```

```

;; --- Agent Variables (INSTITUTIONALISTS) ---
INSTITUTIONALISTS-own [
  INSTITUTIONALIST_INFLUENCE ; Individual INSTITUTIONALIST's base
influence potential for its zone, initialized from
BASE_INSTITUTIONALIST_INFLUENCE.
  INFLUENCE_RANGE           ; The radius of the zone this
INSTITUTIONALIST will establish.
  IS_ESTABLISHED            ; Boolean flag: true if this INSTITUTIONALIST
has successfully created its zone of influence, false otherwise.
  RESILIENCE                ; This INSTITUTIONALIST's resilience level
(0-100), affects its zone's influence strength under uncertainty.
]

;; --- Agent Variables (COMMONERS) ---
COMMONERS-own [
  AWARENESS                 ; COMMONER's overall awareness level
(0-100), sum of awareness from GRASSROOTERS and INSTITUTIONALISTS.
  AWARENESS_FROM_GRASSROOTERS ; Component of awareness gained
specifically from GRASSROOTER interactions.
  AWARENESS_FROM_INSTITUTIONALISTS ; Component of awareness gained
specifically from institutionalized patches.
  RESILIENCE                ; This COMMONER's resilience level (0-
100), affects how their awareness decays under uncertainty.
  LAST_GRASSROOTER_WAS_BACKED? ; Boolean flag: true if the last
GRASSROOTER interaction occurred on an institutionally validated patch.
]

;; --- Patch Variables ---
patches-own [
  INSTITUTIONALIZED        ; Boolean flag: true if this patch is part of an
established institutional zone.
  INSTITUTION_INFLUENCE    ; The level of influence this patch exerts if
it's institutionalized (0-100).
]

;; --- Setup Procedure ---
to SETUP
  ; Initializes the model to its starting state.
  clear-all ; Clears all previous agents, patches, and global variable
values.

  set INSTITUTION_GAP 2 ; Sets the fixed gap required between
INSTITUTIONALIST's zones.

  ; Configure parameters for visual scaling of institutional influence on
patches.
  set MIN_INST_INFLUENCE 0
  set MAX_INST_INFLUENCE BASE_INSTITUTIONALIST_INFLUENCE + 1 ; Ensures the
base max influence is within the color scale.

  ask patches [
    set INSTITUTIONALIZED false
    set INSTITUTION_INFLUENCE 0
    set pcolor white ; Default patch color.
  ]

  ; Create initial populations of agents.
  CREATE_GRASSROOTERS
  CREATE_INSTITUTIONALISTS

```

```

CREATE_COMMONERS

reset-ticks ; Resets the simulation timer to 0.
end

;; --- Go Procedure (Main Loop) ---
to GO
  ; Executes one tick (time step) of the simulation.
  ask GRASSROOTERS [
    MOVE_GRASSROOTER
    INTERACT_WITH_COMMONERS
  ]

  ask INSTITUTIONALISTS [
    MOVE_OR_ESTABLISH_INSTITUTIONALIST
  ]

  ask COMMONERS [
    MOVE_COMMONER
    UPDATE_AWARENESS ; COMMONER's awareness decays based
on resilience and uncertainty.
    CHECK_INSTITUTIONALIST_INFLUENCE ; COMMONER gains awareness if on an
institutionalized patch.
    VISUALIZE_AWARENESS ; Update COMMONER's visual
representation.
  ]

  ask patches [
    VISUALIZE_INSTITUTION ; Update patch visual representation
(institutional zones).
  ]

  tick ; Advance the simulation clock by one tick.
end

;; --- Agent Creation Procedures ---

to CREATE_GRASSROOTERS
  ; Creates and initializes GRASSROOTER agents based on interface
settings.
  CREATE-GRASSROOTERS NUMBER_OF_GRASSROOTERS [
    set SHAPE "person"
    set COLOR red
    set SIZE 2.0
    set INFLUENCE_RANGE BASE_GRASSROOTER_RANGE
    set GRASSROOTER_INFLUENCE BASE_GRASSROOTER_INFLUENCE
    set RESILIENCE BASE_GRASSROOTER_RESILIENCE
    MOVE_TO_RANDOM_POSITION ; Place agent randomly in the world.
  ]
end

