

Article

Practice of Sustainability Leadership: A Multi-Stakeholder Inclusive Framework

Payyazhi Jayashree ¹, May El Barachi ^{2,*} and Feras Hamza ³

¹ Faculty of Business, University of Wollongong in Dubai, Dubai P.O. Box 20183, United Arab Emirates; payyazhijayashree@uowdubai.ac.ae

² Faculty of Engineering & Information Sciences, University of Wollongong in Dubai, Dubai P.O. Box 20183, United Arab Emirates

³ School of Humanities, Social Sciences and Health, University of Wollongong in Dubai, Dubai P.O. Box 20183, United Arab Emirates; ferashamza@uowdubai.ac.ae

* Correspondence: maielbarachi@uowdubai.ac.ae; Tel.: +971-4-278-1977

Abstract: Sustainability leadership aims at balancing short-term economic goals with long-term sustainable development goals by considering the interests of all stakeholders instead of just shareholders and focusing on a triple bottom line: people, planet, and profit. The existing research on sustainability leadership has mainly focused on the role of individual competencies without considering other meso and macro level factors that can impact the enactment of sustainable leadership. The studies that have considered these micro, meso, and macro levels have conceptualized these levels as stratified and discrete, assuming a hierarchical relationship between them. Such a conceptualization constitutes an impediment to the dynamic communication and engagement that is necessary to the achievement of sustainability goals. Drawing on stakeholder theory, this study investigates the key factors impacting the practice of sustainability leadership in a contextually relevant manner. More specially, we propose a multi-level, multi-stakeholder framework for sustainability leadership that is data driven and supported by evidence. This framework is meant to portray a holistic model that is dynamic and reciprocal in the manner in which micro, meso and macro factors impact each other. Qualitative research methods and purposive sampling were used for four stages of data collection, from 39 individuals with diverse profiles across the sustainable-engineering sector. The data collected were analyzed thematically, and the findings formed the basis of the dynamic inclusive business model for sustainability proposed in this paper, which challenges the traditional hierarchical business models. The data-driven, multi-level, multi-stakeholder framework proposed in this work extends the literature by providing insights on the key factors that impact the practice of sustainability leadership in the context of SMEs, operating in an emerging market. This framework demonstrates that the effective practice of sustainability leadership by SMEs is influenced by the interplay of factors at micro, meso and macro levels, as represented by individuals, organizations/firms, and governments.

Keywords: sustainability leadership; stakeholder theory; business model for sustainability; multi-level inclusive framework



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1. Introduction

We are living in an epoch that has come to be known as the Anthropocene [1], one in which human activity is for the first time in human history having an adverse, and some say, irreversible, impact on the earth's geology, its ecosystems, and the climate. There is an urgent need for businesses to re-examine the dominant logic of increasing shareholders' value at the expense of broader stakeholders' interests. Such logic only seems to invite an unquenchable penchant for consumption on a mass scale and leads to a consumerist mindset with the unbridled use of resources (water, electricity, materials, fuels, and delicate ecosystems). How do we engineer a way out of this predicament? Given the increasing acknowledgment in research and practice that business models for sustainability (BMfS)

have to create value for a wide range of stakeholders, in this work, we take a holistic view of the key factors impacting the practice of sustainability leadership, focusing specifically on the dynamics of multi-stakeholder partnerships and collaborative engagement.

1.1. Theoretical Background and Research Gaps

1.1.1. Business Models for Sustainability and Multi-Stakeholder Partnerships

Traditional business models are principally focused on the creation of value for customers in return for economic benefits. This view is discrepant from a market-based approach, which has a unidirectional focus only on shareholders and customers. Emerging evidence from sustainable management literature highlights the need for comprehensive business models that go beyond the unidimensional focus on increasing shareholder value to a more holistic focus on societal and environmental value creation [2–5]. A review of this emerging literature indicates that business models for sustainability (BMfS) are partly being studied as a sub-field within the frame of traditional business models and corporate sustainability fields, and partly as a stand-alone model [6].

Traditional business modeling literature, in particular, has borrowed heavily from Freeman [7,8], who, in his seminal work, theorized that value creation cannot occur until stakeholders collaborate, as they have joint interests. Freeman's stakeholder theory proposes the need for a reframing of business propositions such that there is a collective win for all parties involved, as opposed to a trade-off [9]. Furthermore, in cases where a trade-off cannot be avoided, stakeholders are urged to think about how to maximize wins for all.

In contrast to traditional business models, business models for sustainability explicitly consider the needs of the environment and society and include them as key stakeholders, in line with the triple bottom line approach [10,11]. Bocken et al. in [3–5] propose three main components of a sustainable business model archetype, which include: (1) value proposition (with a system level focus on social and environmental benefits), (2) value creation (through employees' ownership as well as constructive partnerships with traditional and nontraditional business partners, including NGOs), and (3) value capture (focused on delivering value to relevant stakeholders including the community).

