INSTITUTE FOR GLOBAL PROSPERITY

The Influence of the Entrepreneurial Ecosystem on Transformative Entrepreneurship in Advancing Responsible Consumption and Production (SDG 12) in the UAE

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Abstract

This paper investigates transformative entrepreneurship (TE) in the United Arab Emirates (UAE), focusing on its role in addressing grand societal challenges in context to UN Sustainable Development Goal (SDG) 12. Focusing on TE's quadruple bottom line - covering people, planet, profit, and progress, it seeks to fill knowledge gaps by examining how key actors in the UAE's entrepreneurial ecosystem (EE) influence TE, identifying challenges faced by transformative entrepreneurs in promoting responsible consumption and production, and strategies to overcome these barriers.

Using a qualitative approach grounded in interpretivism and inductive reasoning, the study collects data through semi-structured interviews with transformative entrepreneurs in the UAE and applies thematic analysis to uncover insights. Building on existing literature, the insights reveal that while government policies positively support TE, they can also misalign with infrastructure needs, outlining the importance of support mechanisms and market dynamics. The paper also identifies financial constraints, regulatory barriers, and a value-action gap in consumer behaviour as critical challenges. To address these, the findings posit strategies such as fostering local entrepreneurial networks, enhancing mentorship, especially for women-led ventures, and promoting strategic partnerships with educational institutions, thereby strengthening alignment with SDG 12.

This research contributes to the growing literature on impact-based entrepreneurship and sustainability in the in the Gulf Cooperation Council (GCC) region, offering original insights into the intersection of entrepreneurship, sustainability, and policy, and laying a foundation for future research across the regional contexts.

Keywords:

- Transformative Entrepreneurship
- Entrepreneurial Ecosystems
- Sustainable Development Goal 12
- United Arab Emirates
- Quadruple Bottom Line
- Sustainable Prosperity

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List of Abbreviations

CSR – Corporate Social Responsibility
COP28 – 2023 United Nations Climate Change Conference or Conference
EE – Entrepreneurial Ecosystems
ESG – Environmental Social Governance
GCC – Gulf Cooperation Council
GEM – Global Entrepreneurship Monitor
GDP – Gross Domestic Product
GSC – Grand Societal Challenges
MNC – Multinational Corporation
QBL – Quadruple Bottom Line
RQ – Research Question
SDG 12 – Responsible Consumption and Production
SDGs – Sustainable Development Goals
SME – Small-Medium Enterprise
TE – Transformative Entrepreneurship
TBL – Triple Bottom Line
UAE – United Arab Emirates
UN – United Nations
VC – Venture Capital

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Chapter 1

Introduction

The discourse on transformative entrepreneurship (TE) is evolving, encompassing facets of entrepreneurship that require grounding through empirical research. An emerging concept with limited knowledge, TE extends beyond the traditional profitability model to include sustainable prosperity, through a quadruple bottom line approach (QBL) focusing on people, planet, profit, and progress (Beech Cambridge Leadership Development, 2013). Notably, entrepreneurship is the result of the interplay of multiple factors and actors within entrepreneurial ecosystems (EE), which facilitate the development and validation of business ideas via networks (Instituto de Estudios Superiores de la Empresa (IESE), 2009). Consequently, studying TE involves examining these specific networks and actors either facilitating or hindering the TE agenda. In this context, this research aims to generate insights by integrating literature on TE and EE framework. By doing so, it seeks to contribute to academia on TE through a case study in the United Arab Emirates (UAE), the country ranked first globally in the Global Entrepreneurship Monitor (GEM) (Global Entrepreneurship Monitor Consortium, 2024), emphasising a paradigm of entrepreneurship that transcends profitability to encompass broader societal goals. Within this study, Sustainable Development Goal (SDG) 12 aiming to ensure responsible consumption and production patterns, is used as a guiding framework to explore how TE can contribute to solutions towards burgeoning societal challenges through driving systemic change.

1.1 Background

The phenomenon of entrepreneurship can be seen as one that erupts from multidisciplinary perspectives: economics, psychology sociology and management (Gámez-Gutiérrez and Abril, 2019), leading to plurality in its definitions, debating its purpose and evolution. Generally, entrepreneurship has traditionally been represented in many of the existing literature and data as a “for-profit” activity, linked to the goal of generating high economic yields by visionary economist Adam Smith, thought as creatively destructing markets through innovation, as theorised by Joseph Schumpeter, and to exploiting market disequilibrium as proposed by economist Kirzner (Grampp, 1948; Schumpeter, 1961; Kirzner, 1973). Prominently, in the late 20th century, a global shift in environmental and social needs led to a change in the paradigm of this traditional definition (Teasdale et al., 2023). During this period, entrepreneurship began to be seen as a “social venture”, where entrepreneurs were seen as playing the role of change agents by adopting a mission to create and sustain social value for the good of all (Dees, 2012; Drayton, 2002).

Within this evolving paradigm of entrepreneurial definitions, more recently, scholars and practitioners are increasingly exploring a form of entrepreneurship committed to solving the pertinent and grand societal challenges (GSC) of the 21st century (Voegtlin, 2022); TE is centered around the principles of ensuring solutions to these societal issues, ultimately driving systemic change. As a more contemporary and newly discussed concept, TE builds on concepts from social and sustainable entrepreneurial literature and is defined by similar principles, however, it should not be mistaken for either of these fields. Unlike social enterprises that focus on problem-solving through the triple-bottom line of people, planet, and profit (Elkington, 1998), TE extends this framework towards a QBL approach. This approach promotes systemic change and prosperity through four key dimensions: enhancing quality of life (people), achieving competitive productivity (profit), maintaining sustainable ecosystems (planet), and fostering adaptive innovation (progress) (Beech Cambridge Leadership Development, 2013).

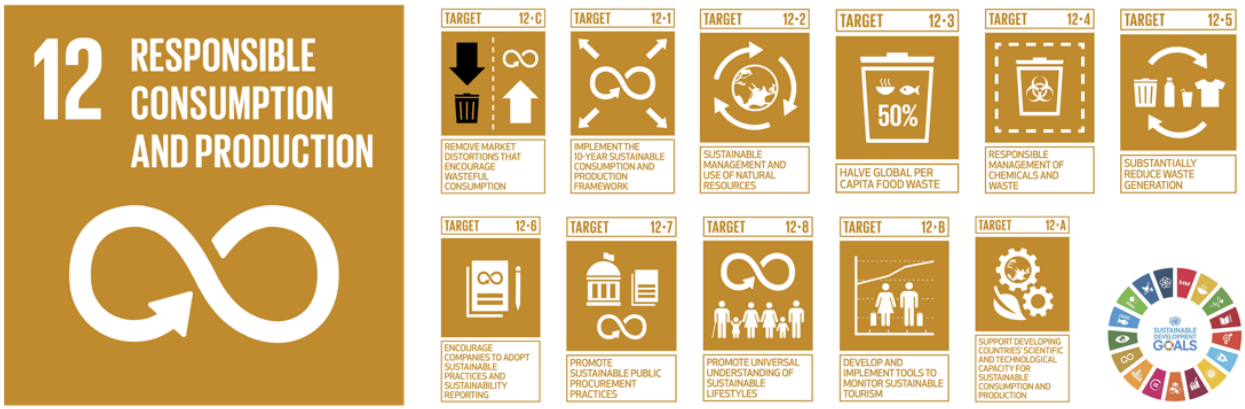

Figure 1: SDG 12 Targets. Source: Stone, 2021.

This approach closely aligns with the United Nations (UN) SDGs, particularly SDG 12, which aims to ensure sustainable consumption and production patterns. SDG 12's broad scope is evident in its targets as seen in Figure 1 below. It is essential to acknowledge that despite this broad scope leading to complexities in interpretation, it also allows for an expansive scope of entrepreneurial alignment, where various TE agendas can directly or indirectly engage with targets through the QBL approach and their principles.

1.2 Rationale and Knowledge Gaps

Although these relations can be drawn out for TE, despite growing interest in the field globally, unfortunately the concept in terms of its exact definition and operations remains fluid, with insufficient understanding of its manifestation. This background informs the guiding rationale of this study, which addresses a knowledge and empirical gap. While

studies have investigated principles such as inclusive growth (Khavul and Burton, 2013) and social value creation (Peredo and McLean, 2006) aimed at driving systemic change, these are often derived from multiple studies focusing on the social spectrum of entrepreneurship. Other academics explore the domain in terms of high growth technology and scalability ventures that focus on long-term societal impact (Marmer, 2012). Thus, significant knowledge voids remain in understanding how these principles function within their operational landscape, their impacts, challenges and opportunities, creating the rationale for this study into TE using the SDG 12 background and framework actors from the EE as guiding frameworks.

Another key motivation behind the scope of this study stems from a population gap in existing research. Current literature either examines TE in rural markets with institutional voids (Mair et al., 2012) or in sophisticated, developed geopolitical contexts, exploring the factors of challenge-driven innovation and welfare states (Takala et al., 2022). Based on this, there appears to be a white space in research on less studied but growing regions, such as the Middle East, particularly the Gulf Cooperation Council (GCC); with a growing focus on openness and economic diversification, it is positioned strategically in the evolving global landscape especially post-pandemic (Kotilaine, 2023).Within the six GCC countries, the UAE offers a unique context for exploring TE due to its rapid economic development and strategic vision for sustainability. The UAE's 'Next50' Vision targets entrepreneurship, tourism, investment, and talent retention to enhance GDP growth and position the country as a global business leader (Ministry of Economy UAE, 2024). Despite global pressures, this optimistic trajectory is underscored by the growth in GDP by 3.6% (Mohamed and Nashar, 2024), highlighting the UAE's economic landscape's viability for study. Moreover, over the past five years, the UAE has increased commitments toward sustainability and net-zero goals, with intensive initiatives led by the government and, more recently, the private sector, in the wake of the recently held COP28 event (World GBC, 2023).

The stated momentum of growth in the region has garnered interest from scholars and academics in recent times. Current entrepreneurship studies in the UAE have extensively identified influences through EE ecosystem variables (Aljarwan et al., 2019; Balawi, 2021; Darwish et al., 2020; Papaspyridis and Zalan, 2017; Slaoui and Mouline, 2022), and have highlighted strengths such as government incubation initiatives and start-up-friendly free zones and challenges like high legal setup costs and a lack of technical expertise in the UAE's EE ecosystem (Aljarwan et al., 2019); unfortunately, they focus primarily on economic aspects, overlooking the TE paradigm, hence, presenting a gap.

Flowing from this, a knowledge gap concerning the integration of SDGs with entrepreneurial activity in the UAE also presents itself. Despite the UAE's national

commitment to achieving the SDGs by 2030, there is a critical need to focus on entrepreneurial activities that go beyond profit and integrate SDG goals. Although there are over 150 initiatives and KPIs reflecting UAE's SDG journey (UAE National Committee on SDGs, 2022), challenges are faced in achieving SDG 12 due to high per capita consumption and waste generation driven by a reliance on non-renewable energy (Umar et al., 2020). Understanding the micro-level and private sector dynamics in promoting sustainable consumption and production may help address these challenges.

1.3 Research Aims and Objectives

Given this rationale, the primary aim of this study is to contribute to the literature on TE within the UAE's EE by assessing the conditions and variables that either advance or impede transformative entrepreneurship, specifically in relation to SDG 12. Building on this, this research intends to undertake the following objectives:

1. To identify the roles of the key actors within the UAE's EE in developing TE.
2. To investigate the challenges faced by transformative entrepreneurs in the UAE in relation to promoting responsible consumption and production.
3. To map out the opportunities for transformative entrepreneurs towards aligning their operations with responsible consumption and production.

Ergo, the overarching research question is, "How is transformative entrepreneurship influenced by the entrepreneurial ecosystem in relation to responsible consumption and production (SDG 12) in the UAE?". To address this, the study poses the following key research questions:

- How do the key actors within the UAE's entrepreneurial ecosystem influence the transformative entrepreneurship agenda?
- What are the main bottlenecks faced by transformative entrepreneurs in the UAE in their efforts to align with responsible consumption and production?
- What strategies within the entrepreneurial ecosystem can aid transformative entrepreneurs in promoting responsible consumption and production?

1.4 Scope of the Study

The scope of the study engages with literature from three main domains: TE principles, EE models, and SDG frameworks, specifically SDG 12, applied to the UAE context. While there is no clear definition for TE, this study will use complementary principles of social entrepreneurship such inclusive growth, social value creation, and systemic change, guided by the pillar of sustainable prosperity from the QBL approach. Additionally, the

other two frameworks will be explored in the literature review in Chapter 2, leading to the identification and analysis of key variables relevant to investigating the UAE's transformative entrepreneurial landscape. The scope is theoretically bounded by focusing on the theories within institutional structures (EEs) and entrepreneurship with exploring their impacts on TE and references to the broader sustainability development theories. Whilst there are some references to systems thinking in the discussion of findings, the research doesn't go deep into the complex interconnections between different factors of TE and EE.

The methodology employs a qualitative method, grounded in interpretivism philosophy and inductive approach, given the subjectivity of entrepreneurial experiences and aim to generate new insights from primary observations and UAE-specific data. A case-study approach will utilise semi-structured interviews, chosen for their adaptability in guided investigations whilst facilitating focus on key topics (Kakilla, 2021), as the primary data collection method, complemented by relevant document and literature analysis. Thematic analysis will be adopted to identify patterns and observations from the rich qualitative data; this justification and process is comprehensively elaborated in Chapter 3.

Chapter 4 expands upon the concepts introduced in Chapter 2 by integrating contextually rich data that responds to the research questions. The chapter's scope extends beyond presenting qualitative findings from primary research; it critically discusses these findings in alignment with the study's objectives. This analysis involves the use of evaluation tools such as validity, reliability, and generalizability, ensuring a thorough examination of the data and addressing some of potential limitations of qualitative research highlighted in Chapter 4. The iterative development of primary themes, triangulated with existing academic literature, is a key aspect of this chapter.

In Chapter 5, the study's significance, including its original contributions, will be discussed. This concluding chapter will provide a comprehensive summary, highlighting the study's theoretical and practical implications, addressing its limitations, and proposing potential pathways for future research.

Chapter 2

Literature Review

2.1 Conceptual Frameworks

Although this study does not strictly test or apply any specific conceptual frameworks or hypotheses, it is situated within the broader context of three key concepts: transformative entrepreneurship (TE), entrepreneurial ecosystems (EEs), and Sustainable Development Goal 12 (SDG 12). Therefore, the following literature review of these concepts, with references to multiple models, serves as an essential precursor to frame the study's findings.

2.1.1 Transformative Entrepreneurship

Within the rich multiplicity of approaches in the study of entrepreneurship, the 21st century has witnessed a paradigm shift with the emergence of TE. The field of TE garners momentum with the emergence grand societal challenges (GSC) of this period such as climate change, inequality, and global pandemics (Voegtlin et al., 2021). These issues snowballed into profound negative impacts on people, communities, ecosystems, and the planet, necessitating a radical re-evaluation of the systems, norms and foundations that built the traditional profit-driven definition of entrepreneurship; developing TE that prioritises scalable and positive outcomes and externalities, complementing sustainable growth and economic viability (Marmer, 2012). A major limitation in this field is the absence of a clear, structured framework for its operation, despite numerous scholarly and practical insights aligning with established principles that mostly stem from a mix of traditional and social entrepreneurship such as; a bottom-up innovation approach, intermediary-supported and community-driven ventures, and a commitment to systemic change through aspiring to be social engineers (Khavul and Burton, 2013; Abdelnour, 2011, Zahra et al., 2009). Although these heterogenous definitions of entrepreneurship and TE can lead to contradictions in the research field, they can also be leveraged for nuanced insights and diversity that makes entrepreneurial studies dynamic and relevant to a plethora of contexts (Audretsch, 2012).

A helpful parameter to guide the TE definition essentially stems from a triple bottom line (TBL), a renowned scholarly framework in social entrepreneurship that advances the goal of sustainability, by urging firms to shift their gaze beyond profits, including social and environmental issues as part of the cost of doing business (Elkington, 1998). The focus on a TBL strategy can lead to improved brand reputation and customer loyalty as consumers increasingly prefer to engage with responsible firms, with increased

innovation and market opportunities addressing social and environmental challenges (Hagn and Figge, 2011). Nevertheless, there are certain limitations and considerations with the framework, such as difficulty in measuring impact and the requirement of substantial upfront costs. The primary risk being TBL's misuse as a marketing device rather than a genuine commitment to sustainable practices (Lyon and Montgomery, 2015).

Consequently, transformative entrepreneurs advance from this social entrepreneurship framework, to move towards a quadruple bottom line (QBL) approach, making the move from sustainability to sustainable prosperity as seen in Figure 2. The focal agenda of TE is to move from band-aid and temporary solutions to the GSC, towards deep impact and effective systemic change, entailing a fundamental re-examination of core organisational pillars (Singh, 2021), setting it apart from both conventional and social entrepreneurship.

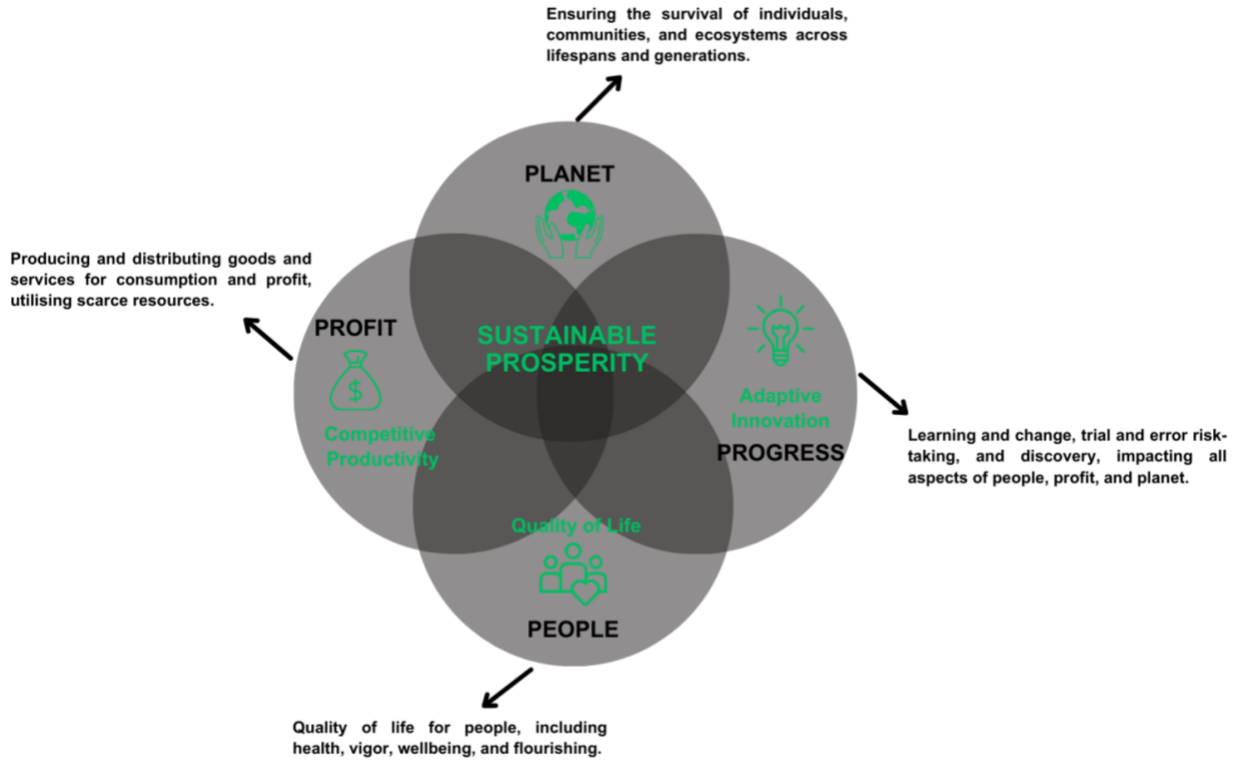

Figure 2: Sustainable Prosperity – QBL. Source: Author, 2024. Based on: Beech Cambridge Leadership Development, 2013.