to CREATE_INSTITUTIONALISTS
  ; Creates and initializes INSTITUTIONALIST agents based on interface
settings.
  CREATE-INSTITUTIONALISTS NUMBER_OF_INSTITUTIONALISTS [
    set SHAPE "person"
    set COLOR blue
    set SIZE 2.0
    set INFLUENCE_RANGE BASE_INSTITUTIONALIST_RANGE

```

```

    set INSTITUTIONALIST_INFLUENCE BASE_INSTITUTIONALIST_INFLUENCE
    set IS_ESTABLISHED false ; Initially, no zones are established.
    set RESILIENCE BASE_INSTITUTIONALIST_RESILIENCE
    MOVE_TO_RANDOM_POSITION ; Place agent randomly in the world.
  ]
end

to CREATE_COMMONERS
  ; Creates and initializes COMMONER agents based on interface settings.
  CREATE-COMMONERS NUMBER_OF_COMMONERS [
    set SHAPE "person"
    set COLOR gray ; Default color for no awareness.
    set SIZE 1.5
    set AWARENESS 0 ; Start with no awareness.
    set AWARENESS_FROM_GRASSROOTERS 0
    set AWARENESS_FROM_INSTITUTIONALISTS 0
    set RESILIENCE BASE_COMMONER_RESILIENCE
    set LAST_GRASSROOTER_WAS_BACKED? false ; Initially, no backed
interactions.
    MOVE_TO_RANDOM_POSITION ; Place agent randomly in the world.
  ]
end

;; --- Movement Procedures ---

to MOVE_TO_RANDOM_POSITION
  ; Utility procedure for agents to move to a random location.
  setxy random-xcor random-ycor
end

to MOVE_GRASSROOTER
  ; Defines the random walk movement for GRASSROOTER agents.
  rt random 30 - 15 ; Turn right by a random angle between -15 and 15
degrees.
  fd 1 ; Move forward one step.
end

to MOVE_OR_ESTABLISH_INSTITUTIONALIST
  ; Logic for INSTITUTIONALIST agents: either move or establish a zone if
not already established.
  let ESTABLISHED_STATUS IS_ESTABLISHED ; Local copy to check status
within this tick's logic.

  if ESTABLISHED_STATUS = false [ ; Only act if not already established.
    let CAN_ESTABLISH_FLAG CAN_ESTABLISH_HERE? ; Check if conditions allow
establishment.
    if CAN_ESTABLISH_FLAG = true [
      ESTABLISH_INSTITUTION ; Create the INSTITUTIONALIST's zone.
      set IS_ESTABLISHED true ; Update the agent's state to
established.
      set ESTABLISHED_STATUS true ; Update local copy for this tick's
logic.
    ]
    if ESTABLISHED_STATUS = false [ ; If still not established (either
couldn't or didn't this step), then move.
      rt random 30 - 15
      fd 1
    ]
  ]
]

```

```

; If IS_ESTABLISHED was true initially or became true in this procedure,
the agent is now immobile.
end

```

```

to MOVE_COMMONER
; Defines the random walk movement for COMMONER agents.
rt random 30 - 15
fd 1
end

```

```

;; --- Interaction Procedures ---

```

```

to INTERACT_WITH_COMMONERS
; Executed by a GRASSROOTER agent to influence nearby COMMONERS.
let MY_RADIUS INFLUENCE_RANGE
let MY_INFLUENCE GRASSROOTER_INFLUENCE
let MY_RESILIENCE RESILIENCE ; This local variable 'MY_RESILIENCE' is
defined but the agent's own RESILIENCE is used directly later.

```