Corporate sustainability literature proposes frameworks which posit that the multi-dimensional nature of sustainability-oriented problems require multi-stakeholder collaborations for any value creation to have sustainable impact [2,4,6,10]. In their seminal paper, Stubbs and Cocklin [10] propose a demand-driven model as opposed to a market-driven approach and provide examples of several key features of an 'ideal' type of business model oriented towards sustainability, including: (a) incorporating sustainability as a business strategy; (b) managing and aligning expectations of the board, shareholders, and staff to the reframed purpose that goes beyond shareholder value; (c) putting sustainability at the heart of the enterprise, such as embedding it in the culture through ownership from leaders; (d) incorporating balanced reporting on environmental and social performance, in addition to financial reporting; (e) pursuing sustainability goals as an 'ethical' as opposed to a 'business/economic' imperative; and most importantly, (f) building trust and reciprocal relationships between stakeholders to enable sustainable outcomes for all.

Taking a network (as opposed to a firm) perspective, Bocken et al. propose the adoption of a value-mapping tool for the achievement of sustainability goals [3–5]. This tool addresses the involvement of key stakeholders, from design to distribution phases, through the entire value-chain process. It is proposed that such an approach would increase value-creation opportunities for new stakeholders, and reduce value destruction (such as through damage to the environment) and value missed (such as when resources and capabilities are under-utilized or when there is a lot of waste). Freudenreich et al. [12], likewise, provide a stakeholder value-creation framework that enables a more in-depth exploration of the reciprocal nature of value-creation processes. Recent evidence has also highlighted the significance of high-performing multi-stakeholder partnerships between public and private

sectors, along with the government and NGOs, for solving the challenging problems related to SDGs [13].

Most of the sustainability management literature thus converges on the position that long-term and sustainable solutions can only be arrived at through multi-level and integrated approaches involving diverse stakeholders [14,15], calling for more research on multi-level factors that impact the implementation of sustainability mandates. This previous research (mostly conceptual in nature) proposes that, given the multiple value flows amongst stakeholder groups, the reciprocal effects must be considered, particularly because different stakeholder groups have different expectations regarding what constitutes value, and how these interact through collective networks. It is argued that such an approach could enable collaborative development of tools required to address sustainability goals, through the pooling of resources, knowledge, and skill sets [6]. Eweje et al. provide a conceptual paradigm with a particular emphasis on a meta-governance approach, defined as “a delicate mix of shared accountabilities, transparency and self-regulated control and monitoring mechanisms” [16] (p. 206). Yet another emerging perspective provides evidence that ethical cultural practices mediate the relationship between CSR practices and sustainable business performance, thus leading to calls for more multifactor studies that examine other mediators and moderators impacting this relationship, particularly in different countries and contexts [17].

While few conceptual frameworks have been proposed in recent literature to enhance the cooperative capacity of stakeholders [13,15,18], there are increasing calls for more studies that examine comprehensive, multi-level models, that focus on individual, organizational and societal levels to address sustainability challenges and that are able to arrive at the mechanisms for maximizing efficiencies amongst these collaborative groups [2,4–6]. In a recent paper, Freudenreich et al. propose that the dynamic and reciprocal nature of value-creation processes amongst multiple stakeholders, including the “stakeholder relationships and motivations”, are nonexistent in both traditional and sustainability-focused business-model literature [12] (p. 5). This gap prompted the authors to call for “an in-depth analysis of what types of values stakeholders’ relationship creates, with whom, and for whom” [12] (p. 4). Hristov and Appoloni [18] provide evidence of four interconnected value drivers that lead to positive stakeholder perceptions, including: (1) an organization’s visible commitment to the triple-bottom line in their practices, and in particular, how their products and services are aligned with SDGs; (2) alignment of corporate culture with vision and strategy; (3) enabling organizational processes and structures, for continued operational efficiency; and (4) alignment of organizational strategy with industry 4.0 requirements, which gives further confidence to stakeholders in the future-readiness of the organization while providing transparency. Calling for more research in this area, Andrea et al. propose that knowledge management and participation of citizens in the local government is a key driver for improving the efficiencies and long-term effectiveness of municipalities, thus leading to the long-term sustainability of communities [19]. Likewise, Jaime Moreno-Serna et al. propose the formation of a partnership incubator to provide a space for a collective identity and synergies to emerge, through the alignment of vision and purpose amongst multi-stakeholder groups [20]. Drawing on a life-cycle approach, they propose that early stages of collaboration require key interventions such as making explicit the value-added for each partner from the collaboration [20]. Eweje et al. also point to the “limited understanding of the emerging partnership paradigm to achieve SDGs through Multi-stakeholder partnerships (MSPs)”, and they call for future research to test and validate the findings by taking into account contextual considerations that impact MSPs and related outcomes [16] (p. 2016).

1.1.2. Sustainability Leadership

Previous research has failed to provide conclusive evidence on how to anchor sustainability in the mindsets of all stakeholders. There is some recognition of the challenges that sustainability leaders face, particularly with regard to engagement with multiple

stakeholders [11,21–23]. A specific criticism aimed at these previous studies that link stakeholder theory and sustainability management is that they do not identify the stakeholders explicitly or how the key factors impact the practice of sustainability leadership at the firm level. A number of studies examine competencies required for sustainability leadership. Three categories of competencies are predominantly highlighted in the literature, these being interpersonal, strategic, and systems' thinking competencies [11,24–26]. Osagie et al. [27] provide empirical evidence that key competencies that help drive corporate social responsibility (CSR) implementation in a business context include: (1) anticipating CSR challenges, (2) understanding CSR-relevant systems and subsystems (systems' thinking), (3) understanding CSR-relevant standards, and 4) CSR management competencies.