Considering this, the QBL approach serves as an anchoring framework to build the TE agenda, ensuring a holistic focus on enhancing the quality of life (people), maintaining sustainable ecosystems (planet), achieving competitive productivity (profit), and fostering continuous adaptive innovation (progress) (Beech Cambridge Leadership Development,

2013). It merges the business case of profitability, human and environmental impact, innovation, and risk-taking for sustainable change. The QBL intersects for sustainable prosperity, in the following manner: People with Planet (wellbeing and sustainability); Profit with People (productivity and quality of life); Planet with Profit (ecosystem and economic success); and Progress with all three (continuous improvement).

This commitment to meaningful impact and scaling these solutions mitigates the mentioned TBL risks and avoids superficial actions that provide tempered solutions and risking mission drift, where transformative entrepreneurs may deviate from their core missions to balance social and financial goals (Ebrahim et al., 2014). The QBL approach necessitates rethinking entrepreneurial mindsets to address complex social interrelations, fundamental transformations, underlying practices and norms that dictate the functioning of a society (Catalyst 2030, 2023).

Peripheral to definitions, TE must ideally embody an effectuation mindset (Sarasvathy, 2006), emphasising adaptability, agility and ability to use one's available means to forge innovative. Simultaneously, it is significant to have sharp systems thinking, embracing curiosity, clarity, compassion, choice, and courage (Stroh, 2011) to dynamically tackle social value issues and turbulent impacts of GSCs with a pre-emptive, problem-solving, innovative and scalable approach. Similar to social entrepreneurs that are tasked with balancing social initiatives with financial performance and addressing unique challenges posed by double and TBL models (Bason, 2010), a success of a TE is hinged on its ability to maintain a QBL, requiring greater strategic alignment. This needs them to share traits with conventional entrepreneurs, such as creativity and risk-taking (Smith et al., 2014), that may be required to be more pronounced to ensure economic viability and scale and simultaneously navigate the complex demands of multiple stakeholders. In this context, a clear mission-centric approach is crucial for transformative entrepreneurs. They must utilise frameworks and guidelines, for example, the UN SDGs, to remain focused.

Moreover, a dilemma in the field of social entrepreneurship remains its failure to successfully include the most affected individuals as key players in solving social inequalities, calling for rethinking the inclusivity mechanism of social entrepreneurship (Barki et al., 2023). This frames the need for a shift from achieving inclusivity as a mere outcome to integrating equity and inclusive growth as core elements within business processes. Unlike conventional top-down approaches, TE advocates for bottom-up approaches that deeply engage and include marginalised and minority groups, especially in the Global South (Millard, 2019) in their ventures. Khavul and Burton (2013) suggest that entrepreneurship should be locally embedded, ensuring solutions are technologically, economically, socially, and culturally viable. TE, aiming for scalable and sustainable impacts, transforms beneficiaries into active participants, adapting solutions to local

contexts and potentially reshaping market structures to address institutional voids, enhancing community involvement and promoting social value creation through integrating human capital, finance, technology, and innovation (Mair et al., 2012; Abdelnour, 2011), as solutions the GSC.

2.1.2 Entrepreneurial Ecosystems

Notably, understanding TE calls for a review into the actors that impact its inception, operations and growth, prompting a discussion into entrepreneurial ecosystems (EEs). The conceptual frameworks around EEs have gained immense traction in recent years, emerging as a crucial tool to understand the dynamics that cultivate entrepreneurship within specific contexts and regions. Leading scholars such as Daniel Isenberg have articulated the foundations actors within an EE, focusing on the importance of a holistic approach, including various actors, resources and institutions. This primary model outlines six core domains (Figure 3); policy, finance, culture, support, human capital, and markets—that collectively influence entrepreneurial activity (Isenberg, 2010), guiding policymakers and practitioners foster robust and supportive entrepreneurial environments.

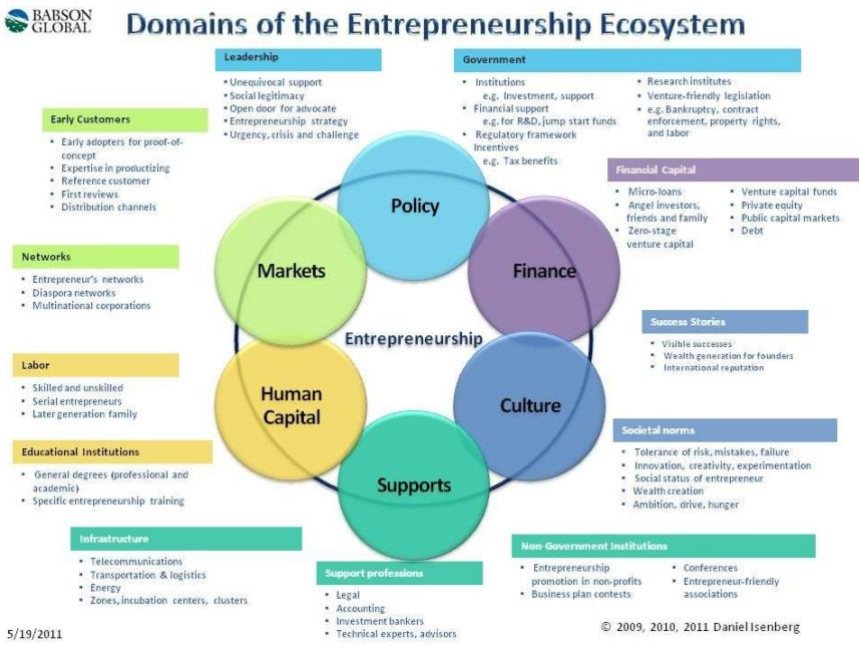

Figure 3: The Entrepreneurship Ecosystem. Source: Isenberg, 2010.

In the same vein, institutes such as the Global Entrepreneurship Monitor (GEM), support this theory by providing empirical global data that highlights the pivotal role of entrepreneurial framework conditions (EFCs) (Figure 4) in shaping entrepreneurial intentions, by measuring outcomes and support instruments across different countries,

with the mission of studying entrepreneurship in the lens of innovation, economic growth and SDGs (GEM, 2019) .In addition to these framework, scholars and researchers such as Spigel, 2017 have contributed towards the discourse by investigating the relational aspects of EEs. Their proposed pyramid of EE (Figure 5) emphasises the interdependence of different elements within an ecosystem, illustrating how they interact to foster or hinder entrepreneurial activity. From the base layer cultural attributes to the mid-layer social attributes and the top-level material attributes, the authors posit supporting and reinforcing mechanisms (Stam and Spigel, 2018). Consistently, the GEM reports indicate that a supportive entrepreneurial culture, described by collaboration and knowledge sharing, is crucial for nurturing new ventures (GEM, 2024).

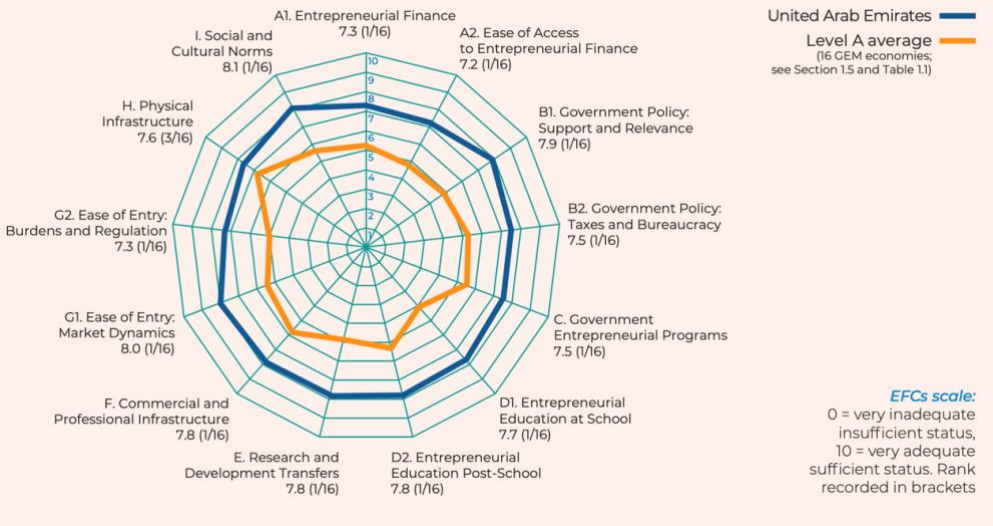

Figure 4: Illustration of ECFs using the example of the UAE. Source: GEM, 2024.

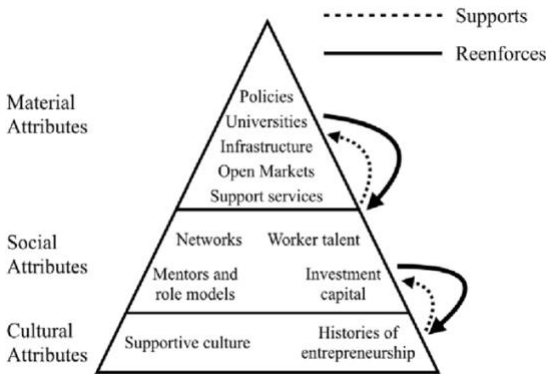

Figure 5: Relations amongst Entrepreneur Ecosystems Attributes. Source: Spigel, 2017.

Furthermore, literature on EEs also highlights their contextual nature, suggesting that the effectiveness and intricacies of the entrepreneurial framework conditions can vary across different regions and economic settings. For instance, developing nations and emerging

economies face unique challenges, such as resource limitations and institutional voids, hindering the development of supportive EEs (Maroufkhani et al., 2018). Recent studies have called for an intricate understanding of how these contextual factors influence entrepreneurial dynamics, advocating for more tailored bottom-up strategies that consider local conditions and drawing these conclusions through comparative research, such as Kapturkiewicz's research into the systematic differences of EE types in Bangalore and Tokyo (Kapturkiewicz, 2022). These differences also extend towards the type and category of entrepreneurship, for instance, discovering how ecosystems and the nexus of actors may promote UN SDGs and the fourth wave of sustainable entrepreneurship (Volkman et al., 2019). These perspectives align with research findings arguing that the adaptability of the EE framework is essential for addressing diverse needs of entrepreneurs in various contexts (Stam, 2015).

Although the EE models provide an insightful lens into understanding entrepreneurial dynamics and the journey of an entrepreneur, it is crucial to recognise its limitations. The frameworks run the risk of oversimplifying the complex interactions and interdependencies inherent to an ecosystem, disregarding pivotal nuances and contextual factors (Cohen, 2006). Moreover, EE models tend to focus on the supply-side of entrepreneurship, studying the role of institutions and support mechanisms and neglecting demand-side factors focused on consumption and entrepreneurial outcomes. In the light of these limitations, the study applies caution in the use of EE frameworks, considering them as an overarching conceptual tool and integrating insights from multiple sources such as academic work from Isenberg (2011), GEM and Stam and Spigel (2018) to employ a comprehensive understanding of EEs as dynamic and multifaceted entities. Hence, the cultural, political, economic and social aspects that shape entrepreneurial activity in the UAE context are cognisant referred to at every stage. Moreover, the cultural and social arms of EE should be given equal importance, allowing for any insights and perspectives around consumer-side factors to be brought to light.

2.1.3 SDG 12 – Responsible Consumption and Production

Another crucial conceptual framework in this study is the United Nations Sustainable Development Goals (UN SDGs), specifically SDG 12 as highlighted in the scope of the study. The UN SDGs is a framework consisting of 17 instruments and goals to promote global collaboration, urging nations to adopt sustainable practices to meet certain targets by 2030, primarily intending to tackle the GSC of the 21st century such as poverty, healthcare, inequality, environmental degradation and climate change. The benefits of engaging with the SDGs extend across various sectors, providing significant guidance to businesses, governments and communities alike. Businesses that align their strategies with the SDGs can tap into emerging markets, for instance, engaging with the SDGs can lead to improved stakeholder engagements and customer loyalty (Reilly et al., 2017).

Moreover, SDGs promote innovation by encouraging firms to develop sustainable products and services, eventually leading to increased efficiency, more competitiveness reduced operational costs (Azmat et al., 2023). Conversely, the model faces certain critique due to its broad and ambitious scope with a set deadline leading to dilution of focus, complexities in prioritisation of urgent targets, and the lack of enforceability (Sachs et al., 2023; Biermann et al., 2017).

These aspects emphasise the limitations of uniform approaches to achieving SDGs at a macro-level in varied geopolitical contexts. Remarkably, small-medium enterprises (SMEs) can then act as catalysts within the broader aims of the SDGs, offering more tailored and effective contributions compared to larger corporations. Further, Pomare (2018), posits that cultivating entrepreneurship might enhance the long-term societal and environmental benefits of SDGs, indicating a more impactful route than conventional policy-driven or multinational strategies. The interaction between SDGs being solutions towards GSCs requires the acknowledgement that GSCs are defined by their complexity, uncertainty, and value-laden character (Ferraro et al., 2015). These traits push for synergies between SDG management and entrepreneurship, where businesses can be promoters of shaping new technologies and innovative solutions to achieve SDGs (Sustainia100, 2016). This calls for the intersection of SDGs management and entrepreneurship to be guided by responsible innovation, a framework evaluation innovation by assessing their potential risks and societal benefits, supported by suitable governance and structures at multiple levels (Voegtlin et al., 2021); making it imperative to study EEs when discussing SDGs and entrepreneurship.

Specifically, SDG 12 promotes sustainable consumption and production patterns, emphasising the need for efficient resource use, waste reduction and works on both the demand and supply side. A key target of the goal is to reduce waste generation through prevention, recycling and reuse, working towards circularity (United Nations, 2015). Moreover, the goal encourages businesses and governments to adopt sustainable practices fostering a culture of attractive economic growth that is responsible. Entrepreneurship plays a pivotal role in advancing SDG 12, as it drives innovation and solutions that are uniquely positioned to identify market gaps and fill them with products and services that align with sustainable consumption patterns. For example, firms focusing on circular principles can significantly reduce waste and purpose-driven entrepreneurship that focuses on local needs and challenges can lead to models that prioritise social inclusion and environmental resilience (G-STIC, 2021). Like the QBL, SDG 12 emphasises the importance of reducing resource use and waste (Planet), maintaining economic growth through efficient production (Profit), promoting social equity and well-being (People), and fostering innovation in sustainable development (Progress). Both frameworks encourage a holistic approach to sustainability that balances these

interconnected pillars to achieve long-term prosperity. This makes it a well-aligned framework to complement the discussions on the concept of TE.

Nevertheless, challenges remain in fully actualising the potential of entrepreneurship to advance SDG 12. Many impact-driven entrepreneurs face barriers in their EE such as limited access to funding, infrastructure, and regulatory hurdles, hindering their ability to implement these targets (Klein, 2022). Addressing these challenges, requires policymakers and institutions to create positive enforcements and support systems by prioritising regulations that incentivise sustainability and inclusivity, making the state of EE dynamics an extremely important factor in the study of SDG 12 and entrepreneurship.

2.2 Contextual Background

Considering the case-study approach of this research, it's crucial to grasp the contextual setting of previously introduced concepts, as this creates a necessary preface. Rather than a compensatory mechanism for Chapter 4, this section is complementary, offering existing knowledge to build on UAE's TE, EE, and SDG 12 progress and operations.

2.2.1 Transformative Entrepreneurship in the UAE

The UAE has a rich and diverse history of entrepreneurship, evolving massively over the years, particularly with a recent focus on innovative, future-focused impact and sustainable entrepreneurship. Traditionally focused on oil-revenue and tourism, the UAE has diversified its economy, fostering a vibrant and international EE that includes sustainability. A recognisable shift towards shift towards eco-friendly business practices driven by a growing awareness of environmental issues and consumer demand urged the UAE government to declare 2023 as the Year of Sustainability. Consequently, this shift doesn't only come as a trend, but marks itself as a necessity, where consumers themselves increasingly prefer brands with social responsibility and environmental stewardship. Studies indicate that 68 percent (%) of consumers in the region are willing to pay more for sustainable products, promoting the economic viability of sustainable entrepreneurship in the region (Zawya, 2022).

Although the current trend in UAE suggests a higher rate of commercial entrepreneurial activity, with the prevalence of social entrepreneurship amongst nascent entrepreneurs is 2.9 percent (%) compared to the commercial startups at 9.3 percent (%) (Chabrak et al., 2020), the above-mentioned macro vision and focus further enhances the sustainable entrepreneurial ventures in the UAE. This is displayed with the increase engagement and market activity of social entrepreneurs, where 79.9 percent (%) of them have both medium and high market activity (Chabrak et al., 2020). Furthermore, research indicates that while the UAE boasts a strong sustainability focus, dynamic entrepreneurial culture

and a strong economic orientation (Bach et al., 2022), it faces challenges due to inadequate legal and regulatory frameworks that support the growth and scalability of social enterprises (Johnsen, 2017). This gap hinders the development of social enterprises, despite the region's sustainability drive and entrepreneurial spirit.

2.2.2 The UAE Entrepreneurial Ecosystem

The UAE EE is characterised by a robust network of stakeholders, including government entities, private sector players, and educational institutions. The key actors such as the UAE Ministry of Economy and various free zones are known to provide support through funding, mentorship, and infrastructure. And initiatives like the UAE Green Agenda and the Dubai Startup Hub are designed to foster startups focused on sustainability and innovation. With entrepreneurial influences such as government policies cultivating ease of doing business, access to human capital, and competitive tax benefits, the UAE stands out as an attractive location for entrepreneurs to find their proof of concept and product-market fit (Mediawire, 2022). Consequently, a plethora of recent studies have extensively analysed the UAE's EE landscape (Aljarwan et al., 2019; Balawi, 2021; Darwish et al., 2020; Papaspyridis and Zalan, 2017; Slaoui, 2021), as an outcome of the country's strategic initiatives focused on boosting its economy by 2030. The aforementioned actors with the growing global attention, allows the UAE to rank among the top countries in the world for entrepreneurial intentions, with about 39 percent (%) of the adult population planning to start a business in the next three years (Smail et al., 2022).

Following this, the EE has also attracted significant foreign direct investment (FDI), with the country ranking first in the Middle East and Northern Africa (MENA) region for FDI inflows in 2021 (Ministry of Economy UAE, 2020). Moreover, the UAE is classified among Level A countries, achieving the higher Entrepreneurial Framework Conditions (EFC) score for 12 categories, as reported by the Global Entrepreneurship Monitor (GEM, 2024), and is ranked as the second most innovative economy in Northern Africa and Western Asia according to the Global Innovation Index (Dutta et al., 2023). These rankings reinforce findings regarding the current EE state – with strengths such as government incubation initiatives and start-up friendly freezones, and challenges such as high legal setup costs and human capital lacking certain technical expertise (Aljarwan et al., 2019).

2.2.3 SDG 12 and the UAE

In alignment with the UAE government's SDG agenda, the private sector and enterprises are increasingly following suit, adopting sustainable practices and strategies mirroring the government's focus on achieving the SDGs. The statistics (PwC, 2024) below illustrate the business sentiment regarding sustainability, and the SDG focus in the GCC, where

understanding the crux that these statistics are similar across the Middle East provides a valuable generalisability context for this study:

- Eight out of ten companies now have a formal sustainability strategy, up from 64% in 2023.
- Over half have fully integrated sustainability practices.
- One in two companies have appointed or plan to appoint a Chief Sustainability Officer within the next year.