```

let AM_I_BACKED? [INSTITUTIONALIZED] of patch-here ; Check if the
Grassrooter is on an institutionalized patch.

```

```

let EFFECTIVENESS 1.0 ; Base effectiveness multiplier.
if UNCERTAINTY_LEVEL > 0 [
; Adjust effectiveness based on Grassrooter's resilience vs.
environmental uncertainty.
ifelse RESILIENCE >= UNCERTAINTY_LEVEL [ ; If more resilient than
uncertainty level
set EFFECTIVENESS 1.0 + (UNCERTAINTY_LEVEL / 150.0) ; Boost
effectiveness.
][ ; If less resilient
set EFFECTIVENESS 1.0 - (UNCERTAINTY_LEVEL / 100.0) ; Reduce
effectiveness.
if EFFECTIVENESS < 0.1 [set EFFECTIVENESS 0.1] ; Effectiveness
cannot drop below 10%.
]
]

```

```

; Identify Commoners within the circular influence range and apply
influence.
ask COMMONERS in-radius MY_RADIUS [
if distance myself <= MY_RADIUS [ ; `in-radius` is square, this
ensures a circular area.
set AWARENESS_FROM_GRASSROOTERS AWARENESS_FROM_GRASSROOTERS +
(MY_INFLUENCE * EFFECTIVENESS)
set LAST_GRASSROOTER_WAS_BACKED? AM_I_BACKED? ; Record if this
interaction was institutionally backed.
]
]
end

```

```

to CHECK_INSTITUTIONALIST_INFLUENCE
; Executed by a Commoner agent to potentially gain awareness from its
current patch.
let MY_PATCH patch-here
if [INSTITUTIONALIZED] of MY_PATCH [ ; If the patch is part of an
institutional zone
; Increase awareness from institutional sources by the patch's
influence level.

```

```

    set AWARENESS_FROM_INSTITUTIONALISTS AWARENESS_FROM_INSTITUTIONALISTS
+ [INSTITUTION_INFLUENCE] of MY_PATCH
]
end

;; --- Establishment Logic ---

to-report CAN_ESTABLISH_HERE?
; Executed by an Institutionalists to check if it can establish a zone at
its current location.
; It reports true if the location is not too close to other existing
institutional zones.
let MY_RADIUS INFLUENCE_RANGE
let MIN_DIST_CENTERS (MY_RADIUS * 2) + INSTITUTION_GAP ; Minimum
distance between centers of zones.
; Find other Institutionalists that have already established zones.
let OTHER_ESTABLISHED_INSTITUTIONALISTS INSTITUTIONALISTS with
[IS_ESTABLISHED = true and myself != self]
; Check if any of these existing zones are too close.
let TOO_CLOSE? any? OTHER_ESTABLISHED_INSTITUTIONALISTS with [distance
myself < MIN_DIST_CENTERS]
report (not TOO_CLOSE?) ; Can establish if no other zones are too close.
end

to ESTABLISH_INSTITUTION
; Executed by an Institutionalists to create its zone of influence on
surrounding patches.
let MY_RADIUS INFLUENCE_RANGE
let MY_BASE_INFLUENCE INSTITUTIONALIST_INFLUENCE ; Agent's own base
influence strength.
let MY_RESILIENCE RESILIENCE ; Agent's own
resilience level.

let EFFECTIVENESS 1.0 ; Base effectiveness multiplier.
if UNCERTAINTY_LEVEL > 0 [
; Adjust effectiveness based on Institutionalists's resilience vs.
environmental uncertainty.
ifelse MY_RESILIENCE >= UNCERTAINTY_LEVEL [
set EFFECTIVENESS 1.0 + (UNCERTAINTY_LEVEL / 150.0) ; Boost
effectiveness.
][
set EFFECTIVENESS 1.0 - (UNCERTAINTY_LEVEL / 100.0) ; Reduce
effectiveness.
if EFFECTIVENESS < 0.1 [set EFFECTIVENESS 0.1] ; Effectiveness
cannot drop below 10%.
]
]

let EFFECTIVE_PEAK_INFLUENCE MY_BASE_INFLUENCE * EFFECTIVENESS ;
Calculate the actual peak influence for the zone center.