Whilst there has been a recent focus on bridging the attitude–behavior gap through experiential capacity building [21], a primary gap is that most of this research provides only an academic description of these competencies, without embedding it in practice. Indeed, existing studies are decontextualized, compartmentalized, and criticized as being too conceptual, with evidence that some of the competencies conceptualized in theory as being important for sustainability leadership are not relevant in practice [11,26–28]. Šimanskienė and Župerkienė [29] point to gaps in research on sustainability leadership and propose that sustainability leadership is characterized by a clear vision, long-term focus, purpose that is aligned with sustainability goals, an organizational culture that is aligned and sustainability oriented (not fragmented), and a high level of trust and collaboration driving unified action amongst teams. Specifically, there is recognition in the literature that sustainability leaders need to adopt a more holistic approach [30]. Moreover, there are calls for studies that examine sustainability leadership with an in-depth and empirical analysis of contextual factors, such as alignment with organizational strategy and processes, and the roles and related impact on sustainability leadership in practice [21,26,31]. Further research points to a need to provide a holistic understanding of sustainability leadership, with a particular focus on antecedents and outcomes in variant sustainability contexts [21]. Such an analysis is particularly relevant as organizations operating in different contexts might face different challenges [21]. Furthermore, there is some evidence that the competency enactment might differ with differing stages of organizational CSR implementation [32]. For instance, there is some evidence that, while at a firm level, shareholder value-creation in general is an outcome of sustainability leaders who balance social and environmental concerns along with economic concerns, this relationship is more significant when supported by national governments and policy makers who are committed to sustainability [33], hence the call for more research that examines competencies at multiple levels, i.e., the individual, team, organizational, and societal levels [27].

1.2. Research Questions and Contribution

This paper draws on the gaps highlighted in the previous sections on multi-stakeholder collaboration and engagement and investigates key factors impacting the practice of sustainability leadership in a contextually relevant manner.

In our study, we draw on the definition by Shaltegger et al., who describe a business model for sustainability as one that “helps in describing, analyzing, managing, and communicating: (i) a company's sustainable value proposition to its customers and all other stakeholders; (ii) how it creates and delivers this value; and (iii) how it captures economic value while maintaining or regenerating natural, social, and economic capital beyond its organizational boundaries” [2] (p. 6). Building on calls for more research on how traditional business models can be used to advance sustainability research (for example, [15]), we draw on the stakeholder theory [7–9] to inform our study's key research questions. Freeman's stakeholder theory [7–9] emphasizes the relationship between stakeholders and organizations, and the significance of managing the mutual interest of relevant stakeholders for value-creation purposes—with stakeholders being defined as anyone (individuals/groups) who can impact or be impacted by the choices/decisions related to value creation. Sustainability management and corporate sustainability research in the past has drawn heavily on

the stakeholder theory, considering it a “highly promising approach as it provides several links to sustainability management” [14]. Likewise, recent research has called for more contextually relevant and holistic understanding of sustainability leadership challenges, because of the impact that the context has on the tasks associated with sustainability [26,28].

The following research questions guided the study:

- RQ1: What are the key forces impacting the practice of sustainable leadership at the firm level?
- RQ2: How do micro- (individual/group), meso- (organization), and macro- (government and policy) level factors intersect to jointly impact the practice of sustainable leadership at the firm level?

These questions are globally relevant, with the regional context of an emerging economy, the United Arab Emirates (UAE), providing a relevant context within which to conduct our study. Indeed, the UAE has made a commitment to achieve the Sustainable Development Goals (SDGs) by 2030 and has identified this objective as a key national priority.

To answer the above key research questions, we conducted field research to investigate the factors impacting the practice of sustainability leadership in an emerging market context, within the broader context of SMEs largely focused on sustainable engineering projects. We adopted Šimanskienė and Župerkienė’s definition of sustainability leadership for the purposes of this study, this being “a kind of leadership undertaken with responsibility to individual people, groups, and organizations by assessing ecological, social, and economic principles of sustainability in the context of a group, organization, and community, and by encouraging successful mastering of the ideas of sustainability, cooperation with the environment, successful learning and teaching based on the principles of sustainability, as well as people’s self-expression.” [29] (p. 89).

Taking a holistic and multi-level approach as proposed by stakeholder theory [7–9], we investigate how the practice of sustainability leadership is impacted by factors lying at the intersections of three strata—the micro, meso, and macro levels—represented by the unique skills and attitudes of individuals and teams, organizational dynamics, and the norms and regulations of government bodies, respectively, as shown in Figure 1.

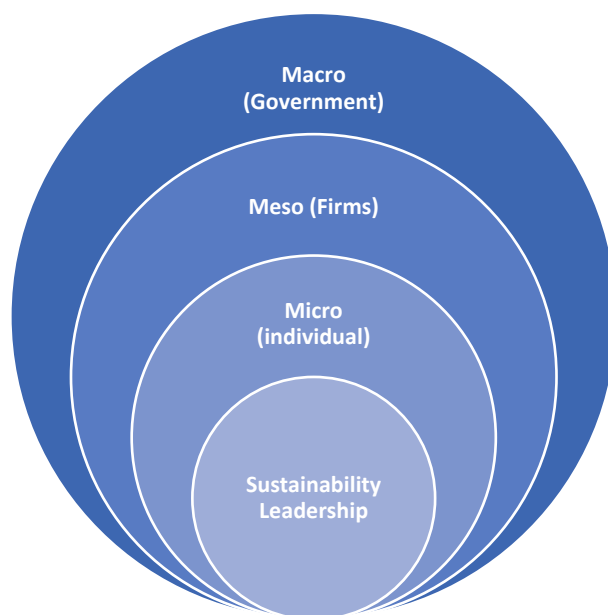


Figure 1. A multi-level approach for sustainability leadership.