In the UAE, SDG 12 is vital within its entrepreneurial landscape, advancing responsible consumption and sustainable products and services through a combined top-down and bottom-up approach, where national policies align with SDGs and grassroots efforts inform these policies, enhancing sustainability. The government has initiated programs to educate consumers about sustainability, with 90 percent (%) of UAE consumers expressing a desire to learn more about sustainable living (Bhat, 2023). This effort can be illustrated in Figure 6, from the Year of Sustainability campaign that provides residents with free online responsible consumption guides. This growing awareness is driving demand for sustainable products and services, creating markets such as The Ripe Market, Farmers' Market on the Terrace, ARTE and etc that generate opportunities for TE. The UAE's commitment to SDG 12 is evident in its performance; where it ranks 16th out of 165 countries in the 2022 Sustainable Development Report (Sachs et al., 2023). Moreover, the country's efforts to promote sustainable consumption and production, such as the UAE's Circular Economic Policy towards resource efficiency and circularity (Ministry of Climate Change and Environment UAE, 2021) have been recognised by the UN, such as winning an award for its SDG Data Hub's innovative "whole-of-society" approach to achieving the SDGs (United Nations, 2018).

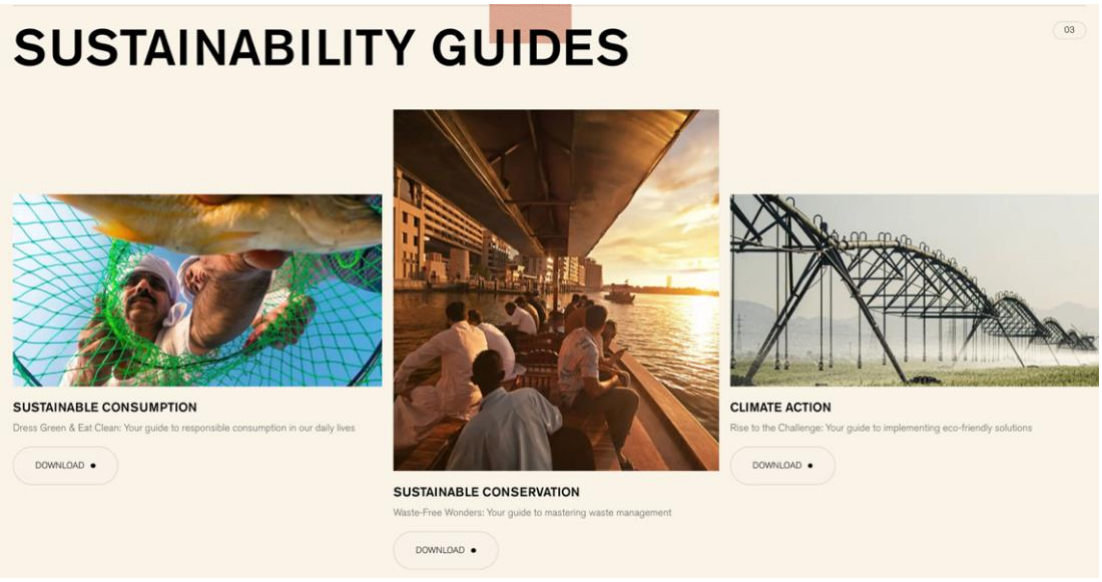

Figure 6: Online Responsible Consumption – Guides. Source: UAE Year of Sustainability, 2024.

Chapter 3

Methodology

3.1 Introduction to Methodology

The selection process for a research methodology is a critical factor in research, as it directs the choices that lead to meaningful and relevant insights. This chapter delineates the methodology employed in this research, using the research onion framework (Saunders et al., 2019). This tool has been used in multiple studies across commerce, technology and human behaviour (Alturki, 2021), as it aids in thinking about research holistically and academically designing effective progression of data collection and analysis. Notably, the tool's primary business studies design and its development context, makes it relevant to this research studying transformative entrepreneurship (TE). However, like any research tool, the framework has its considerations and limitations. The model assumes linear progression through the layers, risking the oversimplification the research process by breaking it down into discrete layers (Tengli, 2020). In reality, research processes are often more iterative and non-linear, calling for greater flexibility to move back and forth. Critical reflection throughout the process, questioning assumptions and implications of methodological choices, has proven to be a useful reflexivity tool. This approach worked towards ensuring methodological decisions are made based on study needs rather than merely following the framework's structure.

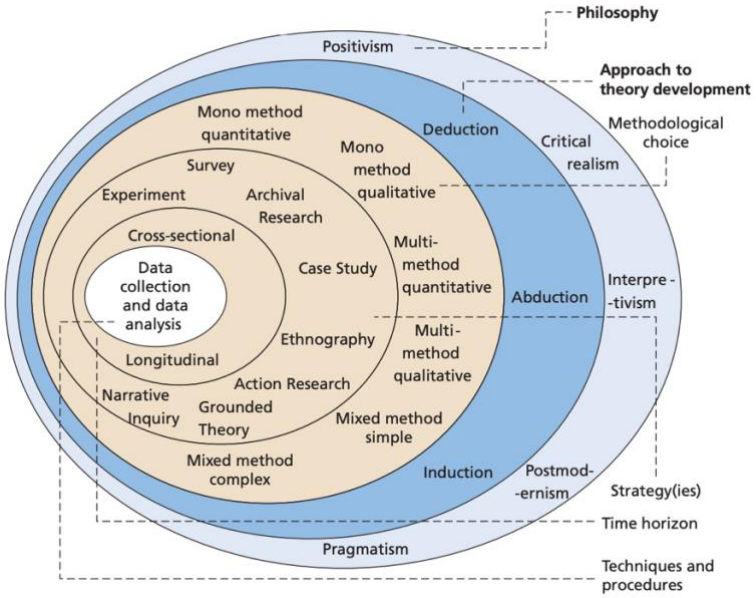

Figure 7: The Saunders Research Onion. Source: Saunders et al. (2018).

3.2 Research Philosophy and Approach

The study is anchored in interpretivism, which seeks to understand complex social phenomena within specific contexts. It aims to encapsulate the richness of insights gathered rather than attempting to conclude with definite and generalisable laws (Myers, 2008). Consequently, this philosophical framework is particularly suited for exploring the subjective experiences and perspectives of transformative entrepreneurs, as it acknowledges that their insights are shaped by the unique socio-economic and cultural landscape of the UAE (Schwandt, 2000). The validity and reliability of this approach is high-level, as it is based on personal contributions with considerations of different perspectives and variables, also encouraging the use of qualitative methods of research (Alharahsheh and Pius, 2020).

Since this research is less concerned about generalisation and more focused on the diverse quality of insights and perspectives of operating transformative entrepreneurs in the UAE, inductive reasoning aligns well as an approach. Adopting this approach focuses on generating insights based on observations derived from primary data rather than testing pre-defined hypotheses (Flick, 2011). This mode of research thus follows a bottom-up approach, following the course of observation, leading to pattern, to tentative hypothesis and eventually a theory, resulting in contextually rich data (Alturki, 2021), making it particularly relevant in the context of TE, which remains an evolving field with limited empirical research. It is also of importance to note that in this approach, the researcher bears a strong realisation of the responsibility that they are a part of the research, as identifying patterns and drawing insights makes the researcher active contributors in shaping observations.

3.3 Research Strategy and Choice

The research strategy layer describes the specific plan that is employed to address the research questions and achieve the objectives. The context of the study's aims calls for a case-study methodology, allowing for an in-depth, insightful analysis of specific instances of TE within the UAE's entrepreneurial ecosystem (EE). Case-studies allow for a detailed investigation, of data within a context, and is widely used in organisational studies and across social sciences (Hartley, 2004). The case-study method lends itself to exploratory and evaluative research, allowing for the examination of specific factors, programs or interventions to assess their effectiveness and outcomes (Zainal, 2007). In this research, the holistic perspective, flexibility in design, focus on contextual understanding and in-depth examination of case-studies aligns with exploring the new field of TE, in a context-focused background of the UAE, and within the frameworks of EE and SGD 12. Moreover, various studies across EE (Villegas-Mateos, 2023;

Kapturkiewicz, 2022; Egere et al., 2022) and SDG 12 and entrepreneurship (France and Newey, 2019; Nawaz, 2023) employ case-studies, specifically in regional and national contexts, making it a valid research choice.

Furthermore, the fourth layer of the research onion involves research choices; specifically, between quantitative and qualitative methodologies. Given the design of the research aims and inductive approach, utilising the mono-method of qualitative methodology, stands out as the appropriate choice (Alturki, 2021). Qualitative research derives deep contextual understanding (Creswell, 2012) and is widely used in social sciences to study interactions and norms, and business to understand experiences, culture, decision-making and factors that impact businesses. These use cases, alongside advantages such as flexibility and adaptability to modify questions with progression, emphasis on context, and direct participant engagement, facilitate capturing nuanced perceptions of transformative entrepreneurs. This approach deepens understanding of how EE actors influence the TE agenda and alignment with SDG 12, fostering open dialogue and connections.

3.4 Data Collection Techniques and Procedures

Semi-structured interviews serve as the primary data collection method in this study, allowing for flexibility in the interview process while ensuring that key topics related to TE, EE and SDG 12 are covered. Interviews are conducted either in-person or via video conferencing platforms, depending on the participants' preferences and availability. Each interview is expected to last approximately 60 to 90 minutes and is audio-recorded with the participants' consent. This method enables capturing rich qualitative data that reflects the personal experiences and insights of transformative entrepreneurs, providing a deeper understanding of their motivations, challenges, and strategies in promoting responsible consumption and production (Kvale & Brinkmann, 2009).

An interview guide was developed based on the research objectives and literature review, which includes open-ended questions designed to elicit detailed responses from participants. The interview guide was created based on both the criteria of the population being sampled and delving into the three formulated research questions. A pilot study process was conducted enabling refinement of the research instrument where the first iteration of the interview guide (Appendix 1) was revised to play out more effectively. This preliminary investigation tested the feasibility, time and validity involved in the project, where feedback from the pilot led to improvements in clarity, relevance and comprehensiveness of the guide (van Teijlingen and Hundley, 2002). The pilot was conducted with a transformative entrepreneur that met the criteria of the study, and the primary concern shared during this feedback loop was two-fold; time of the interview

process was deemed as lengthy, and certain questions ran into the risk of being broad and vague, thus, calling for a revision of a shorter guide and more specific and direct questions.

Complementary to the semi-structured interviews and primary data collection, literature review of academic journal and articles relevant to the research questions is employed as supporting secondary data. This involves reviewing existing data pertaining to TE, EE and SDG 12 in the UAE, as seen briefly in Chapter 2 in the Literature Review, and more contextually in Chapter 4 in the Findings and Discussion. This primarily informed the interview schedule by identifying key concepts to explore and provided a broader context for understanding the official perspectives and proof of practices related to SDG 12 (Bowen, 2009).

3.4.1 Sampling Techniques

Purposive sampling was employed to select transformative entrepreneurs promoting responsible consumption and production in the UAE, which is appropriate for researchers to focus on individuals who possess relevant knowledge and experience related to the research focus (Palinkas et al., 2015). The targeted sample size was between 10-12 participants, which was deemed sufficient to achieve insights towards the RQs. However, at eight (8) interview data saturation was reached, where themes became repetitive, and ensured that the insights gathered were comprehensive and reflective of the diverse perspectives within the EE (Guest et al., 2006) and focused on answering the suitable research questions.

Participants were recruited through word-of-mouth referrals and professional networks such as LinkedIn and attending relevant impact-based business networking and volunteering events, such as Events for Change (Events 4 Change UAE, 2024). Snowball sampling was also engaged to ensure time-effectiveness, gain access to relevant participants and to build rapport and trust by referrals, all essential to the depth of understanding required in qualitative research (Heckathorn, 1997).

In purposive sampling, establishing a clear criterion is crucial to maintain relevance. Apart from ensuring targeted selection of participants, a well-constructed criteria can lend itself to enhancing the validity and reliability of a study by minimizing biases and enhancing credibility (Mason, 2010). And, facilitating data saturation by focusing on participants that meet specific traits, data collection can be processed to a point where enough information is collected such that no major new themes or insights emerge (Fusch and Ness, 2015).

For this study, the following criteria for transformative entrepreneurs was created:

Criteria	Justification
Founded in the UAE Post-2020	Ensures inclusion of enterprises influenced by recent sustainability trends in the UAE and avoids any pre and post COVID differences.
Alignment with SDG 12 and the Quadruple Bottom Line	Evaluates commitment to responsible consumption and impact across profit, people, planet, and progress, a core element of TE.
Commitment to Systemic Change	Identifies ventures driving economic, social, or environmental shifts in their mission and vision, providing clear evidence of being a TE.

Table 1: Interview Criteria.

This criterion was drawn out with the goal of achieving a fair balance between specificity vs. inclusivity, where it is deemed constructive enough to ensure the experiences of TE are specifically related to the EE structure and SDG 12 agenda in the UAE. However, the approach was not overly restrictive focusing exclusively on certain industries, SDG 12 subtargets or only those entities demonstrating successful TE, to avoid excluding valuable perspectives. The following table illustrates a summary of the entrepreneurs interviewed, with codes in lieu of names for anonymity.

Code	Business Description	Type	Year Founded
E1	E-Waste management App, powered by blockchain.	B2B & B2C	2022
E2	Sustainable consultancy services.	B2B	2023
E3	Inclusive education consultancy serving schools.	B2B	2021
E4	AI-enabled food vending machines.	B2B	2023
E5	Clean and holistic personal care products.	B2C	2024
E6	Consultancy for creatives in the ecosystem.	B2B & B2C	2021
E7	Clean beauty and fragrances.	B2B & B2C	2021
E8	Textile upcycling and recycling.	B2B & B2C	2023

Table 2: Sample Introduction and Participant Description.

3.4.2 Analysis

To analyse the qualitative data, this study employs thematic analysis, inspired by the six-step process as outlined by Braun and Clarke (2006), as displayed in the diagram below. This method allows for the identification of patterns within the data, displaying themes into the experiences and perspectives of transformative entrepreneurs regarding the

three (3) RQs; these themes and subthemes will be illustrated as findings and discussed in Chapter 4.

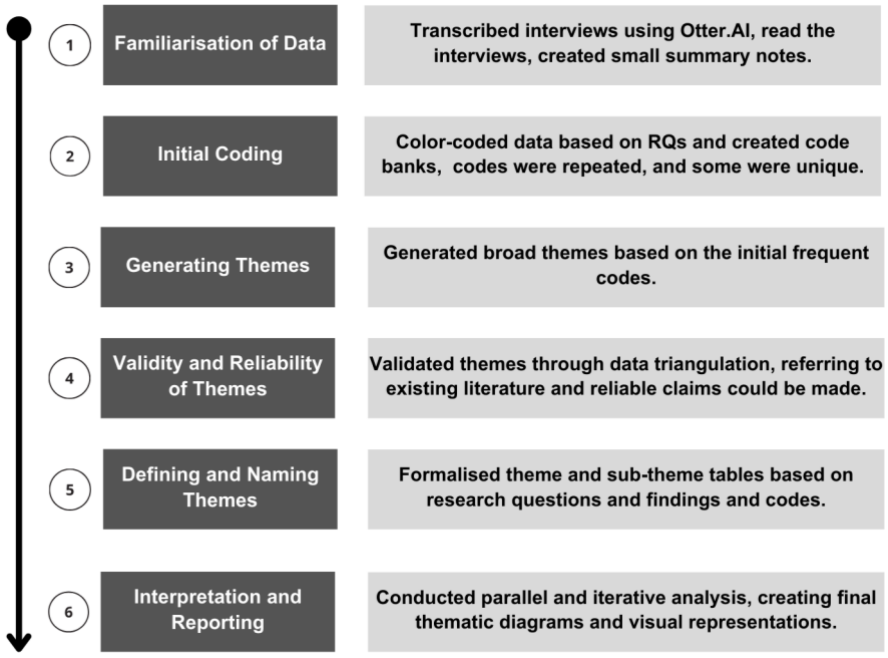

Figure 8: Thematic Analysis Process. Source: Author, 2024. Based on Braun and Clarke, 2006.

Firstly, the interviews were transcribed in real-time using the Otter.AI software, as a means of efficiency to speed the process, where transcripts were post-validated manually, to avoid software errors. Subsequently, a manual coding and thematic analysis process is advocated, as it fits the kinaesthetic learning style of the researcher and the limited number of interviews to be analysed are facilitative of this technique. Although automated coding has its benefits such as being less time-consuming, automated methods inherently exhibit systematic biases, as they lack the capacity for logical reasoning comparable to that of human coders (Basit, 2003) and might run risks of not being able to detect synonyms and various means of words in different contexts (De Graaf and Vossen, 2013). In qualitative research manual thematic analysis may be exhaustive and time-consuming, but it allows for a greater scope of flexibility and deep engagement with greater contextually sensitive analysis opportunities that helps identify subtle nuances and patterns (Mattimoe et al., 2021); and alongside a coding bank and complementary field summaries allows for greater reflexivity to manage data validity and reliability (Leung, 2015), a frequent challenge in qualitative research.

Moreover, reliability and validity were strived towards by referring to existing literature and journal articles on TE, UAE's EE and SDG12 continuously in a conceptual and contextual

capacity (as seen in Chapter 2 and 4), making this qualitative analysis more comprehensive and reliable through convergence of information (Patton, 1999).

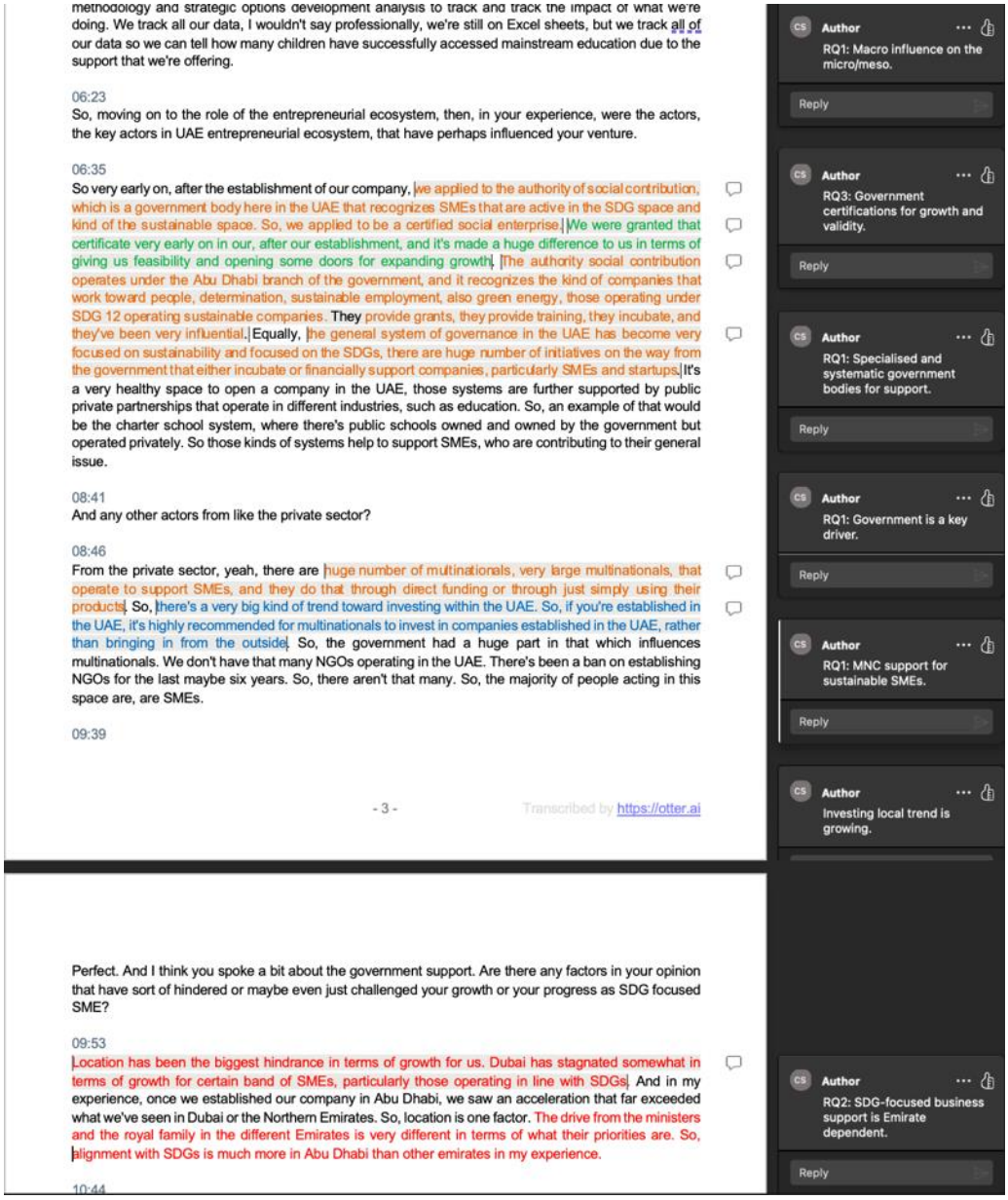

Figure 9: Coding Process Example.