; Apply influence to patches within the radius.
ask patches in-radius MY_RADIUS [
if not INSTITUTIONALIZED [ ; Only affect patches not already part of
another zone.
set INSTITUTIONALIZED true
let DIST distance myself ; Distance from this patch to the
establishing Institutionalists.
if MY_RADIUS > 0 and DIST < MY_RADIUS [

```

```

        ; Influence decays linearly from the peak at the center to zero
        at the edge of the radius.
        set INSTITUTION_INFLUENCE EFFECTIVE_PEAK_INFLUENCE * (1 - (DIST
        / MY_RADIUS))
    ]
    if MY_RADIUS = 0 or DIST >= MY_RADIUS [ ; If radius is 0 or patch
    is at/beyond edge.
        set INSTITUTION_INFLUENCE 0
    ]
    if INSTITUTION_INFLUENCE < 0 [ set INSTITUTION_INFLUENCE 0 ] ;
    Ensure influence is not negative.
    ]
    ]
    set SIZE 2.0 ; Visually mark the Institutionalist as established (larger
    size).
end

```

```
;; --- Update and Visualization Procedures ---
```

```

to UPDATE_AWARENESS
    ; Executed by each Commoner to update its various awareness levels based
    on decay and caps.
    let AWARENESS_DECAY_MODIFIER 1.0 ; Base modifier for decay.
    if UNCERTAINTY_LEVEL > 0 [
        ; Adjust decay modifier based on Commoner's resilience vs.
        environmental uncertainty.
        ifelse RESILIENCE >= UNCERTAINTY_LEVEL [ ; If more resilient
            set AWARENESS_DECAY_MODIFIER 1.0 - (UNCERTAINTY_LEVEL / 200.0) ;
            Reduce decay rate.
            if AWARENESS_DECAY_MODIFIER < 0.5 [set AWARENESS_DECAY_MODIFIER 0.5]
        ] ; Modifier cannot go below 0.5.
        [ ; If less resilient
            set AWARENESS_DECAY_MODIFIER 1.0 + (UNCERTAINTY_LEVEL / 100.0) ;
            Increase decay rate.
        ]
    ]

    ; Calculate and apply decay for awareness from Grassrooters.
    let EFFECTIVE_GRASSROOTER_FADE_RATE BASE_GRASSROOTER_FADE_RATE *
    AWARENESS_DECAY_MODIFIER
    if LAST_GRASSROOTER_WAS_BACKED? = true [
        ; If interaction was backed by an institution, apply the validation
        factor to slow decay further.
        set EFFECTIVE_GRASSROOTER_FADE_RATE EFFECTIVE_GRASSROOTER_FADE_RATE *
        INSTITUTIONAL_VALIDATION_FACTOR
    ]
    set AWARENESS_FROM_GRASSROOTERS max (list 0 (AWARENESS_FROM_GRASSROOTERS
    - EFFECTIVE_GRASSROOTER_FADE_RATE))

    ; Calculate and apply decay for awareness from Institutionalists.
    set AWARENESS_FROM_INSTITUTIONALISTS max (list 0
    (AWARENESS_FROM_INSTITUTIONALISTS - (BASE_INSTITUTIONALIST_FADE_RATE *
    AWARENESS_DECAY_MODIFIER)))

    ; Ensure awareness components do not exceed 100.
    if AWARENESS_FROM_GRASSROOTERS > 100 [ set AWARENESS_FROM_GRASSROOTERS
    100 ]
    if AWARENESS_FROM_INSTITUTIONALISTS > 100 [ set
    AWARENESS_FROM_INSTITUTIONALISTS 100 ]

```