The rest of the paper is organized as follows: in Section 2, we describe our methodological approach and contextualize our study. Section 3 presents a detailed analysis of the collected data. This is followed in Section 4 by a discussion of our data-driven multi-level

framework and its implications for the practice of sustainability leadership at the firm level. Section 5 concludes our paper with implications for theory and practice.

2. Research Methodology

In this study, qualitative research methods and purposive sampling were used for four stages of data collection, from 39 individuals with diverse profiles across the sustainable engineering sector, as depicted in Figure 2. The data were collected using semi-structured interviews, which comprised both individual experiences in a professional context and the perceptions of our participants of their immediate social, group, and government environment [31]. These responses generated a large amount of narrative, which required ‘reading between the lines’ and creating themes through coding of the qualitative data. The related findings of the thematic analysis [34,35] formed the basis of our proposed multi-level and multi-stakeholder framework for sustainability leadership.

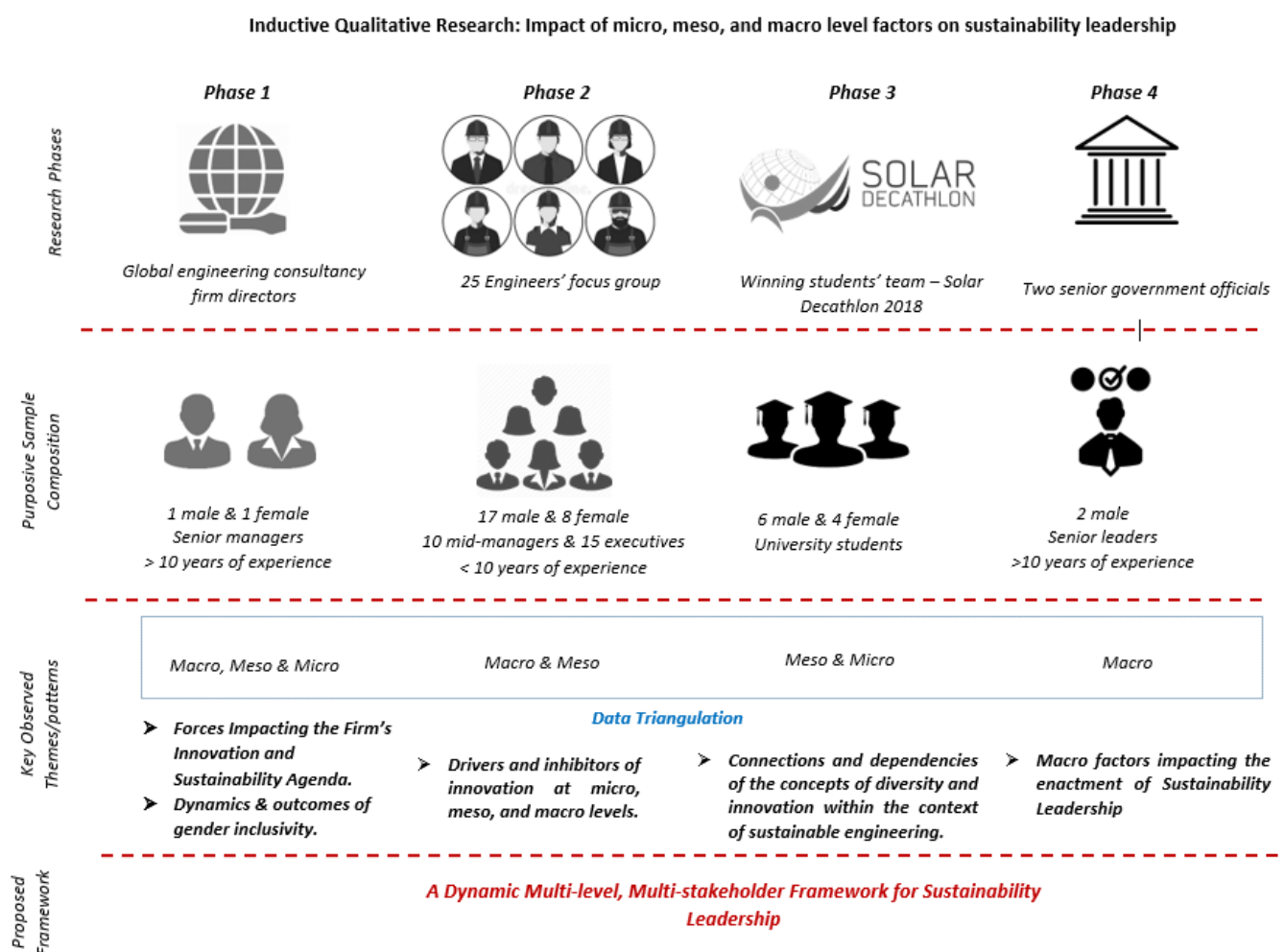


Figure 2. Research methodology.