Given the greater control over the coding process disregarding the predefined frameworks of software tools, emerging sub-themes and themes could be identified based on the categorisation of the RQs. Coding and mapping based on predefined research questions allowed for the research to align to its scope and not deviate from the research aim.

3.5 Limitations and Ethical Considerations

Principally, the qualitative nature of this study presents certain limitations, including the potential for research bias and subjectivity inherent in the interpretation of qualitative data. To mitigate these limitations, a reflexive stance was maintained throughout the research process, engaging in self-reflection and critical analysis of biases and assumptions (Finlay, 2002). For example, although thematic analysis is a robust method to analyse qualitative data, it is acknowledged subjectivity induced potential limitations are associated with this approach. Identifying terms and interpreting data can introduce bias, as the researcher's perspectives may influence the analysis. To reduce such negative methodological effects, more than one source of data was referred to, enhancing the credibility and validity of research findings (Patton, 1999). Moreover, in case study research, the question of generalisability remains, here, as mentioned the GCC region shares a similar social fabric, norms, religious rules and vision for economic development, making findings relevant to the other five (5) countries; this will be contextualised in Chapter 4 (Beidas-Strom et al., 2011).

Additionally, primary data collection through semi-structured interviews runs the risk of social desirability bias, influencing the participants' responses, as they may tailor their answers to align with perceived positive expectations and impressions. To address this, confidentiality and anonymity was emphasised throughout the process, reassuring the participants that their insights will be treated with discretion and are solely used towards academic research (Creswell and Miller, 2000). A rigorous procedure to maintain ethical standards was followed, where approval from University College London (UCL) Research Ethics Committee was obtained prior to data collection. Furthermore, participants were provided with an Information Sheet and Informed Consent, detailing the purpose of the research, their rights to withdraw at any time, and their informed decision to choose their level of anonymity. Most of the entrepreneurs agreed for their comments to be used with the contextual description of their companies, some agreed for their real name and company name to be used as well, however a standard anonymised coding list was used. This ethical framework that follows the UK GDPR guidance mitigated the risk of certain participant biases, ensuring integrity and respect for the participants.

Although there may be a case of leading questions and wording bias based on the specificity of interview schedule and the orientation sheet (Appendix 2), where sharing the frameworks prior to the interview and the questions could be seen as prompting participants in the direction of probable outcomes (Shah, 2019), this research does not focus on testing a specific hypothesis or achieving predetermined outcomes; rather, it explores the experiences of transformative entrepreneurs with their ecosystem and their interactions within the context of SDG 12. This approach, thus, in hindsight enabled

capturing rich and experiential data, where using precise terms in the questions encouraged participants to provide more details into their perspectives.

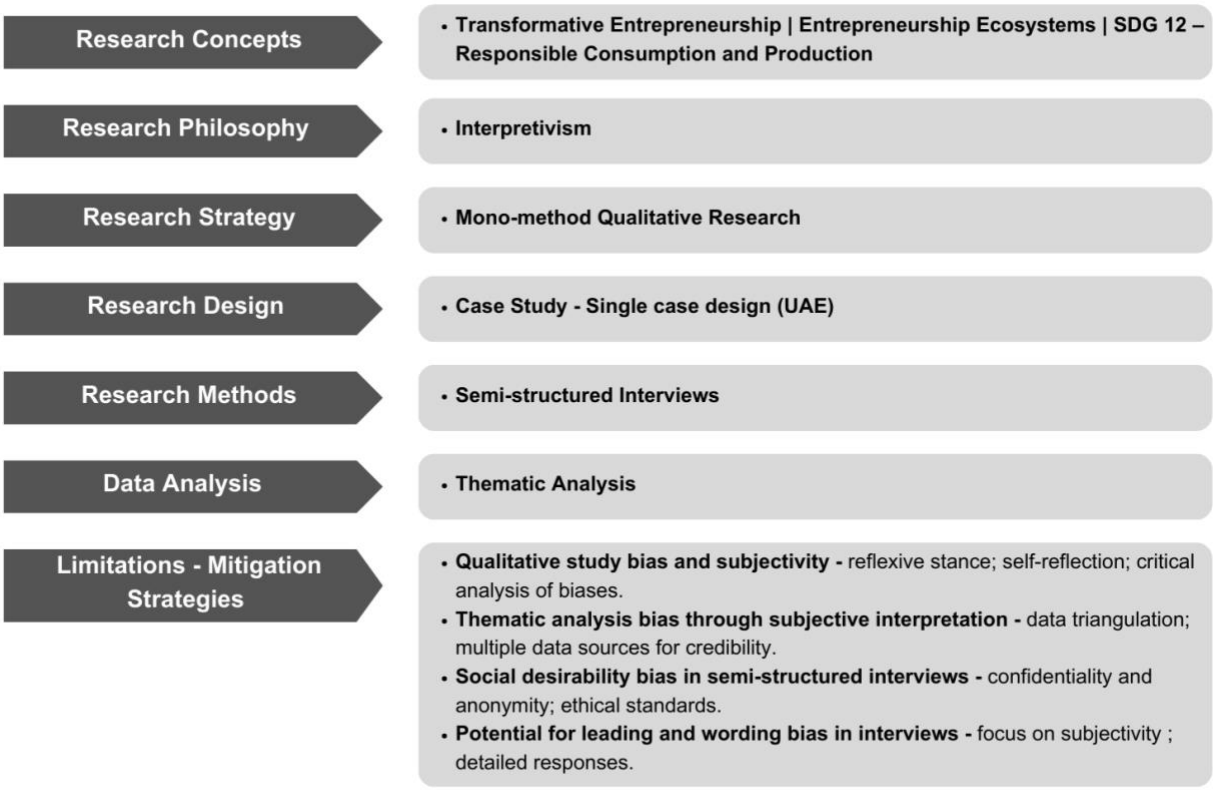

Figure 10: Summary of Research Methodology

Chapter 4

Findings and Discussion

This chapter explores the empirical findings where eight (8) themes and sixteen (16) sub-themes emerged regarding the research questions, examining how insights align with or challenge existing literature, discussing significance to the conceptual and contextual frameworks of this research. Relevantly, the thematic tables and maps with excerpts for research question (RQ) 1, 2 and 3, can be referred to in Appendix 3, 4 and 5 respectively.

By combining the findings and discussion, the following sub-sections provide a seamless integration of the data with its critical analysis, ensuring that each finding is contextualised within the broader research landscape, thereby increasing its validity and reliability.

4.1 Influence of Key Actors on Transformative Entrepreneurship in the UAE

The first RQ focusing on the key actors within the UAE's entrepreneurial ecosystem (EE) and their influence on the transformative entrepreneurship (TE) agenda has been introduced to a certain extent in Chapter 2. Building on the concepts from the aforementioned popular frameworks (GEM, 2023; Isenberg, 2011; Stam and Spigel, 2018), the following section seeks to explore the role and influence of key actors, such as government bodies, private institutions, incubators, and consumers, within the UAE's EE in impacting the quadruple-bottom line (QBL), i.e., the TE agenda.

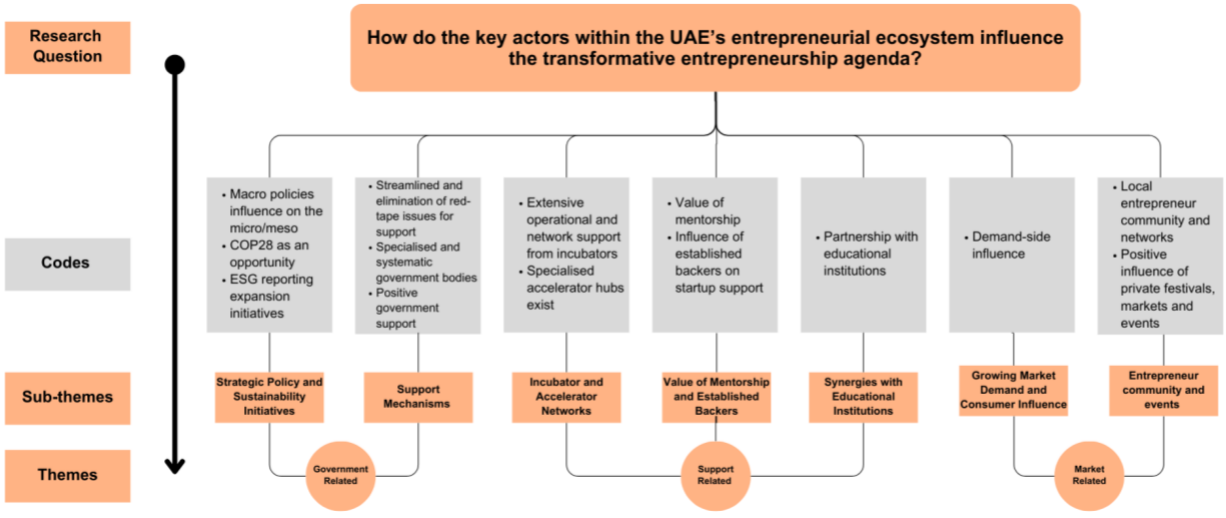

Figure 11: RQ1 1 - Thematic Map. Source: Author (2024). Based on Braun and Clarke, 2006.

4.1.1 Government Related

The first theme emerging from the thematic analysis of RQ1 and literature from Chapter 2 is government-related factors. The previous literature suggests the government is a key driver in the entrepreneurial ecosystem (EE) of the UAE due to its centralised approach to economic development and its status as an emerging economy (Balawi, 2021). Furthermore, the UAE government has a comprehensive role in policy frameworks, infrastructure development and exerts high effort to streamline business regulations under a regulatory environment (Aminova et al., 2020). The subsequent paragraphs will discuss such findings with supporting references.

Strategic Policy and Sustainability Initiatives

The findings reveal a complex interplay between government vision and TE in the UAE. The UAE's approach is predominantly top-down, with macro-level actors significantly influencing micro and meso-level operations, as evidenced by the excerpt below (E4).

'I think it's basically us working with the policies of the government and government, shaping policies that benefit what we do. Because we are we're following their vision.'

This supports Mazzucato's (2013) argument that the state spearheads innovation and entrepreneurial growth by assuming risks and setting strategies for the private sector to follow. Interviewed entrepreneurs consistently note the government's role in driving their impact-focused vision, through strategic public initiatives especially in the SME landscape. This is validated by policies like the UAE Circular Economy Policy 2021-2031, aiming to enhance sustainable governance and improve quality of life by increasing resource efficiency by 30 percent (%) (Ministry of Climate Change and Environment UAE, 2021). This emphasis on entrepreneurship and sustainability, as discussed in Chapter 2, has resulted in high scores across international indexes for entrepreneurship policy support. Whilst the government has created a cohesive, sustainability-focused ecosystem, the top-down approach warrants scrutiny. As Sabatier (1986) posits, structured governance prioritises formal policy goals over adaptive learning in execution, a key pillar for progress arm of TE. Additionally, policies may be overly ambitious at times, or misaligned, subsequently explored further in 4.2.2.

Furthermore, hosting of COP28 has significantly fuelled entrepreneurial activities aligned with sustainability goals, fuelling focus on impact-driven demand and supply-side factors and attracting transformative entrepreneurs to move to the UAE (E2). However, it is essential to consider whether this momentum translates into long-term change, given post-event criticisms such as allegations of COP28 being used to boost fossil fuel deals (Limb, 2024). Nevertheless, research participants generally viewed it as a positive step,

providing opportunities to build connections, and raise consumer awareness, potentially shifting consumer behaviours, as seen in the quote below (E1).

'… the main initiative for last year, it's COP28. Absolutely amazing. A lot of strategic decisions for globally, not only for this region, for decision as well, but globally as well'

Furthermore, government initiatives to expand Environmental Social Governance (ESG) reporting and establish a National Carbon register demonstrate a commitment to transparency and accountability. These efforts are supported by federal laws such as Federal Decree Law No. 43 of 2023, which enforces measures to protect against marine pollution, and regulations like the National Green Building Regulation, mandating minimum energy and water standards for all new buildings in the UAE (Clyde and Co, 2024). However, these initiatives primarily align with the "planet" and "profit" aspects of the Quadruple Bottom Line (QBL) approach. There is a need to critically assess how well they address the "people" and "progress" dimensions of TE (Beech Cambridge Leadership Development, 2013), as the UAE's focus often appears industry-specific and centered around climate change.

Support Mechanisms

A key insight into the role of government-related factors in TE in the UAE is the streamlining of administrating processes and reduction of bureaucratic hurdles. Entrepreneurs reported that, despite of strict regulations and approvals, processes have minimal red-tape issues, aligning with UAE's push for a business-friendly environment. This is in cohesion with efforts to diversify the economy from oil revenues, easing incorporation for digital and new-age SMEs and improving access to the financial system (Cornwell, 2022). Although the generalisability of qualitative perspectives in case studies can be question, this finding extends itself to other Gulf Cooperation Council (GCC) countries sharing the same goal, such as Qatar's recent focus on easing commerce laws (World Bank, 2019). This efficiency in governmental processes anchors the "progress" dimension of the QBL, enabling entrepreneurs to prioritise innovation and scalability over bureaucratic challenges, as shown in the E5 excerpt below.

'I think everything was very streamlined. Here the approvals were streamlined.'

Moreover, the government's organisational structure that includes the establishment of specialised and systematic authoritative bodies emerges as another crucial macro support mechanism. The findings suggest that the existence of specialised departments such as the Authority of Social Contribution in Abu Dhabi governing and supporting impact-driven businesses (E3), Montaji from Dubai Municipality concerning product registrations (E5) and the UAE Media Council aiming to advance the creative industries,

provides specialised support and touchpoints to communicate with. Although, this format may run the risk of a fragmented support system at times, where selected sectors may receive greater attention and support, such as climate change, FinTech and EdTech. Whilst necessary, this might inadvertently marginalise other innovative areas that could contribute to solving a variety of grand societal challenges through entrepreneurial solutions but do not fit within the narrow and predefined government application and federal vision of the targeted goals (E7), as discussed subsequently in 4.2.2.

These support mechanisms are underscored with a majority consensus that the government is a crucial positive force in TE landscape. Further research into this sentiment attests itself to various positive mechanisms such as allowing 100 percent (%) foreign-owned businesses, providing extended visas for entrepreneurs, growing tech businesses, and allocating funding and support for smaller enterprises, where the government positively supports entrepreneurship (Sagar, 2019). More recently, the government's focus on impact-entrepreneurship has been increasing with initiatives such as Ma'an, the Abu Dhabi government's social investment fund and certification program focused on social entrepreneurship growth (Maan, 2024), and such macro support mechanisms are evidenced with the excerpt below (E6).

'really acted as an enabler for me … staffed by people who understand the realm of your work and who are really, really looking at it from the point of view of enabling and empowering you'

4.1.2 Support Related

The second theme derived from the analysis of RQ1 focuses on non-governmental support mechanisms and actors within UAE's EE, ranging from networks such as incubators as suggested by Isenberg (2011) to social attributable factors such as mentors and role models (Stam and Spigel, 2018). Consequently, investigating these findings are of significance given the nascence of TE in the region, alongside, the fact that UAE's EE is still evolving as an emerging economy (Aljarwan et al., 2019).

Incubator and Accelerator Networks

An attribute of a strong EE is the flourishing intermediaries such as incubators and accelerators (Stam, 2016); the UAE has a growing field of incubators including strong government incubation programmes (Aljarwan et al., 2019), especially for new entrepreneurs as supported in the quote from E1 below. Moreover, given the nuance of the QBL, transformative entrepreneurs advocated for specialised accelerator hubs such as the SEE Institute, a sustainability focused research and development hub (E1), the SHELEX fund focused towards accelerating women-led enterprises (E3), the AstraLabs platform to accelerate high-growth companies (E7) and EGA Ramp Up (E8) accelerator

to boost non-oil and gas revenue in the UAE. Narrow-focused and technical accelerators can strike the right balance between technological expertise and application with business powered growth and viability planning towards specific visions (Posternak, 2022).

‘*very useful In5 ecosystem for new guys support for a lot of bureaucracy and support for by donating a half of price of license and visas for employees and supporting issue certificates, it's good community to have entrepreneurs and startups, and which involves some investors’*

An interesting finding was that many participants that mentioned benefits of incubators did not participate in them. This lends itself to the grass is greener effect, where people might idealise or overestimate advantages of groups they don't belong to (Resnick, 2024). On the contrary, one of the entrepreneurs with previous incubator experience suggested that some UAE incubators offer limited strategic development, are not necessarily startup builders and provide administrative support by usually running the facade of hype-driven competitive entry criterion (E4). This growing competition and attention is more pronounced in industries such as Fin, Ed, Eco and HealthTech (Chacko, 2024).

Value of Mentorship and Established Backers

Participants highlighted the value of mentorship in their TE journeys. Consequently, their TE agenda was supported through mentorship, given that learning from experienced, impact-focused entrepreneurs provides a unique opportunity, where feedback and acceptance is accessible (Au et al., 2013). The significance of mentorship was particularly evident amongst the women transformative entrepreneurs interviewed, citing specific examples, such as mentorship from H.E. Noor Al Tamimi with the SHELEX fund (E3) and Isobel Abulhoul through Emirates LitFest (E6). Secondary research supports this nuance, advising mentorship’s significant benefits to specially women entrepreneurs in the UAE, helping them overcome challenges and accelerate growth (Almheiri et al., 2024). Notably in context to SDG 12, investigation also reveals that mentorship is a critical prerequisite for sustainable development, serving as a primary force in achieving sustainable agendas through entrepreneurship (Skivko et al., 2023).

A connected sub-theme of the influence of established backers emerges here, where findings suggest a well-established business can serve as a powerful endorsement, opening doors to investments, resources and networking opportunities, as seen in the example from E4 below. In the UAE, this becomes a more powerful tool, given that the collectivist nature of the society (Hofstede Insights, 2020), where there is a value for trust through the commitment of fostering a relationship-based culture.

***‘…** if, someone important, someone else has done the groundwork and has invested in you, has partnered up with you, or has joined forces with you, then you've got everyone's support”*

Synergies with Educational Institutions

Partnerships with and dynamics of academic institutions play a pivotal role in advancing entrepreneurship (Etzkowitz, 2013; Garcia et al., 2017). Findings suggested that there is a growing environmental concern and interest in UAE's schools, with transformative entrepreneurs leveraging this towards the QBL through activities and workshops (E6). For example, in 2023, 314 schools joined the globally accredited Sustainable Schools Initiative launched in Abu Dhabi, built to cultivate the culture of sustainability and inspire students to be socially responsible (Environment Agency Abu Dhabi, 2024).