```

    ; Sum components for total awareness and cap at 100.
    set AWARENESS AWARENESS_FROM_GRASSROOTERS +
AWARENESS_FROM_INSTITUTIONALISTS
    if AWARENESS > 100 [ set AWARENESS 100 ]
end

to VISUALIZE_AWARENESS
    ; Sets the visual appearance (color and label) of Commoner agents based
on their awareness level.
    if AWARENESS = 0 [
        set color gray ; No awareness.
    ]
    if AWARENESS > 0 [
        ; Awareness is represented by shades of green (HSB color model).
        let TARGET_H 100 ; Hue for a green-like color.
        let TARGET_S 100 ; Target saturation (full).
        let TARGET_B 100 ; Target brightness (full).
        let GRAY_B 50 ; Brightness of gray (when awareness is 0).
        ; Interpolate saturation and brightness based on awareness level.
        let CURRENT_S (AWARENESS / 100) * TARGET_S
        let CURRENT_B GRAY_B + ((AWARENESS / 100) * (TARGET_B - GRAY_B))
        set color approximate-hsb TARGET_H CURRENT_S CURRENT_B
    ]
    set label round AWARENESS ; Display rounded awareness value as a label.
    set label-color black
end

to VISUALIZE_INSTITUTION
    ; Sets the visual appearance of patches based on their
institutionalization status and influence.
    if INSTITUTIONALIZED [
        ; Calculate maximum possible influence for dynamic color scaling,
considering effectiveness boost.
        let MAX_EFFECT_MULTIPLIER (1 + (100 / 150.0)) ; Maximum possible
effectiveness multiplier if UNCERTAINTY_LEVEL is 100.
        let CURRENT_MAX_INFLUENCE max (list (BASE_INSTITUTIONALIST_INFLUENCE +
1) (BASE_INSTITUTIONALIST_INFLUENCE * MAX_EFFECT_MULTIPLIER))
        ; Ensure CURRENT_MAX_INFLUENCE is greater than MIN_INST_INFLUENCE to
prevent scale-color errors.
        if CURRENT_MAX_INFLUENCE <= MIN_INST_INFLUENCE [ set
CURRENT_MAX_INFLUENCE MIN_INST_INFLUENCE + 0.1 ]

        ; Color institutionalized patches in shades of blue, scaled by their
influence.
        set pcolor scale-color (blue - 2) INSTITUTION_INFLUENCE
CURRENT_MAX_INFLUENCE MIN_INST_INFLUENCE
    ]
    if not INSTITUTIONALIZED [
        set pcolor white ; Non-institutionalized patches remain white.
    ]
]
end

;; --- Helper Reporters for Calculating Individual Effective Fade Rates ---
-

to-report GET_EFFECTIVE_GRASSROOTER_FADE [ TARGET_COMMONER ]
    ; Calculates and reports the effective fade rate of Grassrooter-derived
awareness for a specific Commoner.

```

```

let THE_RESILIENCE [RESILIENCE] of TARGET_COMMONER
let WAS_BACKED? [LAST_GRASSROOTER_WAS_BACKED?] of TARGET_COMMONER

let DECAY_MODIFIER 1.0
if UNCERTAINTY_LEVEL > 0 [
  ifelse THE_RESILIENCE >= UNCERTAINTY_LEVEL [
    set DECAY_MODIFIER 1.0 - (UNCERTAINTY_LEVEL / 200.0)
    if DECAY_MODIFIER < 0.5 [set DECAY_MODIFIER 0.5]
  ] [
    set DECAY_MODIFIER 1.0 + (UNCERTAINTY_LEVEL / 100.0)
  ]
]

let EFFECTIVE_FADE BASE_GRASSROOTER_FADE_RATE * DECAY_MODIFIER
if WAS_BACKED? = true [
  set EFFECTIVE_FADE EFFECTIVE_FADE * INSTITUTIONAL_VALIDATION_FACTOR
]
report EFFECTIVE_FADE
end