We opted for a qualitative research methodology to best align with our research objectives, which required a sustained examination of responses to a set of defined but broad enough questions pertaining to micro, meso and macro factors as these impact on sustainability leadership in action. Qualitative approaches have been adopted in related research studies on sustainability leadership [36,37].

In addition, although broad conceptual themes of the practice of sustainability leadership guided us to deduce particular dynamics, we predominantly used an inductive approach, allowing the data to speak for itself as much as possible. The purposive sampling

approach we have used here is justified by the fact that we needed to identify cases, both individual and institutional, that could shed light on the issues that we were interested in exploring, both those of the individual experience and those of the institutional dynamics as these impacted the exercise of sustainable leadership. The interviews conducted with two senior strategic decision-makers from the government in phase 4 were intended to further explore the wider contextual factors that might impact the enactment of sustainability leadership at firm level, particularly in an emerging-market context.

The research phases consisted of the following:

- **Phase 1:** In this exploratory phase, data were collected from two senior business directors of the UAE branch of a global design, engineering and managing consulting company, with an explicit commitment towards performing its operations according to principles of environmental and social sustainability. The interviewees consisted of a business director (male) and a senior client development and marketing director (female)—both in key leadership roles leading strategic portfolios. The qualitative interviews were conducted independently with a focus on identifying the key factors that impacted the implementation of the firm’s sustainability agenda. The global consultancy that we identified for this first phase of data collection, and which constituted micro-, meso- and macro-level probing, has a substantial intercontinental reach, with a 25,000-person workforce across at least 70 countries. This reach naturally generates significant revenue for the firm and presents a suitable case-study context for how such a major global firm incorporates global sustainability agendas within its operations portfolio. The consultancy’s commitment to the diversity of employees and environmental and social sustainability pervades its online presence and is captured in the profiles of the key members of the Executive Board. Given the key interest of the study to understand sustainability leadership in action, the firm’s mission statement “creating a sustainable future [. . .] sustainable and resilient cities, [to] build smart infrastructural solutions and the joint development of future proof industries” was noteworthy and made this firm ideal for our study. In addition to observing such explicit statements about the UN’s Sustainable Development Goals, we were also keen to examine the exercise of sustainable leadership in a smaller branch of a firm operating in UAE (an emerging market context). Specifically, taking this global vision and refracting it into the very specific context of the Middle East and Dubai, in particular, was sure to produce interesting results. Indeed, we wanted to analyze the societal and socio-political context in which such a vision might be implemented, particularly since this emerging market context had its own culturally specific structures and attitudes [21]. The first interview conducted was with a male senior business director who had been with the firm for over 10 years. This director was deeply knowledgeable on the dynamics and constraints of exercising sustainability leadership within an essentially semi-governmental corporate context, where even private entities have to attend to the priorities and mandates of a top-down governance approach [2]. A second interview took place with a female client-development and marketing director. In contrast to the business landscape discussed by the first interviewee, the focus came to be personal experience in the second interview, including how gender dynamics operated in the male-dominated engineering sector. These two interviews constituted the first phase of the study.
- **Phase 2:** Drawing on some of the key themes from phase 1’s findings, a focus group was then conducted with 25 professionals working in SMEs and public sector organizations, across the various subfields of the engineering industry. The 25 individuals included 17 males and eight females who at the time of the interviews were at varying levels in their professional ranks, though notably at the younger end of the age spectrum and almost all with less than ten years of experience in the industry. This group was also characterized by a nicely variegated exposure to the professional environment, with some having worked mostly only in the GCC region and others having considerable international exposure in more than one country. The fact that

some of the focus group's participants had only been in industry employment for as little as 1 to 2 years meant that we could counterbalance our data with the other two collections and position it in an intermediate stage of our conceptualization of the entire journey of change agency—from early career professionals to senior corporate leadership. In other words, this group represented an important transitional moment for our reflections on the dynamics of the practice of sustainability leadership. The objective of this focus group discussion was to further examine the key factors that impacted their enactment of sustainability leadership within their organizations. This phase also helped to triangulate data collected in phase 1.

- **Phase 3:** The third phase sought to examine the connections and dependencies of individual change agency, group dynamics, and the contextual factors, within the context of driving 'sustainable engineering'. For this phase, the Solar Decathlon Middle East 2018 competition that took place in Dubai (UAE) was the site for our intervention. We selected a winning team from one of the many international universities taking part in the competition, who designed and built an efficient and innovative home for elderly people suffering from mental health problems such as dementia. A focus-group discussion was conducted with the team, which was made up of four women and six men. In this instance, the discussion centered on the dynamics of successful teaming, leadership, and the interpersonal experiences of the individuals in this group. We anticipated that the diverse backgrounds of these students, their interest in an innovative project focused on sustainability, as required by the Decathlon competition, combined with their youth and their cross-functional skillsets (from graphic design to health and safety, electrical engineering and architecture) would generate several insights for our study. This group of students could also be identified as 'would-be entrepreneurs' given their prize-winning innovation built on sustainability principles, thereby offering us a live context within which to examine sustainability leadership in action, and a means with which to triangulate the data collected in the previous two phases.
- **Phase 4:** The fourth phase sought to probe deeper into the macro factors with an emphasis on governmental context and support for a sustainability-driven agenda, particularly given the emerging market context of the region. For this phase, data were collected from two senior strategic decisionmakers who were immersed in projects and research on innovations for achieving sustainability goals at a national level. The choice of these two experts was to glean an informed perspective of macro factors that impact the practice of sustainability leadership. This phase further helped to triangulate findings from phases 1, 2, and 3, and to offer a holistic view of the different factors impacting sustainability leadership.