'… *also reach out to academic institutions like universities in the country to see how they can help us in terms of volunteers from students'*

Further evidenced with the above quote from E8, there is a growing interest to form partnerships with academic bodies for transformative entrepreneurs, given the possibility of the rich exchange of knowledge, research and human resources, with transformative entrepreneurs struggling to acquire the same. These findings suggest that further investigation in the UAE context is necessary, supported by studies like Mehraj et al. (2023), which indicate that entrepreneurial education with a sustainability focus is a key driver of entrepreneurial intention among students in purpose-driven industries, as seen in India case-study. Complementary to this, the UAE must make advancement in higher education, developing knowledge sharing and furthering the triple helix collaboration model for innovation between academia, industry and government (Alkaabi et al., 2023).

4.1.3 Market Related

This theme explores the demand-side influences of UAE's EE on TE, focusing on consumer behaviours and communities, particularly in promoting SDG 12. Market-related sub-themes are crucial in TE, where the QBL often necessitates a bottom-up approach and impact-focused innovations must be designed and marketed with local customers and networks, for greater success (Khavul and Bruton, 2013). The UAE's 88.50 percent (%) expatriate population (GlobalMediaInsight, 2022) brings diverse cultures and expectations, influencing the EE in multiple ways for businesses driving systemic change.

Growing Market Demand and Consumer Influence

The findings depicted a strong discussion about demand-side influences, where many entrepreneurs that the commoditized and luxury-driven UAE market is witnessing a gradual shift in consumer behaviour towards more responsible consumption (E2, E4, E5, E7 and E8). In congruence, 2022 saw 45 percent (%) of the share of UAE consumers willing to pay a bit more for purpose-driven products and 14 percent (%) willing to pay a

lot more for the same (Statista, 2022). Moreover, UAE consumers expect businesses to take specific steps towards sustainability, particularly by reducing plastic packaging and carbon emissions, with 65 percent (%) wanting greater focus on these actions, as suggested in a COP28 research study (Zawya, 2023).

'Beyond this is that the consumer is so conscious today, right? It's not even good enough that you're doing it for the UN SDG goals, the consumer knows too much, right?'

However, diverse consumer behaviour in the UAE is challenging, given the economic, social, and cultural divergence within its society. For instance, the top 10 percent (%) of the population holds about 48 percent (%) of the national income, while the bottom 50 percent (%) holds just 12 percent (%) (World Inequality Database, 2021). This disparity complicates economic behaviour and consumer needs, potentially undermining the focus on sustainable practices. These challenges are not unique to the UAE but can be generalized across other GCC countries with similar characteristics (Beidas-Strom et al., 2011). This variety in consumer demographics makes comprehending and addressing the diverse and evolving market demands a significant struggle (E1).

Entrepreneur Community and Events

The interviewed transformative entrepreneurs found most support from other purposive-driven startups, where entrepreneurs experienced collaborative visions (E4), attributed motivation to sustainable entrepreneurship communities (E5) and operational help such as piggybacking on other TEs for licenses and permits for workshops (E8).

Interview	Sub-theme	Quote
E4	Local entrepreneur community and networks.	*'supportive are those unknown, other entrepreneurs, in that pool, who I think the most supportive have been those that have faced those struggles, right? And they've been the most helpful, okay'*
E5	Positive influence of private festivals, markets and events	*'like Ripe Markets, which are mainly for boutique brands. And the audience which comes there are the ones who are willing to spend on a boutique ... they're the ones who would want to think about the nature, the environment, you know, like the sustainability bit.*
E8	Local entrepreneur community and networks.	*'very supportive in terms of helping us where we didn't have the necessary permits or licenses to conduct a workshop, so she would help us with that kind of thing, but these have been people who have supported us thus far.'*

Figure 12: Entrepreneur Community and Events Quotes. Source: E4, E5, E8.

This is well summarised by the following quote from E7 indicating the role of the local entrepreneurial community.

'I think whatever I've done today been purely with the support of the local business community here, you know, the networking opportunities that we've had, or other sustainable businesses who are trying to make an impact and, you know, be transformative in their approach.'

The increase of these local purpose-driven markets such as Dubai & Abu Dhabi Flea Market focused on recycling, Manbat Market towards local agriculture and Not Just For Vegans Market promoting vegan and sustainability (Shephard, 2023), has caused the increase engagement and market activity of social entrepreneurs, as mentioned in Chapter 2 (Chabrak et al., 2020). This trend ensures the TE agenda of promoting growth beyond individual and business goals, integrating community and cultural dynamics to create new community wealth committed to social value (Peredo and McLean, 2006).

4.2 – Challenges for Transformative Entrepreneurship in Aligning with Responsible Consumption and Production in the UAE

Building on 4.1, RQ2 delves into the challenges that transformative entrepreneurs face, such as financial constraints, regulatory hurdles, and market perception issues. The focus is on identifying and analysing systemic barriers that impede alignment of entrepreneurial activities with SDG 12. This exploration is crucial, offering a unique perspective on the challenges of impact-driven entrepreneurship, providing an opportunity to triangulate primary insights with existing data on the traditional entrepreneurial landscape in the UAE (Aminova et al., 2020; Alkaabi et al., 2023; Balawi, 2021).

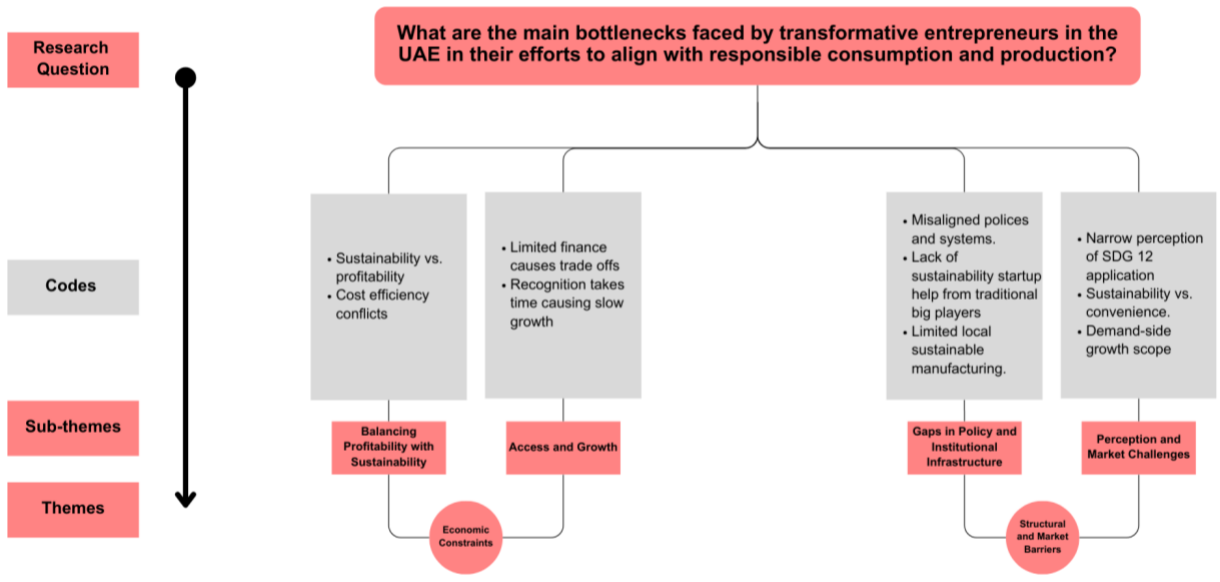

Figure 13: RQ 2 - Thematic Map. Source: Author (2024). Based on Braun and Clarke, 2006.

4.2.1 Economic Constraints

The existence of economic constraints is a crucial theme that emerged in the thematic mapping of RQ2. Previous research has highlighted that access to funding for impact-driven entrepreneurs is the most critical challenge towards sustaining and growing these businesses (Martin and Osberg, 2007). This pushes transformative entrepreneurs to rely on multiple capital avenues; donations, grants, subsidies or impact investing (Gonzalez and Dentchev, 2021). Moreover, with profit as a core element of the QBL, where sustainable prosperity is driven through effectively regulated market operations (Beech Cambridge Leadership Development, 2013), the economic context discussion is key, subsequently, various financial themes came across as challenges in the interviews guiding the following sub-themes and insights.

Balancing Profitability with Sustainability

A salient bottleneck in the UAE is the challenge of balancing profitability with sustainability measures aligned with SDG 12. Developing business models that achieve both social impact and financial returns requires navigation of interdependence of diverse stakeholders, multiple ambitious goals and managing resource limitations (Jones, 2024). This profitability challenge can be particularly acute for transformative entrepreneurs, who, aim to go beyond social enterprises, focus more on driving systemic change rather than providing immediate solutions. This distinction is evident from the primary interviews conducted in this research, where entrepreneurs like E1, an AI and blockchain-driven business in the E-Waste management space, highlight the necessity of scalability to achieve impact. This need for scalability through clearly articulated profit mechanisms underscores the unique emphasis on progress, the fourth and distinctive pillar of the QBL.

'I can say in this case, not clear understanding of profit, not real, understandable and easy ways to get this profit, both level companies and people … For businesses, it looks like additional expenses, changing their business processes … Profit have to be very clear to everyone'

Moreover, the discourse on balancing sustainability with profitability is underscored by the complexities of cost efficiency, especially within the SDG 12 business context. Implementing actions such as transitioning to low-resource portfolios, closing material and energy efficiency loops and conducting sustainability reporting (UN Global Compact, 2018) imposes expounding internal and external costs, expenses related to design, logistics, marketing, and auditing, all of which increase the capital burden on transformative entrepreneurs. The findings, as evidenced below, reveal that these cost complexities not only raise prices, thereby shrinking the target audience, but also lead to

supply chain issues and higher costs associated with switching suppliers, further compounding the financial strain.

Interview	Sub-theme	Quote
E2	Sustainability vs. profitability	*'And once you talk about this with your clients, and then you propose new suppliers, sustainable suppliers, they found out that it's more expensive, so it doesn't make sense, because their profit will go down, right?*
E5	Cost efficiency conflicts	*'There are less takers for your product because your costing is higher'*
E7	Cost efficiency conflicts	*'to be able to drive cost efficiency, is a primary factor …it's a very big challenge, because in order to incorporate sustainable practices or be in line with, you know, SDG goals, I'm having to spend a lot more as a business than I naturally would, and again, everything right from raw materials to just ingredients, packaging, all elements associated with having your end product ready.'*

Figure 14: Balancing Profitability with Sustainability Quotes. Source: E2, E5, E7.

Access and Growth

To truly drive systemic change and create long-lasting impact, TE requires significant seed funding and ongoing capital injections. A notable challenge highlighted by some of the entrepreneurs was the lack of accessible funding mechanisms from banks and the financial-entry barriers posed by incubators, particularly for new entrepreneurs and residents in the UAE (E2). This funding gap led to various growth-related issues, including difficulties in expansion, rental constraints, logistics and storage challenges, human resource limitations, and restricted opportunities for partnerships and strategic projects (E8). Among the eight (8) entrepreneurs interviewed, only three (3) had formalised funding mechanisms, either from venture capitalists (VCs) or private angel investors (E1, E3, and E4). The others were primarily self-funded, reinforcing the narrative of the challenges in accessing and growing through capital. This reliance on limited funding often results in trade-offs and opportunity costs, suggested by E5 in the following quote.

'*It's not fast moving. It's not FMCG. So everything is slow. Everything is slow. So you may want to do 10 things for the brand, but you may not have enough finances to do that, right?'*

Subsequently, a critical nuance here would be the probable divide between funding mechanisms for expat vs local owned businesses in the UAE, as there is significantly more funding opportunities tailored specifically for Emirati entrepreneurs. This is supported by international policy assessment reports suggesting there is a chronic shortage of financing opportunities for start-ups in Abu Dhabi, especially for foreign-owned companies (OECD, 2023). Additionally, initiatives like the Mohammed bin Rashid

Fund and the Ministry of Education's Entrepreneurship Challenge under the Graduate Fund further emphasise support for Emirati university students and graduates, equipping them with the training and resources needed for entrepreneurial intention and success (U.ae, 2021; The Fund, 2024; Saleh and Esmail, 2024). In congruence, insights from E6 suggest there is a divide between local and expat audiences and their environments, and E8 portrays a lot of the initiatives and growth schemes are targeted to uplift the Emirati entrepreneurial sector. Most of these are inextricably tied to government efforts, where, as seen in RQ1, the macro-level focus on TE is intensifying. Given, this focus translates into increased direct support for Emirati impact-entrepreneurs, it could further skew the playing field, making it even more challenging for expatriate transformative entrepreneurs to compete.

An interesting insight in this domain is the accessibility to labour and human capital, which appears to be a domino effect of the financial challenges previously discussed. While not all entrepreneurs elaborated on this issue, a notable observation was made by E4, reporting that hiring employees that are passionate about working for a purpose and focus on systemic change, which is key towards the business actions of SDG 12, is tougher in the UAE, given the high cost of living and shifting their primary focus on the salary. Pertinently, new entrepreneurs, particularly those recently starting, suggested challenges in hiring staff and expanding teams due to limited finances. This constraint has led them to explore alternative strategies, such as collaborating with students and volunteers that are passionate about driving social impact to propel SDG 12 at a more manageable cost (E8). Although these findings may not be universally generalisable, they can be extrapolated to other GCC countries like Saudi Arabia and Qatar, which share similar characteristics with the UAE, including growing expatriate populations, high cost of living, and comparable employment remuneration metrics (Numbeo, 2024).

4.2.2 Structural and Market Barriers

In the mapping of RQ2, barriers related to infrastructural and market dynamics have emerged as a significant theme. These issues are closely tied to RQ1, regarding government policies and demand-side influences, which often exhibit a dual nature, sometimes supporting the TE agenda as mentioned in the above section, but other times leading to misalignment or insufficient demand growth as will be shared and discussed below. Additionally, the role of business networks emerged as more complex, with findings indicating that while networks among transformative entrepreneurs and startups within similar industries are strong, there is a notable lack of support behaviours from larger traditional businesses that may have differing goals, values, and priorities presenting as social entry barriers and exclusion network issues (Davies et al., 2018). Therefore, the following sub-themes provide nuances that are intricately linked to the findings thus far.

Gaps in Policy and Institutional Infrastructure

Given the significant impact of macro-level policies and systems on micro and meso actors in the UAE, as established in RQ1, it is crucial to examine any challenges within this domain. As a relatively young nation at just 53 years old, the UAE, despite its sophisticated and futuristic image, assumably has policies that are still evolving, with inherent gaps. Entrepreneurs noted that the main issue lies in the misalignment of strategies, while policies generally exist, they can be overly aspirational as mentioned in the quote from E3 below, where the copy-paste model from the West causes divergent policies or lacks strict enforcement in non-priority industries (E7). Additionally, the gap may also stem from insufficient push-communication from authorities, despite having passionate leaders who could drive SDG 12 agendas and be mentors to transformative entrepreneurs towards the right policies, there is a lack of well-structured outreach, leaving the responsibility to transformative entrepreneurs to initiate contact (E6).

'A lot of the laws that we have been copied from the UK or Ireland or America, and they're not quite perfectly fit for the ecosystem that we live in … and sometimes policies are brought and applied where the landscape infrastructure is not present to support them'

To bridge gaps, many entrepreneurs value local business networks and communities, as highlighted in RQ1. However, RQ2 findings show this support often excludes larger institutions and traditional businesses. Although no negative externalities were reported, findings indicate entrepreneurs frequently attempt to collaborate with bigger firms for Corporate Social Responsibility (CSR) initiatives or bartering agreements (E2, E4) but receive limited support, particularly for advancing SDG 12 in the UAE. Additionally, despite the growing need for technological innovation in sustainability, especially in affluent nations, where advancements significantly impact social, environmental, and economic pillars (Omri, 2020), E1 noted a lack of support from larger players in engaging with disruptive startups, hindering SDG 12 promotion.

Similarly, although entrepreneurs viewed initiatives like Make in the Emirates positively (E3, E4), aimed at fostering regional innovation and sustainable growth (MOIAT, 2023), some faced challenges with sustainable production capacities in the UAE (E5, E7). Despite positive SDG 12 alignment intentions, many industries in the UAE remain import-dependent, for example, 85 percent (%) of food is imported (Emirates Nature, 2023), with negative externalities such as increased food miles (Chhaudhary, 2014). As E7 indicates, existing facilities often lack sophistication required in sustainable production, such as transparency, adherence to global standards on energy, materials, water, waste, and emissions (Krajnc and Glavic, 2003), creating a gap between the TE agenda, SDG 12, and UAE infrastructure support.

‘I don't have the resources to explore large scale production still in the country to optimum level of transparency that I would like for my brand. So while I can manufacture and potentially quantity too, but transparency, efficacy, regulations, I think that's a little challenging at the moment’

Perception and Market Challenges

Given the interconnectedness of SDG 12 with goals like SDG 3 (good health and wellbeing), 8 (decent work and economic growth), 9 (industry, innovation, and infrastructure), and 14 and 15 (life below water and on land) (UN Global Compact, 2018), its application should be broad enough for various industries to align with its targets. However, the narrow perception of SDG 12 merely as an “environmental" tool undermines its dynamic potential, especially from the federal vision being trickled down to the private sector (E7). Many entrepreneurs found this challenging, particularly those in non-traditional industries like E6 in creative consultancy, who struggled to integrate their work and stakeholders into the SDG 12 agenda due to the lack of visible connection. This finding contrasts with Europe, where culture and creativity drive change by crafting new narratives, embedding sustainability in other industries, and leading by example toward a greener society (European Commission, 2023). Similarly, E3, focused on inclusivity in education, faced misalignment with SDG 12 support mechanisms, and E7 noted that SDG 12 is often reduced to a CSR checkbox, limiting its broader impact.

While many entrepreneurs noted the growth of responsible consumers, juxtaposed insights reveal significant room for further shifts in behaviour and demand towards SDG 12 practices in the UAE. Some entrepreneurs pointed out a persistent lack of awareness about responsible consumption among the UAE audience (E3) and highlighted a culture of waste and commodification driven by the privileged socio-economic background of the society (E8), vocalising the challenge of a value-action gap to fully realise the TE vision of balancing people, planet, progress, and profit to advance SDG 12.

This is closely tied to the broader perception of sustainability versus convenience. In 2024, consumers, shaped by Q-commerce, globalisation, and high accessibility, have become creatures of comfort, as E2 notes below. Although there is growing concern for climate issues, many consumers are not yet willing to significantly alter their convenient and comfortable lifestyles for the sake of sustainable practices and responsible consumption, especially given the demands of modern life and inherent comfort-driven tendencies (Kugler, 2021). This trend is particularly pronounced in the UAE, where omni-channel industrial shifts have made fast industries even more accessible, a trend amplified post-COVID (The Economist Intelligence Unit, 2020).

'we're moving more and more and more and more to give people an easier lifestyle … we got lazy after all these years, we got lazy, and now we do not want to … we are just rejecting this kind of sustainability'

Moreover, entrepreneurs noted that incentivising consumers to change behaviours, through rewards (E1) or personal engagement (E7), is crucial. Without such mechanisms, shifting convenience-driven behaviour remains a significant challenge, undermining efforts toward responsible consumption. Further strategies to address market challenges and support mechanisms will be discussed in the subsequent section, addressing RQ3.

4.3 – Strategies for Transformative Entrepreneurship Promoting Responsible Consumption and Production in the UAE

Diving into RQ3 allows for a comprehensive exploration of the practical contribution of this research, particularly in the context of TE in the UAE, where literature is already sparse as mentioned in Chapter 1. In impact-focused entrepreneurship, strategic planning is crucial; socially driven firms must carefully evaluate how, when, and where to integrate social imperatives into their vision, operations, structures and strategic priorities (Battilana et al., 2017). A lack of strategic foresight and awareness of the influence of EEs can lead to issues such as mission drift, wavering, and risking the TE agenda (Ebrahim et al., 2014). The subsequent themes peruse the strategies that transformative entrepreneurs in the UAE employ or aspire to use to bolster SDG12 within the EE.