to-report GET_EFFECTIVE_INSTITUTIONALIST_FADE [ TARGET_COMMONER ]
; Calculates and reports the effective fade rate of Institutional-
derived awareness for a specific Commoner.
let THE_RESILIENCE [RESILIENCE] of TARGET_COMMONER

let DECAY_MODIFIER 1.0
if UNCERTAINTY_LEVEL > 0 [
  ifelse THE_RESILIENCE >= UNCERTAINTY_LEVEL [
    set DECAY_MODIFIER 1.0 - (UNCERTAINTY_LEVEL / 200.0)
    if DECAY_MODIFIER < 0.5 [set DECAY_MODIFIER 0.5]
  ] [
    set DECAY_MODIFIER 1.0 + (UNCERTAINTY_LEVEL / 100.0)
  ]
]
report (BASE_INSTITUTIONALIST_FADE_RATE * DECAY_MODIFIER)
end

;; --- Reporter Procedures for Monitoring ---
;; These reporters provide aggregate data about the model state, useful
for plots and monitors.

to-report REPORT_AVG_GRASSROOTER_EFFECTIVENESS
; Reports the average expected effectiveness of Grassrooters,
considering their mean resilience against current uncertainty.
if count GRASSROOTERS = 0 [ report 1.0 ] ; Default to 1.0 (no
modification) if no grassrooters.
let AVG_RESILIENCE mean [RESILIENCE] of GRASSROOTERS
let EFFECTIVENESS 1.0
if UNCERTAINTY_LEVEL > 0 [
  ifelse AVG_RESILIENCE >= UNCERTAINTY_LEVEL [ set EFFECTIVENESS 1.0 +
(UNCERTAINTY_LEVEL / 150.0) ]
[ set EFFECTIVENESS 1.0 -
(UNCERTAINTY_LEVEL / 100.0) ]
  if EFFECTIVENESS < 0.1 [set EFFECTIVENESS 0.1]
]
report EFFECTIVENESS
end

```

```

to-report REPORT_AVG_INSTITUTIONALIST_EFFECTIVENESS
  ; Reports the average expected effectiveness of Institutionalists (for
  establishment), considering their mean resilience against current
  uncertainty.
  if count INSTITUTIONALISTS = 0 [ report 1.0 ] ; Default to 1.0 if no
  institutionalists.
  let AVG_RESILIENCE mean [RESILIENCE] of INSTITUTIONALISTS
  let EFFECTIVENESS 1.0
  if UNCERTAINTY_LEVEL > 0 [
    ifelse AVG_RESILIENCE >= UNCERTAINTY_LEVEL [ set EFFECTIVENESS 1.0 +
  (UNCERTAINTY_LEVEL / 150.0) ]
    [ set EFFECTIVENESS 1.0 -
  (UNCERTAINTY_LEVEL / 100.0) ]
    if EFFECTIVENESS < 0.1 [set EFFECTIVENESS 0.1]
  ]
  report EFFECTIVENESS
end

to-report REPORT_AVG_DECAY_MODIFIER
  ; Reports the average awareness decay modifier for Commoners,
  considering their mean resilience against current uncertainty.
  if count COMMONERS = 0 [ report 1.0 ] ; Default to 1.0 if no commoners.
  let AVG_RESILIENCE mean [RESILIENCE] of COMMONERS
  let AWARENESS_DECAY_MODIFIER 1.0
  if UNCERTAINTY_LEVEL > 0 [
    ifelse AVG_RESILIENCE >= UNCERTAINTY_LEVEL [
      set AWARENESS_DECAY_MODIFIER 1.0 - (UNCERTAINTY_LEVEL / 200.0)
      if AWARENESS_DECAY_MODIFIER < 0.5 [set AWARENESS_DECAY_MODIFIER 0.5]
    ] [
      set AWARENESS_DECAY_MODIFIER 1.0 + (UNCERTAINTY_LEVEL / 100.0)
    ]
  ]
  report AWARENESS_DECAY_MODIFIER
end