The demographic composition of our study and the specific characteristics of the participants have consequences for our key research questions and help tell the story of the factors impacting the exercise of sustainability leadership in an emerging market context. The demographics may be gleaned from Table 1, below. As shown there, the sample population consisted of 67% male participants and 33% female participants—an expected distribution given the male dominated engineering field. A total of 64% of the participants were early career individuals, while 26% held middle-management roles, and 5% held top-management and senior-management roles, respectively. In addition, 69% worked in the private sector, while 31% worked in the public sector. Finally, 90% of the participants had below ten years of experience, 5% had above ten years, and another 5% had above 20 years of experience; this sample population was thus diverse in terms of gender, professional experience, and organization type.

Table 1. Demographic characteristics of the sample population.

Characteristics		Number of Participants	Percentage
Gender	Male	26	67%
	Female	13	33%
	Total	39	100%
Position	Senior officials	2	5%
	Top management	2	5%
	Mid management	10	26%
	Early career	25	64%
Organization type	Public	12	31%
	Private	27	69%
Years of experience	Below 10 years	35	90%
	Above 10 years	2	5%
	Above 20 years	2	5%

The collected data were transcribed and analyzed to generate key themes that would help us thread the essence of a broader narrative about the relationships between micro, meso, and macro factors impacting the practice of sustainability leadership, in the context of key projects and the overall execution of visions for a sustainable future.

3. Thematic Analysis

The objective of this section is to investigate the key factors impacting sustainability leadership as conceived and practiced within the engineering sector, in an emerging market context. Drawing on stakeholder theory [7–9], the key research objective is investigated across three intersecting strata: the micro, meso, and macro, which represent individuals, groups, organizations, and government bodies, respectively. The following sub-sections present the results of the analysis of the data collected from the four phases.

3.1. Factors Impacting the Practice of Sustainability Leadership—Findings from Phase 1

Table 2 summarizes key findings from the exploratory semi-structured interview conducted with a key decision-maker from the Dubai office of the global consultancy mentioned above (phase 1). The principal objective of the interview was to examine the major factors impacting the exercise of leadership with regard to achievement of a global company's sustainability mandate in an emerging market context. The major findings (captured in Table 2) suggest three critical factors impacting the exercise of sustainability leadership at a firm level. These are forces at the organizational, governmental, and customer levels that intersect in unique and dynamic ways.

The transnational context of the UAE economy, with its overreliance on a skilled (but mobile) workforce, was noted to be a significant contextual factor that impacted the dynamic interplay of the three forces. The UAE's strong commitment to innovation and sustainability goals (UAE 2030 Vision) was noted as providing the enabling frame for the sustainability agenda at a conceptual level—particularly the recognition that the sustainability agenda drives innovation and that the goal of innovation is to make sustainability achievable. However, public accountabilities frequently diverged and were primarily driven by the intersections between three elements: (1) individual frameworks and values, particularly within the context of diverse and transient residents (with a short-term focus) mitigating any long-term investment; (2) the requirement for organizational frameworks and formal mechanisms to mandate a commitment to sustainability; and (3) the availability and application of legislative frameworks that would need to be applied in the case of violations of sustainability policies to create a level-playing field for big and small players, and to mandate compliance with norms; (4) businesses in turn were noted to be driven more likely by concerns of expediency—an outcome of consumer preference for products that can be built quicker and cheaper, given the transient nature of a largely expatriate

population. Such a consumption driven model is very likely at odds with sustainability goals, leading to the finding that the effective execution of sustainability leadership at a firm level requires increased collaboration between government, consumers, and businesses. The need for a bottom-up, grassroots engagement was emphasized, as was the requirement that this must be complemented by a clear, long-term, top-down leadership commitment, at an institutional level in line with global best practices.

Table 2. Forces impacting enactment of sustainability leadership at firm level (senior leaders).

Category	Contextual Forces	Impact on Firm's Sustainability Agenda
Government	1. Acknowledgement of commitment from the government with respect to social and environmental sustainability.	<p>A. Profit-driven commercial decisions at the firm level: focus on increasing economic value for investors and shareholders as opposed to a larger set of stakeholders.</p> <p>B. Competing pressures (business imperatives as opposed to long term vision): commodification, short-term thinking.</p> <p>C. Lack of opportunities for private businesses to influence the sustainability agenda at the national level. Lack of collective representation and voice: “Large multi-nationals can drive the sustainability agenda. For service companies like us, it is difficult to educate the client and there is a cost associated with it”. “We are limited in what we can do. If there is no legislation in place and there is a cost to the client—there is no way to change anything”.</p> <p>D. Client-focused business model: “Client drives the product. Architects, and subcontractors are driven by developers’ agenda who are in turn driven by consumers’ preferences for cheap products. Fast commercial decisions trumps sustainability agenda.”</p>
	2. Need for penalties and legislation, or tax impositions, on violators.	
	3. Transparent and engaged consultation and involvement with relevant stakeholders.	
	4. Outsourcing of innovation at odds with capacity building from the ground up.	
	5. Recognition that the sustainability agenda drives innovation and that the goal of innovation is to make sustainability possible.	
Customers	6. Demand for cheap products, compounded by lack of long-term investment	
	7. Lack of informed consumers	
	8. Resistance to Change to sustainable ways of life	
	9. Consumers as recipients and not the drivers of change	
Regional Context	10. Younger economy	
	11. Consumption-driven model as opposed to ownership and investment in the economy	
	12. Mobility and transitional nature of population. Sustainability is locally inflected.	
	13. Limited civic engagement of expatriates	