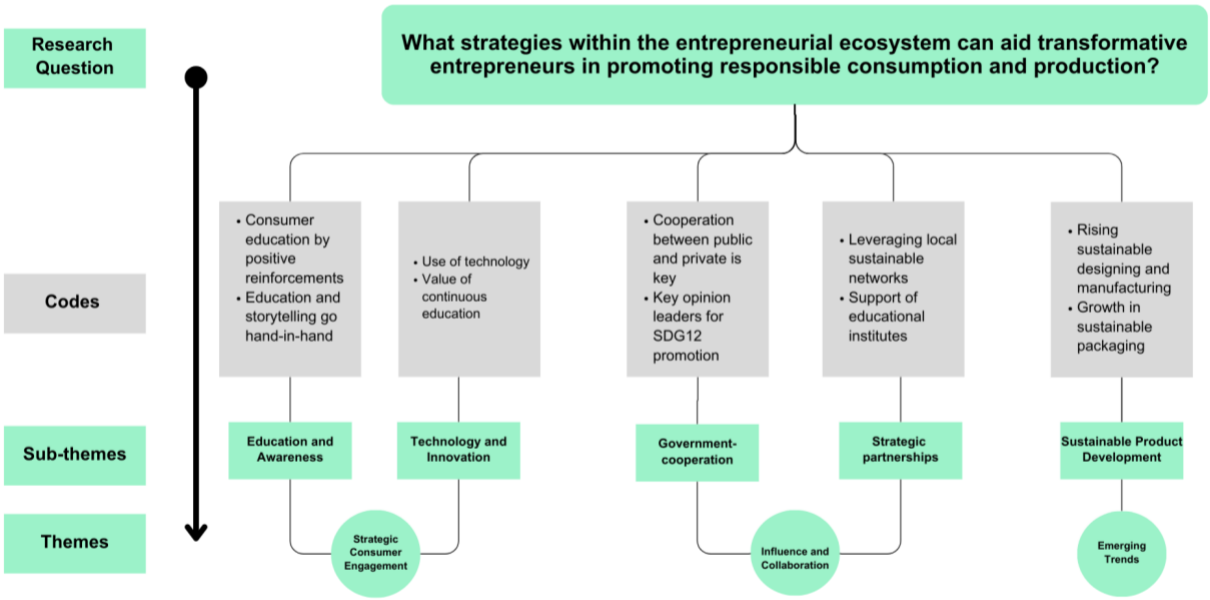

Figure 15: RQ 3 - Thematic Map. Source: Author (2024). Based on Braun and Clarke, 2006.

4.3.1 Strategic Consumer Engagement

The first emerging theme is on the demand-side of entrepreneurial activities. Most interviewed entrepreneurs captured the role of consumer education and awareness, to cultivate a culture of changing consumer behaviour and foster a sense of responsibility that aligns with the broader SDG 12 goal. This is understandably relevant, given interest in sustainability and responsible consumption in the UAE is bolstering, with 90 percent (%) of consumers eager to receive more information on sustainable living (Bhat, 2023).

Education and Awareness

The importance of consumer engagement to build awareness of their purpose and create a positive hook for consumer education was emphasised by many of the interviewed transformative entrepreneurs (Table 6). Moreover, unlike traditional entrepreneurship, TE goes beyond merely addressing consumer needs and wants, it involves changing consumer patterns and behaviours to address grand societal challenges (GSCs). The region, including the UAE, is experiencing rapid development and population growth, leading to high waste generation per capita, while cultural diversity and varying attitudes towards recycling present significant challenges (The New Economy, 2015). In this landscape, entrepreneurs found positive reinforcements strategies such as reward systems, incentive programs, and gamification, as mentioned by E1 below, crucial in effectively switching behaviours. These strategies tap into positive emotional responses, encouraging mindset shifts and actions (Staats, 2006) towards environmental issues, which can particularly be emotionally charged (Kleres and Wettergren, 2017). This can be generalised to other similar and rapidly growing countries such as Saudi Arabia.

Interview	Sub-theme	Quote
E1	Consumer education by positive reinforcements	*'That's why this rewarding approach, gamification approach, community approach, to involve people into responsible consumption .. this market of rewarding, rewarding systems or rewarding approaches and, clean recycling, it's growing very fast'*
E4	Education and storytelling go hand-in-hand.	*'You don't want to do it out of shaming. So the brand that we're building is a brand that you know has the mission to do better, on the train to genuinely making an impact, I think we'll have to be honest and then through that, we build trust.'*
E7	Education and storytelling go hand-in-hand.	*'I can't just create a wonderful story for my brand. I also need to constantly educate my consumer into understanding, why are we doing what we're doing.'*

Figure 16: Education and Awareness Quotes. Source: E1, E4, E7.

Transformative entrepreneurs can authentically resonate with their mission by presenting diverse narratives, bridging cultural gaps, and driving inclusive impact aligned with TE goals. While this helps avoid the pitfalls of a singular narrative, which can limit the effectiveness of initiatives (Adichie, 2009), findings suggest storytelling alone is inadequate. It must be reinforced by continuous consumer education to align consumer behaviours with TE values (E7). Hence, campaigns should build trust through honesty about the enterprise's mission, avoiding shaming tactics (E4) diverting focus from collective action to personal behaviours, potentially weakening urgency, eroding engagement, and polarising the debate on environmental responses (Nielsen et al., 2024). Instead, TE should enhance educational campaigns by hosting workshops and events where entrepreneurs directly interact with consumers, discussing sustainability and wellness (E5).

Technology and Innovation

Findings reveal that technology and continuous innovation are pivotal drivers for TE, where entrepreneurs recognise that leveraging advanced technologies can effectively alter mindsets and customer behaviours, facilitating sustainable practices and enhancing community involvement (E1). Apart from the front-end benefits, technology can be utilised towards optimising profitability and waste reduction as well, as seen in the operations of the AI food vending machines, where by activating predictive demand analytics, the business minimises waste and optimises costs by forecasting meal demand based on historical data, adjusting supply to match expected consumption (E4).This requires continuous innovation, a critical factor that emerged in maintaining relevance and advancing sustainability goals, with initiatives such as integrating blockchain technology to ensure transparency and traceability in operations (E1). The value of innovation was also highlighted on the product development side, evidenced by the following E7 quote, a commitment to newer environmentally responsible and future-looking products are a key focus.

'it's been working towards, you know, constant innovation. So, you know, we're working on a zero waste product line'

This strategy fits in seamlessly with the 'progress' domain of the QBL that advocates for scalable, sustainable improvements across people, profit, and planet pillars through continuous learning, risk-taking, and the development of enduring solutions (Beech Cambridge Leadership Development, 2013); thus, by using technology and continuous improvement to optimize processes these strategies ensure that progress is sustainable, scalable, and improves upon previous conditions towards SDG 12 targets. However, a critical caveat overlooked in the findings is the management of sustainability-led innovation. While strategic experiences were discussed, challenges in areas like

navigating unfamiliar fields, resource allocation under uncertainty, cognitive dissonance, and bridging the gap for diffusion (Seebode et al., 2012), were not considered whilst these aspects are crucial for effective execution and should be carefully addressed to ensure comprehensive technology and sustainability-led innovation.

4.3.2 Influence and Collaboration

The importance of macro-level collaboration and leveraging communities, already highlighted in Section 4.1 as crucial influences, is further reinforced as similar codes originated within the RQ3 tangent of research. The subsequent paragraphs illustrate the successes firms have achieved by integrating these influences into their strategies, along with their corresponding recommendations specific to SDG 12. Additionally, a few new nuances that arise within these themes will be explored to provide a deeper understanding.

Government Collaboration

Building on 4.1.1, findings indicated that aligning with the UAE government's macro vision is crucial for advancing TE (E3). Moreover, entrepreneurs emphasised the importance of engaging with key voices and thought leaders in the macro community to strengthen affiliations (E6), particularly given the role of leader passion in building trust in impact-driven businesses (Thorgren and Omorede, 2015). This influence is likely amplified in a highly governed region like the UAE. Additionally, entrepreneurs suggested that the UAE government could better connect SDG 12-focused businesses with the broader economic market, thereby enhancing their growth opportunities, as noted by E2 below.

'To find a way where you have all the business owners from one side, and then you have the government, and then if the government creates a mentorship program or something, that can link entrepreneurs with companies and find a way to, you know, support the small businesses, yeah, with this exchange of services for economic for payment'

Strategic Partnerships

Participants credited the local business network mechanism as the most helpful strategy to not only grow their business but to formalise their foundation as transformative entrepreneurs starting out in the UAE amidst the challenges, as evidenced by the excerpt below from E7, and with examples such as marketing collaborations (E4) and licensing help (E8). Moreover, as mentioned in detail in Section 4.1.2, partnerships with educational institutes were highly regarded, where synergies with educational institutes are a key influence on TE; and findings reveal that this is more pertinent when it comes to SDG 12 and growing climate education in UAE schools (E6).

‘And then, like I said, I still kind of would like to reiterate on local businesses, you know, having the support of your local business community and likeminded entrepreneurs whom you can speak with in the initial years of my business and cooperation’

The discussion of gender's role in this strategy is significant. All five (5) female entrepreneurs interviewed highlighted the importance of community and leveraging networks, with one entrepreneur emphasising her involvement in women-specific markets and communities (E5). This aligns with existing research underscoring the benefits of women-only networks for founders, including improved access to financing, and increased founder credibility (Woodwark et al., 2021). These gender-based dynamics are likely applicable across other GCC countries, where similar collectivist cultures influence women's roles in society and entrepreneurship.

4.3.3 Emerging Trends in Sustainability

Building on the interview schedule, post discussing direct strategies, many entrepreneurs highlighted emerging trends and growing areas of TE in the UAE, especially with the increasing emphasis on SDG 12. This line of inquiry uncovered a significant theme; specific trends that entrepreneurs are monitoring closely, mainly under product development and circularity. Staying ahead in this rapidly evolving and innovative field is seen as an essential strategy for gaining a competitive advantage, aligning efforts with global sustainability goals, and meeting the rising market demand. A complementary mechanism of this theme is its use in cause analysis, where these opportunities can be used to gauge what strategies can be continued or expanded for the future, and which ones might be discontinued (Leigh, 2010).

Sustainable Product Development

A significant finding was the attention was directed towards product development and design with a sustainability focus, with 50% of entrepreneurs interviewed focusing on product-based businesses. Many highlighted the rising trend and critical need for sustainable manufacturing in the region, underscored by E7’s belief in the necessity of mandates to prevent convenience-driven practices. A benchmark for inspiration could be Sweden’s Extended Producer Responsibility (EPR) mandates, which require manufacturers to manage the entire lifecycle of their products, including take-back schemes for end-of-life products (Smart City Sweden, 2024).

Additionally, the consensus among entrepreneurs suggested the rapid growth of sustainable packaging, particularly in the food (E4) and beauty sectors (E6, E7), reflecting the global Compound Annual Growth Rate (CAGR) of 7.70% during 2023-2030 (Straits,

2023). This strategy is crucial for both new and established transformative entrepreneurs, as illustrated by E5's focus below on sustainable and upcycled packaging as a unique selling proposition for their personal care products.

'I think packaging is something which really differentiates us … we use wheat straw packaging which is made from harvested wheat residue'

Building on this trend, many entrepreneurs advocated for the rise of the circular economy (CE) as evidenced by the quote for E8 below, where the CE is a regenerative model of production and consumption, where the focus is on maximizing the utility and lifespan of materials and products. The growth of the CE in the UAE is gaining significant traction, driven by national policies and strategic initiatives aimed at reducing waste and optimising resource use across key sectors like manufacturing, food, infrastructure, and transport. The adoption of CE principles is seen as crucial for ensuring long-term environmental sustainability and economic resilience in the region, with the UAE's Circular Economy Policy 2021-2031 encompassing 22 new policies playing a pivotal role in this transformation (Kamel, 2022). A critical discussion about the CE in recent literature remains that even though CE-related developments are positive and promising, its "validity phase" within the broader sustainable development framework is questioned, emphasising the need for a shift towards practical, application-based interventions, addressing challenges related to the validity and reliability of current CE metrics, and advocating for a multidimensional approach (Upadhayay, 2024).

'You know what we can envision for other entrepreneurs in the in the space the opportunities for circular economy, innovations like businesses, can develop solutions that promote the circular economy'

The findings related to sustainable design, production, and CE revealed significant industry-specific nuances. For instance, E3 emphasised the critical role of systems thinking in sustainable design, particularly in enhancing social inclusivity. Systems thinking acts as a key catalyst for social ventures, aligning seamlessly with TE's goal of driving systemic change by embedding solutions within larger targeted systems (Kirsch et al., 2016). This approach is particularly vital in the UAE, where understanding and addressing the intricate interconnections between environmental, social, and economic factors on both macro and micro levels is essential for holistic and innovative solutions to GSCs. For example, the production of the Hidden Disabilities Sunflower lanyard using environmentally friendly materials in the UAE (Hidden Disabilities, 2023) as shared by E3 or the growing focus on sustainability in the food industry, such as waste reduction and sustainable packaging highlighted by E4, illustrate these trends. Additionally, service-based entrepreneurs noted the rise of the experiential economy in the UAE (E6).This can be extrapolated to the Middle East as a whole, adding to the generalisability of the study

where the GCC has been fully committed to using experiences to boost GDP, moving from a return on investment (ROI) mindset to a return on experience (ROE) (Procter, 2023) – transformative entrepreneurs must capitalise on this trend by making sustainable product and services more immersive. These insights open valuable avenues for further research in the UAE, explored in the subsequent and concluding section, Chapter 5.

Chapter 5

Conclusion

5.1 – Summary and Contributions

Using semi-structured interviews and rigorous thematic mapping, this paper investigated the pivotal actors within the United Arab Emirates' (UAE) entrepreneurial ecosystem (EE) and their influence on advancing the transformative entrepreneurship (TE) agenda of sustainable prosperity through the quadruple bottom line (QBL) framework, focusing on Sustainable Development Goal (SDG) 12. The research addressed three (3) questions; identifying the influence of key EE actors, analysing inherent challenges they pose and exploring strategic pathways to reinforce the TE agenda, contributing to fostering responsible consumption and production in the UAE.

Firstly, the study identified the sustainability-oriented strategic, policy, and support roles of the UAE government towards the TE agenda. Findings suggested the transformative entrepreneurial landscape is shaped by macro influences, including the government's top-down approach, characterised by ambitious policies like the UAE Circular Economy Policy (2021-2031). While fostering a cohesive ecosystem for sustainability-focused ventures, this approach has a double-edged mechanism, leading to misalignment between policy goals and practical infrastructure readiness, as primary insights revealed. The study also highlighted the role of support mechanisms, such as incubators, mentorship networks, educational institutions, and market forces like consumer demand and entrepreneurial communities, in advancing the TE agenda. Findings in this domain revealed a discrepancy between the perceived value of incubators and the actual encounters of transformative entrepreneurs with incubator experience, contributing to the growing competitiveness of incubators in the region (Chacko, 2024). Gender-focused insights were uncovered, with all participants recognising the importance of mentorship, and women entrepreneurs emphasising its critical role, especially for female-led ventures.

This study also examined challenges posed by key actors, including financial and regulatory constraints, and perceptual biases hindering TE alignment with SDG 12. While RQ1 findings suggested a supportive ecosystem for financial access for new-age SMEs (Cornwell, 2022), primary data revealed that financial access remains a significant barrier for transformative entrepreneurs, especially expatriate ones; such nuanced insights allow for a holistic report. Related challenges, such as scalability, supply chain costs, and limited human resources, are interconnected, with financial access being influenced by a macro-level and narrow perspective on SDG 12, primarily targeting industries like climate change. Moreover, the study established that while the UAE consumer shows interest in

sustainability-driven businesses, this does not always translate into behaviour, indicating a need for robust consumer education to address this value-action gap (Blake, 1999).

Connected to this, the research posits the value of strategic approaches used by the interviewed transformative entrepreneurs. Consumer engagement through awareness, technology and innovation acts as a key strategy for TE in advancing SDG 12 – with entrepreneurs echoing education and positive reinforcements such as rewards and incentives as tools to address the mentioned value-action gap. Building on the positive influences of EE actors such as macro-level collaborations and local entrepreneurship networks, findings amplified the benefits of strategic partnerships, with participants advocating for transformative entrepreneur networks. Similar to mentorship, gender-nuances came forth, highlighting that women-only networks enhance founders' access to financing and credibility (Woodwark et al., 2021). The study highlighted sustainable product development, manufacturing, and circular economy practices as critical trends providing a competitive edge and aligning with global sustainability objectives.

Theoretically, this paper addresses aforementioned knowledge gaps by enhancing the academic understanding of TE in emerging economies, particularly the UAE. It contributes to literature by offering distinctive insights into the TE dynamics within the UAE's EE and alignment with SDG 12, providing context-specific interpretations beyond surface-level data (Davies, 2000), demonstrated by the rigorous, original exploration and interpretation in Chapter 4. Additionally, it advances the understanding of the QBL by presenting empirical findings specific to a model anchored in sustainable prosperity (Beech Cambridge Leadership Development, 2013), amidst other emerging frameworks.

From a practical perspective, the findings have implications for policymakers and key actors within UAE's EE, advocating for a more integrated approach balancing top-down directives with grassroots initiatives, enhancing financial access for impact-focused SMEs, and fostering genuine partnerships with incubators and educational institutions. Given the scale and scope of this study, its primary contribution is to the entrepreneurs interviewed. By consolidating insights from entrepreneurs at similar stages in various industries and into EE actors' roles and strategic pathways, this research equipping them with an informed perspective to better navigate UAE's EE to advance SDG 12. These findings also provide emerging transformative entrepreneurs with a condensed overview of strategies drawn from experienced peers to establish TE in the UAE effectively.

5.2 – Limitations and Future Research

Notably, this research is not without limitations. The study is limited by its theoretical scope, focusing primarily on institutional structures (EEs) and entrepreneurship theories without deeply exploring the complex interconnections between TE and EE factors or broader sustainability theories. This restricted the critical exploration of interconnected

dynamics. Although dualities in the aforementioned discussions were explored, root causes, relational correlations and systems thinking theories leading to them are not discussed, leaving scope for justifications and rationale analysis. The nuances, such as gender dynamics, local versus expatriate experiences, and industry variables, were interpreted but not controlled on specific comparisons, limiting the completeness of these findings.

Moreover, as discussed in Chapter 3, the methodology has certain limitations; including the lack of generalisability typical of case studies and the subjectivity of experiential data, that may affect the validity of findings (Firestone, 1993; Sharp, 1998; Yin, 2018). Despite efforts to address these through reflexivity and data triangulation, the contextual specificity restricts broader applicability and may lead to contested insights. Alternatively, scholars argue that the purpose of case studies is “particularisation, not generalisation” (Stake, 1995). Additionally, the literature review is based on selected articles relevant to EE, TE, and UAE SDG 12 research, rather than a comprehensive or systematic approach, reflecting subjective critical judgment and can lend itself to certain biases and limitations. While this may have led to the exclusion of some pertinent studies, the lack of reliance on a specific conceptual framework may justify this selective process for this paper.

Consequently, further research should build on this study's scope and findings, focusing on these key potential pathways:

- *Assessment of Sustainability Policy Effectiveness on TE Advancement in the UAE:* A longitudinal study to evaluate UAE policy impact on TE, with specific document and policy analysis can using document and policy analysis to uncover systemic reasons for macro-micro misalignments.
- Comparative Study of TE Between EEs of UAE and Qatar, or Saudi Arabia: Building on the growing academia of GCC entrepreneurship comparative studies (Aminova et al., 2020; Balawi, 2021; Syed et al., 2023), this avenue could enhance generalisability claims, and further explore findings beyond this context, building theoretical validity and practical collaboration.
- *Quantitative Study on Entrepreneurial Ecosystem (EE) Actors on TE Outcomes:* Utilising statistical methods to address the limitations by analysing the correlation between these actors' support mechanisms (e.g., funding availability, mentorship quality, policy support) and key performance metrics (e.g., venture survival rate, revenue growth, sustainability impact) of TE ventures, complementary quantitative research can guide policy cycles effectively (Munda et al., 2020).