to-report REPORT_AVG_EFFECTIVE_GRASSROOTER_FADE
  ; Reports the average effective fade rate of Grassrooter-derived
  awareness across all Commoners.
  if count COMMONERS = 0 [ report 0 ] ; Default to 0 if no commoners.
  report mean [ GET_EFFECTIVE_GRASSROOTER_FADE self ] of COMMONERS
end

to-report REPORT_AVG_EFFECTIVE_INSTITUTIONALIST_FADE
  ; Reports the average effective fade rate of Institutionalist-derived
  awareness across all Commoners.
  if count COMMONERS = 0 [ report 0 ] ; Default to 0 if no commoners.
  report mean [ GET_EFFECTIVE_INSTITUTIONALIST_FADE self ] of COMMONERS
end

```

CV

Fatih Al

A. EDUCATION

PhD: Istanbul Zaim University, Islamic Economics and Finance, 2025, Istanbul, TR

MBA: York University, Schulich School of Business, 2005, Toronto ON, CA

MS (non-thesis): Istanbul Technical University, Management of Information Systems, 2002, Istanbul, TR

BEng: Istanbul Technical University, Aeronautical Engineering, 2001, Istanbul, TR

B. PROFESSIONAL EXPERIENCE

Engineering/R&D Manager, Manufacturing Industry, 2006-2019, Istanbul, TR

C. ACADEMIC EXPERIENCE

Visiting Research Fellow, Durham Centre for Islamic Economics and Finance (DCIEF), Durham University Business School, 2023-2024, Durham, UK

D. PUBLICATIONS

Al, F., & Asutay, M. (2025). Moral Decision-Makers in the GCC Islamic Charitable Organizations: The Case for Sustainable Development. In M. Asutay & D. Aassouli (Eds.), *Sustainable Economy Transition in the GCC: Exploring Synergies Between Islamic and Sustainable Finance*. London: Routledge. **(Forthcoming)**.

Al, F. (2022). Financialization and Its Effects. In M. Kahf (Ed.), *Towards a New Theory of Finance: Can Islamic Finance Be It?* (pp. 99-125). Istanbul Sabahattin Zaim University.

Al, F. (2022). Key Features of the Contemporary Financial System. In M. Kahf (Ed.), *Towards a New Theory of Finance: Can Islamic Finance Be It?* (pp. 9-43). Istanbul Sabahattin Zaim University.

E. CONFERENCE PRESENTATIONS

Al, F. *, & Asutay, M. (2025). *An Emergent Framework of Religio-Moral Agency*. Paper presented at the SASE Annual Conference, Montreal, CA (online).

Al, F., & Asutay, M. * (2025). *Navigating Uncertainty: The Role of Personal Religio-Moral Agency in Muslim Third Sector Executives*. Paper presented at the 15th EIASM Workshop on the Challenges of Managing the Third Sector, Durham, UK.

Al, F. *, & Asutay, M. (2024). *An Empirically Grounded Narrative of Religious Moral Agency*. Paper presented at the International Congress of Islamic Economy and Finance (ICIFE), Gaziantep, TR (in-person).

Al, F. *, & Asutay, M. (2024). *Moral Agents: The Interplay Between Faith, Nature, and Sustainability*. Paper presented at the SASE Annual Conference, Limerick, IE (in-person).

Al, F. *, & Asutay, M. (2023). *Moral Decision-Makers in the GCC Islamic Charitable Organizations: The Case for Sustainable Development*. Paper presented at the Gulf Research Meeting, Cambridge, UK (in-person).

Al, F. *, & Kahf, M. (2021). *Moral Economy in Times of Uncertainty: An Islamic Perspective*. Paper presented at the SASE Annual Conference (virtual).

Al, F. *, Mohammed, M. O., & El Amri, M. C. (2020). *Effects of technological change on selected labor sectors in Turkey: Analysis based on ARDL approach*. Paper presented at the 12th International Conference on Islamic Economics & Finance, Istanbul, TR (online).

(*) denotes the presenter