Individual sustainability leadership competencies were found to be a key factor in mitigating the contextual challenges, although these were not enough by themselves. Specifically, a key theme that emerged from the semi-structured interview with a female senior decision-maker from the same company was the following: the respondent’s lived experience in a male-dominated engineering firm ran counter to stereotypical notions of exclusionary cultures as perceived in the case of engineering firms. The respondent’s proactive agentic characteristics, enabled by individual personality traits such as perseverance, task focus, an ability to seek challenges and propose solutions, and most importantly, the ability to build relationships with relevant networks, were seen as critical drivers for her sustainability leadership success. A dominant theme that emerged within the multicultural and regional context and which led the respondent to break gendered barriers in the context of opportunities included her self-awareness and self-monitoring abilities, combined with a keen commitment to being customer centric. Diversity was noted as a critical enabler of achieving sustainability and innovation goals, although diversity was not restricted only to gender, but understood also in terms of skills and experiences. Top leadership committed to sustainability and enabling structures was noted as paramount for embedding inclusivity within the culture of the organization to drive innovation for sustainability. Another key finding was that conducive environments would require resources and performance metrics at the firm level to be aligned with the sustainability and innovation agenda.

3.2. Factors Impacting Sustainability Leadership—Findings from Junior to Middle Level Employees

This section will provide a summary of the themes that emerged out of the focus group conducted with 25 engineers working at a junior to mid-level in various organizations based within the UAE—with a focus on key drivers of innovation for sustainability. The members interviewed were all engineers with a broad but junior-to-mid-level spectrum of 1 to 10 years of work experience. Some of the participants' experience included working with groups and teams that had been involved in innovations within organizations driven by a sustainability agenda. The key findings from the focus-group discussions and responses to semi-structured questionnaires are reported below and summarized in Table 3.

Table 3. Factors impacting enactment of sustainability leadership at firm level (junior to mid-level managers).

Individual Factors	Group Context Factors	Organizational Factors
Change Agency	Enabling supervisor who provides relevant opportunities	Gender neutral workspaces
Experience	Cohesion in work group (buy-in from a critical mass)	Knowledge-sharing and horizontal deployment of innovation (adoption of innovation by other units)
Change readiness and curiosity	Team composition—balance of technical and people skills.	Adoption of technology
Eagerness to find solutions (Motivation to save times and cost)		Alignment of measurement systems with the innovation goals
Increased work compatibility	Experience working as a team	A balance of integration and differentiation
Ability to recognize problems (built on cognitive competence)		Participatory mechanisms at design and implementation stages
		Loose–tight controls (social inclusion combined with clear rules and policies)

Amongst these first-to-mid-level managers, micro, meso, and macro factors intersected in unique ways to facilitate the exercise of change leadership to impact the firm-level sustainability agenda. While gender itself ceased to impact the exercise of leadership for the senior leader we interviewed (mitigated also by individual agency and personality), gender was noted as a key factor impacting opportunities to exercise leadership to drive change at the junior and mid-levels. The exclusionary dynamic operating in the engineering sector was most evidenced when an early-career female process-engineer on one occasion noticed the gendered binary as depicted by machines ergonomically designed so that only men could operate them: the configuration of the machines was replicating gendered norms. As noted by an agentic female engineer working in the process plant, *“being a woman made me notice that this was discrimination. It was a challenge to change mindsets as there was this assumption that women could not do that job [sic.] as this is the way it has always been done, and I thought why women could not do this? I involved my team in discussions and was able to establish a tool that canceled the strength factor, which was limiting women from being able to operate the machine”*. Thus, individual agency (micro level) intersected with the specific nature of work (meso) to challenge assumptions, and when combined with an enabling supervisor at the organizational level (macro), led to the ‘process innovation’ required for sustainability. Individual agency drove the formation of a critical mass at the group level to facilitate change and innovation.

The composition of the team also emerged as a key enabler of innovation for sustainability, with diverse teammates carefully chosen for their differing skills—including the gamut of technical and interpersonal skills. Innovation also resulted from alignment between purpose and role clarity—such as when the team members were chosen with a conscious intention to include those not only with the technical skills but with the ability to perform interpersonal roles in addition to the task roles and to provide clarity of purpose. For instance, as shared by an engineering team responsible for creating a process

innovation, “People who were selected were those who were mostly project managers or those who were working in the service desk. Not everybody was at the same level, but all who had customer service and problem-solving skills were included into the team. It was a challenge creating this team, and people asked, what is my role in this team? However, with time, the process became integrated into the department and the team became effective.” Specifically, team cohesion and innovation were found to be outcomes of competent and purposeful individuals who were enabled by organizational structures and contexts.