Hence, this study serves as a whetstone for academic research on TE in the UAE, encouraging further exploration of gender dynamics, the value-action gap, public-private partnerships, and other key areas within this evolving field.

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Appendices

Appendix 1 – Interview Guide

Welcome and Orientation

Good afternoon, firstly, thank you for participating in this research study. As shared with you prior, the interview should last anywhere between 1-1.5 hours. In a simple summary, the goal is to study the environment that transformative entrepreneurs operate within in the UAE; that is the entrepreneurial ecosystem actors that are either conducive to their agenda or impeding their progress. To understand the same, we contextualise this against SDG 12 – as SDG 12 incorporates social perspectives along with environmental and economic dimensions, on a micro (consumption) and macro (production) level.

You have been selected based on your expertise as a transformative entrepreneur in the UAE, and as you meet the criteria for the study, which is:

- Your business is founded in the UAE post-2020.
- Your value proposition displays alignment with SDG 12 and the Quadruple Bottom Line.
- Your vision demonstrates a commitment to Systemic Change.

Consent and Confidentiality:

Before we begin, I'd like to go over the consent process and confidentiality measures. The information you provide will be used solely for the purposes of this academic research study. It will be analysed and included in our findings while ensuring we protect your privacy based on your consent. Your participation is voluntary, and you can choose to withdraw at any time without any consequences. If you decide to withdraw, you can determine what happens to the data you have provided up to that point. Finally, I will need you to sign a written consent form to confirm your participation and understanding of these points. Do you have any questions before we proceed?

Introduction and Background (5 minutes)

1. **Introduction and Purpose:** Could you briefly describe your entrepreneurial vision and value proposition?
   Optional Prompt: How does your venture's mission align with the UN SDGs?

Transformative Entrepreneurship Principles (10 minutes)

2. **Quadruple Bottom Line Approach**: How does your venture incorporate the quadruple-bottom line (people, profit, planet, progress)?
   Optional Prompt: Can you provide examples of initiatives or projects?
3. **Systemic Change**: Do you believe your venture is driving systemic change? If so, how?
   Optional Prompt: What metrics or frameworks do you use to measure systemic change and impact?

Role of the Entrepreneurial Ecosystem (15 minutes)

4. **Influence of Key Actors**: Who are the key actors in the UAE's entrepreneurial ecosystem that have influenced your venture?
   Optional Prompt: How have these actors supported or hindered your progress?
5. **Government Policies**: How have government policies and initiatives impacted your work?
6. **Support Systems**: Which support systems (e.g., incubators, accelerators, financers, mentorship) have been most beneficial to you?
   Optional Prompt: Are there any specific programs or networks you recommend to other entrepreneurs?

Challenges in Aligning with SDG 12 (15 minutes)

7. **Understanding SDG 12**: Based on your understanding of SDG 12 – responsible consumption and production, how does it play a role in your entrepreneurial venture?
8. **Main Challenges**: What are the main challenges you face in promoting responsible consumption and production within the entrepreneurial ecosystem?
   Optional Prompt: Can you elaborate on challenges at both strategic and operational levels?
   Optional Prompt: Can you share specific examples?

Strategies and Opportunities (15 minutes)

9. **Implementation Strategies**: What strategies have you implemented to align or mitigate challenges in your operations with responsible consumption and production?
   Optional Prompt: What has been the most effective strategy so far and why?
10. **Emerging Opportunities**: What opportunities do you see for other entrepreneurs to contribute to SDG 12 in the UAE**?**
    Optional Prompt: What emerging trends offer the most potential for transformative entrepreneurship?

Closing (5 minutes)

11. **Future of Transformative Entrepreneurship**: How do you envision the future of transformative entrepreneurship in the UAE?
    Optional Prompt: What role do you see for the private sector versus the government in this evolution?

Summary and Thank You:

That concludes our interview. Thank you very much for your time and for sharing your valuable insights. Your contribution is greatly appreciated and will be instrumental in advancing our understanding of transformative entrepreneurship in the UAE. As for the next steps, we will be analysing the data collected and compiling it into our research findings. If you're interested, we can keep you informed about the progress of the study and share the final report with you once it's completed. Do you have any questions or additional comments before we wrap up? Thank you again for your participation.

Appendix 2 – Orientation Sheet

Interview Aim
This study aims to contribute to the literature on transformative entrepreneurship (TE) within the UAE's entrepreneurial ecosystem (EE) by assessing the framework conditions and variables that hamper or advance TE in relation to SDG 12. It aims to explore:

1. How do the key actors within the UAE's EE influence the TE agenda?
2. What are the main bottlenecks faced by TEs in the UAE in their efforts to align with responsible consumption and production?
3. What strategies within the EE can aid TEs to promote responsible consumption and production?

Terms and Concepts:

Transformative Entrepreneurship:
Entrepreneurship that focuses on solving grand societal challenges (economic, social or environmental) of the 21st century, through driving systemic change and striving for a quadruple-bottom-line (QBL) approach for sustainable prosperity. QBL refers to, People – enhancing quality of life, Profit – boosting productivity with efficient resource use, Planet – ensuring sustainable ecosystems and Progress – fostering adaptive innovation.

Entrepreneurial Ecosystems:
A network of interconnected elements that support and drive the growth of startups and businesses within a region. Key variables include government policies and regulations, access to finance, human capital, support infrastructure, market conditions, cultural and social norms, networks and connectivity, and technology and innovation. These factors interact to create an environment that can either foster or inhibit entrepreneurial activity and economic development.

SDG 12 - Responsible Consumption and Production:
Aims to ensure sustainable consumption and production patterns. It focuses on resource efficiency, reducing waste and pollution, and encouraging sustainable practices across various sectors. It also drives innovation by encouraging new technologies and methods that reduce environmental impact. It highlights the importance of social value by promoting practices that benefit communities, improve quality of life, and support equitable access to resources, ensuring that economic growth is balanced with environmental sustainability and social well-being.

I, _____, have read the orientation sheet prior to the interview.

Signature and Date:

Appendix 3 – RQ1 Codes, Thematic Table & Excerpts

Research Question 1: How do the key actors within the UAE's entrepreneurial ecosystem influence the transformative entrepreneurship agenda?

Frequency Table

Code	E1	E2	E3	E4	E5	E6	E7	E8	Total
Macro policies key driver for micro/meso	X	X	X	X	X	X	X	X	**8**
COP28 as an opportunity.	X	X							**2**
ESG reporting expansion initiatives.	X	X							**2**
Extensive operational and network support from incubators.	X	X						X	**3**
Specialised accelerator hubs exist.	X		X				X	X	**4**
Demand-side influence.		X		X			X		**3**
Positive government support.			X	X	X	X			**4**
Specialised and systematic government bodies for support.			X		X	X			**3**
Local entrepreneur community and networks.			X	X	X		X	X	**5**
Partnership with educational institutions.			X			X		X	**3**
Influence of established backers on startup support.				X		X		X	**3**
Streamlined and elimination of red-tape issues.					X		X		**2**
Positive influence of private festivals, markets and events.					X	X		X	**3**
Value of mentorship.	X		X	X		X	X		**5**

Defined Themes

Theme 1: Government Related
Theme 2: Support Related
Theme 3: Market Related

Findings - Thematic Table

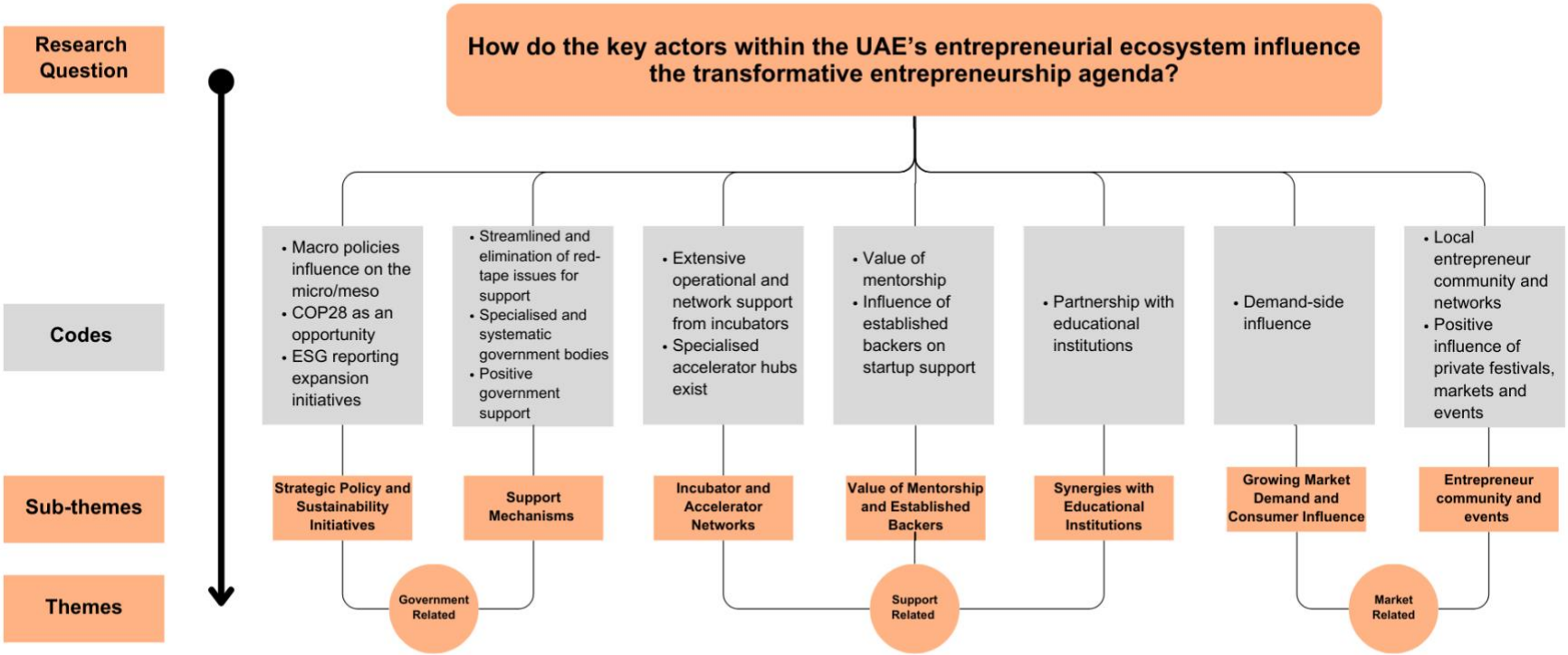
Theme	Sub-theme	Codes	Example Quotations

Government Related	1.1 Strategic Policy and Sustainability Initiatives	Macro policies influence on the micro/meso	**E3 –** ***"****general system of governance in the UAE has become very focused on sustainability and focused on the SDGs, there are huge number of initiatives on the way from the government that either incubate or financially support companies, particularly SMEs and startups."* **E4 –** *"I think it's basically us working with the policies of the government and government, shaping policies that benefit what we do. Because we are we're following their vision. So, it goes hand in hand."* **E7 -** *"Because, again, operationally, everything that you can do you can only do within the realm of what the government policies allow you to do… that there's a vision, yeah, right. And that then gets trickled down to local government, and then government to private sector, and so on and so forth."*
		COP28 as an opportunity	**E1 -** *"the main initiative for last year, it's COP28. Absolutely amazing. A lot of strategic decisions for globally, not only for this region, for decision as well, but globally as well"* **E2 –** ***"****COP28 was happening in 2023, and I saw that as an opportunity."*
		ESG reporting expansion initiatives	**E1 –** ***"****like build National Carbon register based on blockchain as a technology, with reporting pushing companies expand the ESG reports include more metrics and reports make it more sustainable, make it more regular, make it more detailed, including this ESG, reporting international standards"* **E2 –** ***"****The Climate Hub, I think the climate hub, and this is a government initiative to build micro or small businesses to measure their carbon emissions with a free calculator*"
	1.2 Support Mechanisms	Streamlined and elimination of red-tape issues for support	**E5 –** ***"****I think everything was very streamlined. Here the approvals were streamlined."* **E7 –** ***"****we don't have regulatory hurdles; we don't have red tape issues that we have to deal with."*
		Specialised and systematic government bodies	**E3 –** ***"****The authority social contribution operates under the Abu Dhabi branch of the government, and it recognizes the kind of companies that work toward people, determination, sustainable employment, also green energy, those operating under SDG 12 operating sustainable companies."* **E5 –** *"And you have to get approved here*

			from the concerned body. So for personal care, it is Montaji Dubai Municipality, and you need approvals on each product, where they check your labels, their formulations, every day, list, artwork, everything."
		Positive government support	**E4 – "***maybe it's they're the most helpful so far the government has been, every time we've spoken to them, very positive"* **E6 –** *"the UAE Media Council, National Media Council, really acted as an enabler for me* **…** *are also staffed by people who do understand the realm of your work and who are really, really looking at it from the point of view of enabling and empowering you."*
Support Related	2.1 Incubator and Accelerator Networks	Extensive operational and network support from incubators	**E1 – "***very useful In5 ecosystem established by Dubai Holding group, very fine for new guys, they support for a lot of bureaucracy and support for by donating a half of price of license and visas for employees and supporting issue certificates, and also, it's good community to have entrepreneurs and startups, and which involves some investors. If you are part of this ecosystem, you are get support by awareness.*" **E2 –** *"In5, which is amazing incubator, and it helps you with the license. It helps you with I think they have a mentorship program or something, so they guide you."* **E8 –** *"We again, earlier in this year, we applied to one called the EGA Ramp Up. We found that to be extremely rigorous, and I think because there's only a few of them that exist in the country, and they're all still very new, competition to get into that is really, really high."*
		Specialised accelerator hubs exist	**E1 – "***its SEE institution in Sustainable City. It works good also, good community, good mentorship, good knowledge"* **E7 – "***I have worked with Astra Labs, and they are great. You know, they have some wonderful short term programs as well to kind of fast track your progress and your success*"

	2.2 Value of Mentorship and Established Backers	Value of mentorship	**E3 –** *"Hands down, it's been mentorship. I've been very lucky … mentored us very, very closely throughout the journey, broadly experienced in business, very well connected, and he offered some financial backing as well. So mentorship, I think, is the most important"* **E6 –** *"I would say mentorship. at least for us, it has really been driven by the individual contacts and that we have been able to establish through the Emirates Literature Foundation Festival, through the Sharjah publishing, you know, industry as well, and all of those."*
		Influence of established backers on startup support	**E4 –** *"But if you're a guy that's been you know someone, if, someone important, someone else has done the groundwork and has invested in you, power has partnered up with you, or has joined forces with you, then you've got everyone's support"* **E8 –** *"So we want to align with, with, with big companies, where we can leverage off of their CSR programs."*
	2.3 Synergies with Educational Institutions	Partnership with educational institutions	**E6 –** *"or workshops that we do in school. Schools very often, you know, hinge on the theme of environmental you know, in terms of preservation, it's also really to and the same with writing workshops"* **E8 –** *"also reach out to academic institutions like universities in the country to see how they can help us in terms of volunteers from students. Also maybe students who can assist us with building the business"*
	3.1 Growing Market Demand and Consumer Influence	Demand-side influence	**E2 –** *"because the market is growing every time. It's going to be 60% next year of consumers that will choose products based on their environmental impact."* **E4 –** *"Beyond this is that the consumer is so conscious today, right? It's not even good enough that you're doing it for the UN SDG goals, the consumer knows too much, right? So, the consumer cares. Now you are in 2024. 2022 – they didn't. In the last two years, massive change."*

Market and Culture Related	3.2 Entrepreneur community and events	Local entrepreneur community and networks.	**E4 –** ***"****supportive are those unknown, other entrepreneurs, in that pool, who I think the most supportive have been those that have faced those struggles, right? And they've been the most helpful, okay"* **E5 –** ***"****I feel in Dubai, communities are huge. Community thing is big …there's so many communities which are here to help you, and who are here to guide you, who are here with, you know, the like-minded people, and they, I think they really push you."* **E7 –** *"I think whatever I've done today been purely with the support of the local business community here, you know, the networking opportunities that we've had, or other sustainable businesses who are trying to make an impact and, you know, be transformative in their approach"* **E8 –** ***"****that has mainly been other companies, like us, social enterprises, just like us, companies like Companies for Change or Events for Change, Skills3, these are the kinds of people that we align ourselves with and certainly learning from to take ourselves forward"*
		Positive influence of private festivals, markets and events	**E5 –** ***"****like these niche boutique markets that happen here, which are, again, to encourage people like us who have small setup, small businesses, business which is, like, more for passion and, you know, like, with a vision and everything. … And also, I think the audience here, there are markets here, like Ripe Markets, which are mainly for boutique brands. And the audience which comes there are the ones who are willing to spend on a boutique. They are all the people who would want to only buy like, you know, like the established brands and, you know, like the most expensive glam brands, yeah, they're the ones who would want to think about the nature, the environment, you know, like the sustainability bit."* **E8 -** ***"****it's dependent on awareness of, you know, people's choices … which is why we attended stuff like Mika's event the other day. So that was one way of trying to do that."*


Research Question
How do the key actors within the UAE's entrepreneurial ecosystem influence the transformative entrepreneurship agenda?
Codes
• Macro policies influence on the micro/meso
• COP28 as an opportunity
• ESG reporting expansion initiatives
• Streamlined and elimination of red-tape issues for support
• Specialised and systematic government bodies
• Positive government support
• Extensive operational and network support from incubators
• Specialised accelerator hubs exist
• Value of mentorship
• Influence of established backers on startup support
• Partnership with educational institutions
• Demand-side influence
• Local entrepreneur community and networks
• Positive influence of private festivals, markets and events
Sub-themes
Strategic Policy and Sustainability Initiatives
Support Mechanisms
Incubator and Accelerator Networks
Value of Mentorship and Established Backers
Synergies with Educational Institutions
Growing Market Demand and Consumer Influence
Entrepreneur community and events
Themes
Government Related
Support Related
Market Related

Appendix 4 – RQ2 Codes, Thematic Table & Excerpts

Research Question 2: What are the main bottlenecks faced by transformative entrepreneurs in the UAE in their efforts to align with responsible consumption and production?

Frequency Table

Code	E1	E2	E3	E4	E5	E6	E7	E8	Total
Sustainability vs. profitability	X			X	X			X	**4**
Cost efficiency conflicts.					X		X	X	**3**
Limited local sustainable manufacturing.		X			X		X		**3**
Misaligned policies and systems.			X				X	X	**3**
Demand-side growth scope.	X		X				X	X	**4**
Sustainability vs. convenience.	X	X					X		**3**
Limited finance causes trade-offs.		X			X			X	**2**
Narrow perception of SDG12 application.		X	X			X	X		**4**
Lack of sustainability startup help from traditional big players.	X	X		X					**3**
Recognition takes time causing slow growth.	X			X					**2**

Defined Themes

Theme 1: Economic Constraints
Theme 2: Structural and Market Barriers

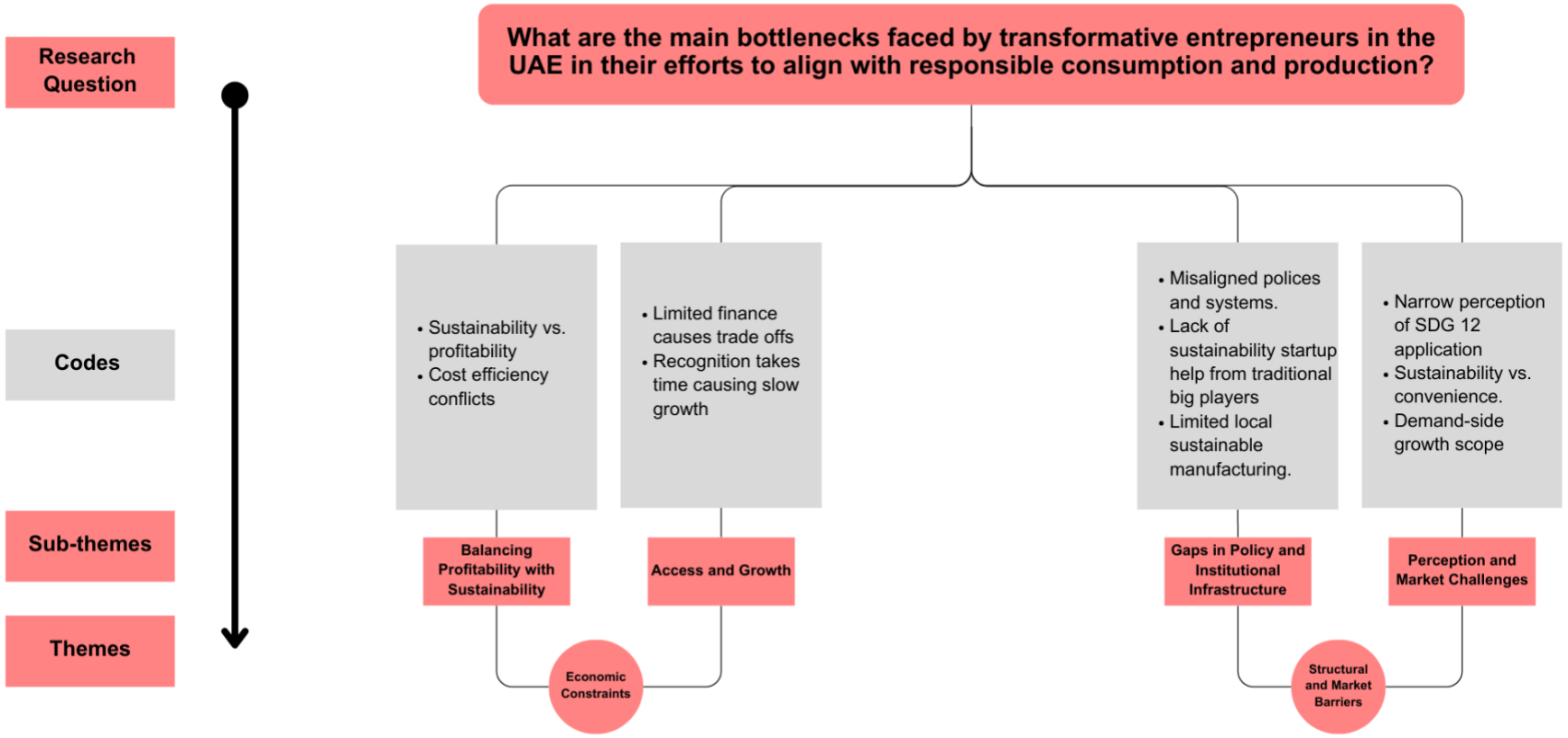
Findings - Thematic Table

Theme	Sub-theme	Codes	Example Quotations
		Sustainability vs. profitability	**E1** – *'I can say in this case, not clear understanding of profit, not real, understandable and easy ways to get this profit, both level companies and people. So still, this recycling, responsible consumption, responsible production. For most people, looks like and businesses looks like something challenging, something artificial, something artificial. For businesses, it looks like additional expenses, changing their business processes.'* **E2** – *'And once you talk about this with your clients, they and then you propose a new,*

Economic Constraints	1.1 Balancing Profitability with Sustainability		*new suppliers, sustainable suppliers, they found out that it's expense, it's more expensive, so it doesn't make sense, because their profit will go down, right?'*
		Cost efficiency conflicts	**E5 –** *'There are less takers for your product because your costing is higher'* **E7** – *'think, both strategically and operationally, to be able to drive cost efficiency, is a primary factor … it's a very big challenge, because in order to incorporate sustainable practices or be in line with, you know, SDG goals, I'm having to spend a lot more as a business than I naturally would, and again, everything right from raw materials to just ingredients, packaging, all elements associated with having your end product ready.'*
	1.2 Access and Growth	Limited finance causes trade offs	**E5 –** ***'****the other big challenge would again be the cost finance bit, because again, if you're a small business, you don't have the type of money you would ideally want to spend for your brand, or you may not be able to grow at a pace you want to grow because of the limitations of funds for the business. Because it's a slow beauty business. It's not fast moving. It's not FMCG. So everything is slow. Everything is slow. So you may want to do 10 things for the brand, but you may not have enough finances to do that, right?'* **E8** – 'The downside is that it's very costly … And that and right now we're just bootstrapping and self funded, so it's been slow, and it's been a lot of work … tied to that would be things like, we don't have office space, or we don't have warehouse storage facilities to store all of the things we make, or the fabrics that we collect, we don't have anywhere to store that.'
		Recognition takes time causing slow growth	**E1** – *'like maybe make it more easy for newcomers in business reach some level, which will be visible for big players. Yeah, because, really, it took around two years while enough powerful players in market start to recognize you'* **E4** – *'But I realized here, and one thing is, is that if you tell them I'm a small guy here in the Middle East, nobody wants to support the small guy in the sense that, well, it's risky, because there's a lot of fraud that happens over here as well.'*

Structural and Market Barriers	2.1 Gaps in Policy and Institutional Infrastructure	Misaligned policies and systems.	**E2 –** *'It doesn't align. You can see all the efforts that the government is across the country towards different fields. But when you actually try to reach out to them, it's just not possible. It doesn't move forward.'* **E3** – *'A lot of the laws that we have been copied from the UK or Ireland or America, and they're not quite perfectly fit for the ecosystem that we live in. So there's constant change in the laws, constant updates, constant understanding of the mismatch. And a lot of systems are not yet established, and sometimes policies are brought and applied where the landscape infrastructure is not present to support them … and we see that a lot in in multiple industries, that policy will be a little bit too aspirational for where we are at the moment'* **E6** – '*I understood that sometimes the gap that exists is possibly one, just of communication, or, you know, it's the push versus pull, where they do not really outwardly communicate as effectively. … one of those main challenges to driving it is the fact that unless an economic framework in this industry, regulatory framework in this industry exists to incorporate us, right, we are facing challenges in terms of making this, subscribing to the strategic vision.'*
		Lack of sustainability startup help from traditional big players	**E1 – '***They have very small abilities for experiments **…** and they probably have not enough ability skills to work with startups or from with small businesses'* **E2** – *'try to find, as well, other ways to find finance, from business owners, from people from, yeah, I would say just people. So I try to reach out different companies by mail, trying to find an allies, an alliance … the concept is not powerful enough to move forward with your company activities. It's not easy to actually have responses from CEOs.'* **E4** – *'The folks that are, you know, big names right, not helping ,right folks that do big talk, not great, so free advice as well, never take that right*.'
			E2 – '*But in here in Dubai, is not possible, either it's too expensive, because obviously all those products or materials comes from other part of the world, so it gets higher the price'*

		Limited local sustainable manufacturing	**E5 – *'***a long process. Honestly, it's not easy to import products*'* **E7** – *'I also say manufacturing, because I would like to do a lot more, but somewhere I feel a little restrictive because I don't have the I don't have the resources to explore large scale production still in the country to optimum level of transparency that I would like for my brand. So while I can manufacture and potentially quantity too, but transparency, efficacy, regulations, I think that's a little challenging at the moment.*
	2.2 Perception and Market Challenges	Narrow perception of SDG 12 application	**E6** – '*people generally assume that SDG 12 only relates to traditional manufacturing industries and things like that and so for us, that is really a big challenge, where, unless the creative ecosystem and the creative industry and creative economy is seen as by all stakeholders, by government, by businesses'* **E7** – *'Are you just doing it because it's a tick on the paper, because it's a part of a CSR, it's a part of a KPI? Or do we really want to incorporate this at, like, at the ground level, and build it up? You know. So that has been a little bit of a challenge. Is, how do we, how do we enter this framework without being outliers.'*
		Sustainability vs. convenience.	**E2 – *'***we're moving more and more and more and more to give people an easier lifestyle. Yeah, so we got lazy after all these years, we got lazy, and now we do not want to. Yeah, we are just rejecting this kind of sustainability'* **E7 – *'***Convenience. I think that's the first, foremost and most important one such creatures of comfort in our region, especially that, how many times did we go through this entire ban on plastic?'*
		Demand-side growth scope	**E3 –** *'I think responsible consumption is not very prominent in the UAE … in UAE there's visible lack of that awareness, I think, and that's everything from recycling like most'* **E8** – *'specifically in the UAE, where there is a culture of waste, really, to change that perception and to promote a more circular economy'*


Research Question
Codes
Sub-themes
Themes
What are the main bottlenecks faced by transformative entrepreneurs in the UAE in their efforts to align with responsible consumption and production?
• Sustainability vs. profitability
• Cost efficiency conflicts
• Limited finance causes trade offs
• Recognition takes time causing slow growth
• Misaligned polices and systems.
• Lack of sustainability startup help from traditional big players
• Limited local sustainable manufacturing.
• Narrow perception of SDG 12 application
• Sustainability vs. convenience.
• Demand-side growth scope
Balancing Profitability with Sustainability
Access and Growth
Gaps in Policy and Institutional Infrastructure
Perception and Market Challenges
Economic Constraints
Structural and Market Barriers

Appendix 5 – RQ3 Codes, Thematic Table & Excerpts

Research Question 3: What strategies within the entrepreneurial ecosystem can aid transformative entrepreneurs in promoting responsible consumption and production?

Frequency Table

Code	E1	E2	E3	E4	E5	E6	E7	E8	Total
Education and storytelling go hand-in-hand.				X	X		X		**3**
Consumer education by positive reinforcements	X	X		X			X		**4**
Use of technology.	X	X		X					**3**
Cooperation between public and private is key.	X		X			X			**3**
Key opinion leaders for SDG12 promotion.						X	X		**2**
Leveraging local sustainable networks.				X	X	X	X	X	**5**
Support of educational institutes.						X		X	**2**
Value of continuous innovation.	X						X	X	**3**
Trend- Rising sustainable designing and manufacturing.		X	X				X		**3**
Trend - Growth in sustainable packaging.			X	X	X	X	X		**5**
Trend - Circular recycling mechanisms.		X				X	X	X	**4**

Defined Themes

Theme 1: Strategic Consumer Engagement
Theme 2: Influence and Collaboration
Theme 3: Emerging Trends

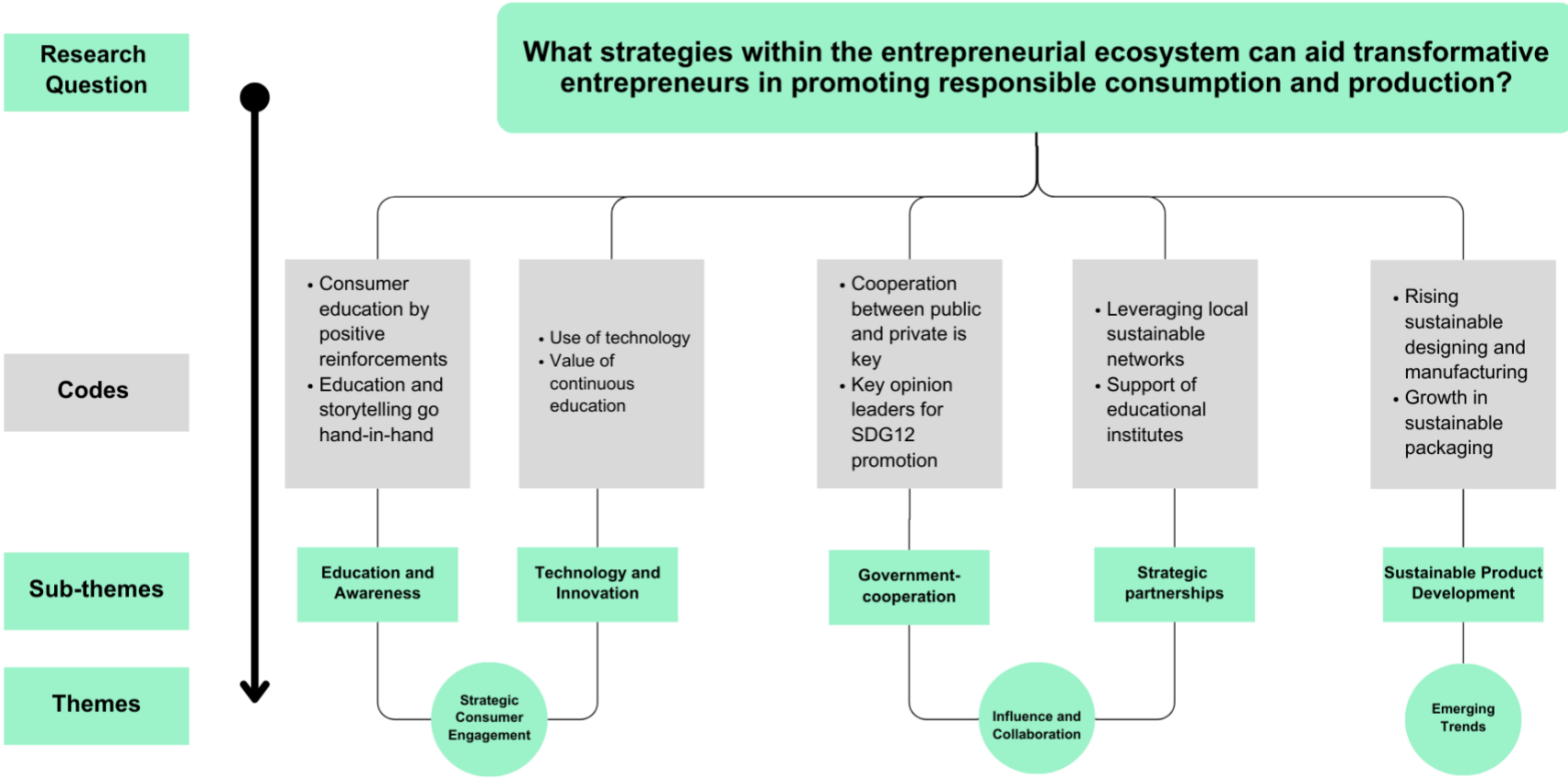
Findings - Thematic Table

Theme	Sub-theme	Codes	Example Quotations
Strategic	Education and Awareness	Consumer education by positive reinforcements.	**E1** – *'That's why this rewarding approach, gamification approach, community approach, to involve people into responsible consumption. It's very, very interested in, for governments, for companies, for people education … this market of rewarding, rewarding systems or rewarding approaches and, clean*

Consumer Engagement			*recycling, it's growing very fast'* **E7** – *'continual consumer educational campaigns … we've constantly, you know, spoken on the need for change the impact, but it a way that does not name shame people.'*
		Education and storytelling go hand-in-hand.	**E4** – *'There's a way of doing it, and you don't want to do it out of shaming. So the brand that we're building is a brand that you know has the mission to do better, on the train to genuinely making an impact, right so I think we'll have to be honest and then through that, we build trust.'* **E7** – *'I can't just create a wonderful story for my brand. I also need to constantly educate my consumer into understanding, why are we doing what we're doing.'*
	Technology and Innovation	Use of technology.	**E1** – *'But technologies, technologies can change our mindsets and behaviour and our strategic approach. Change humans' behaviour using technologies and using this business model, using community.'* **E2** – *'Technology definitely is something that I mean. It's happening, 10 years ago, I would be reaching out my clients, you know, door to door. I don't know if that's the meaning, but you go there, but now it's different. So it's everything about the applications you use, or the social media channels'*
		Value of continuous innovation.	**E1** – *'Also about technology innovation. We use blockchain a little bit in for transparency and traceability … maybe innovation in this match between profit and interest of business and profit and interest of usual person"* **E7** – *'it's been working towards, you know, constant innovation. So, you know, we're working on a zero waste product line'*
Influence and Collaboration	Government collaboration	Cooperation between public and private is key.	**E2** – *'To find a way where you have all the business owners from one side, and then you have the government, and then if the government creates a mentorship program or something, that can link entrepreneurs with companies and find a way to, you know, support the small businesses, yeah, with this exchange of services for economic for payment'* **E3** – *'I would try to align with the UAE vision. If you can align yourself to the*

			country's vision and find the ministerial entities that are as closely aligned to your company's vision, and then approach them, because the government is very keen to support companies that are supporting their journey to growth.' **E6** – *'I really see it as a very, very strong and much needed partnership, really, where, you know, it is impossible for the private sector to succeed in fulfilling the strategic vision of the government on our own. We do need governmental support. We do need, you know, support in terms of the incubators, the mentorships, all of this in a more formal, regulated manner, to some extent, so that more and more people in the creative ecosystem'*
		Key opinion leaders for SDG12 promotion.	**E6** – *'we keep these mentors and thought leaders in the UAE very closely engaged with our programs, because we believe that at some point it will also, you know, help us in promoting a shift in policy'* **E7** – *'what's also really important is, I think we need the right key opinion leaders, you know, leading this discussion'*
	Strategic Partnerships	Leveraging local sustainable networks.	**E4** – *'Bringing on the right partners, very crucial … they always say startups with co founders are a lot more successful because just one thing separates it mentality, right? You get punched in the face. You get punched with someone else. It feels a lot easier to accept it, right'* **E7** – *'And then, like I said, I still kind of would like to reiterate on local businesses, you know, having the support of your local business community and like minded entrepreneurs whom you can speak with in the initial years of my business and cooperation'* **E8** – *'collaborations and partnerships with other liked minded companies like Birthday Bliss and Events for Change and Thrift for Good, companies for good all of that. I think that is really being one of our best strategies going forward, because from that, those partnerships, we leverage on those other companies, and they in turn, from us'*

		Support of educational institutes.	**E6** – *'… or workshops that we do in school. Schools very often, you know, hinge on the theme of environmental you know, in terms of preservation, it's also really to and the same with writing workshops. So I think the theme behind many of this, I would say, is contributing, largely, we believe climate education is a big space '* **E8** – *'then we have done projects with schools, mostly schools … it's something that we would like to actually extend further and see that grow, because we feel that that is something that is beneficial to both.*
Emerging Trends	Sustainable Product Development	Rising sustainable designing and manufacturing.	**E3** – *'… the sustainable production is a huge opportunity … I'd be creating it sustainably, because the ROI is huge, not just financially, but also from parcel and branding perspective. It's really impactful.'* **E7** – *'Then I think any other opportunity would be, I think manufacturing for sure, because, again, the government is really pushing, on being a self sufficient, you know, industry here when it comes to manufacturing'*
		Growth in sustainable packaging.	**E5** – *'I think packaging is something which really differentiates us … we use wheat straw packaging which is made from harvested wheat residue'* **E7** – *'sustainable packaging, yeah. I think I mean, like I said, sustainable packaging, yeah. There's definitely a lot more opportunity for sustainable packaging. Locally over here, they are trying to find different ways of, you know, incorporating that, especially in the beauty industry'*
		Circular recycling mechanisms.	**E2** – *'So it teaches them the basics, since you start with the main idea, and then it just drives you to understand and see, how are you gonna go from the production to the supply chain and other fields, until you can recycle it'* **E8** – *'You know what we can envision for other entrepreneurs in the in the space the opportunities for circular economy, innovations like businesses, can develop solutions that promote the circular economy'*


Research Question
What strategies within the entrepreneurial ecosystem can aid transformative entrepreneurs in promoting responsible consumption and production?
Codes
• Consumer education by positive reinforcements
• Education and storytelling go hand-in-hand
• Use of technology
• Value of continuous education
• Cooperation between public and private is key
• Key opinion leaders for SDG12 promotion
• Leveraging local sustainable networks
• Support of educational institutes
• Rising sustainable designing and manufacturing
• Growth in sustainable packaging
Sub-themes
Education and Awareness
Technology and Innovation
Government-cooperation
Strategic partnerships
Sustainable Product Development
Themes
Strategic Consumer Engagement
Influence and Collaboration
Emerging Trends