One of the key challenges recognized as an inhibitor to the exercise of sustainability leadership and innovation was when there was a breakdown in communication between diverse stakeholders (whether deliberately or unconsciously). For instance, within the context of engineering drawings, the lack of integration and synchronicity in design were identified as being a result of issues regarding commissioning at institutional levels, which resulted from a lack of communication between different stakeholders and led to operational inefficiencies. At an institutional level, clear and transparent mandates arrived at via a process of consultation with key players were noted as being an enabler for the enactment of sustainability leadership; the evidence also indicated that this would increase the risk appetite of smaller companies and thus their commitment to sustainability actions, particularly in high-risk markets grappling with the liability of newness, as would be the case in an emerging-market context.

3.3. Sustainability Leadership in Action—Evidence from Innovation Prize Winning Team

Table 4 summarizes the key themes from the third set of focus-group discussions, with the winners of the creative solutions and innovation category, at the 2018 Solar Decathlon Middle East competition. The design mandate included in the construction of a net-zero-energy, dementia-friendly home. Drawing on the principles of purposive sampling, participants of this team were included in the focus group, in alignment with the research team’s interest in examining the drivers of sustainability leadership. The focus group comprised a total sample of four females and six males. As illustrated in Table 4, key drivers for the successful implementation of sustainability leadership (as evidenced by the prize-winning innovation) included: (a) a shared purpose amongst the team members and the felt meaningfulness of the project; (b) the availability of cross-functional skills, unified by a shared vision; (c) role clarity; (d) responsibility and accountability; (e) respect for specialization; (f) diversity of team composition; (g) opportunities to build on relevant networks outside the project team; (h) open and transparent communication to foster a culture of inclusivity; (i) enabling leadership with emotional and functional competence, and (j) team-member perceptions of being empowered and valued.

Table 4. Practice of sustainable leadership (a live project).

Themes	Description and Quotes
1. Shared Sense of purpose larger than oneself	Self-enrolment of members, driven by the aspiration to make a difference; passion for the project; <i>“From the communication team to the technology team—everything was engineered for a purpose”</i> <i>“This project was not enforced upon us. It was a meaningful project and individually meant something to us”.</i> <i>“The project was more than just us. My ideas met with early success and went out of a classroom in Sydney and was sitting in Dubai”</i> <i>“Teams that we met here motivated us. We all had a passion, a universal focus on making a difference to sustainability. This was the biggest learning experience outside of university”</i>
2. Cross-functional skillset combined with a holistic approach	A clear purpose led to enrolment of members with the specific skill-sets necessary to get the task accomplished. The divergent skillsets included graphic design, safety, structures, air conditioning, fire specialists, architects, buildings and interior design. <i>“We won for Innovation cross all the categories and across all the disciplines. A holistic approach to problem-solving helped us win”.</i>

Table 4. Cont.

Themes	Description and Quotes
3. Emergence of role clarity and accountability	<p><i>"Accountabilities were not clearly set at the beginning, which was problematic."</i></p> <p><i>"Lot of things were staggered. People came in a staggered manner which was a setback in the beginning. If everyone was together right from the beginning that would have been easier. It wasn't until later that we started collaborating with other groups"</i></p> <p><i>"Too much load put on certain people—proper distribution would have helped right from beginning"</i></p>
4. Respect of specialization	<p><i>"Everyone was valued for the specialized skills they brought."</i></p>
5. Team Composition—Diversity of skills, nationalities, gender, experience	<p><i>"Gender diversity was not something that we thought about. It wasn't a crucial dimension. Having more women in the team would not make a difference. However, having no women at all would make a difference to the dynamics of the team"</i></p> <p><i>"We brought in a diversity of skills, experience and almost all had some cross-national exposure"</i></p> <p><i>"A combination of the requisite skills is more important at university and at work and here. It is not a gender thing, but more of a personality thing"</i></p> <p><i>"The way we interact changes when there is a domination of one gender—but it does not affect what gets done—which comes to skills"</i></p> <p><i>"External contractors come with prejudice. They listen to guys as opposed to the girls"</i></p>
6. Opportunities to build on relevant networks	<p><i>"Talking to large companies in Dubai was a unique opportunity to create networks. Such opportunities are not available for young professionals"</i></p> <p><i>"The backwards and forwards communication between relevant teams in Dubai and Australia was great exposure for us as group members"</i></p> <p><i>"We were getting exposure to industry and construction—we wanted to learn as well from different disciplines"</i></p>
7. Open and transparent communication	<p><i>"There was constant communication between different parts of the project"</i></p> <p><i>"Every fortnight we had a meeting, where each project team would talk about what is happening within their parts. This kept everyone involved"</i></p>
8. Leader Role—functional competence combined with emotional competence	<p><i>"X, the team leader, looks like a leader. He has 10 years of industry experience. When he stands up, he will tell an anecdote. He is constantly giving back to the groupmates. He wants genuinely for people to learn and grow."</i></p> <p><i>"Y (our second team leader from operations) taught us a lot as well. The way she explains is so good. She has succeeded before, and showed us that despite not being an engineer (she is from a business background) she became a construction leader and this built the confidence of those of us who are not from Engineering."</i></p>
9. Team members perceptions as being empowered and valued	<p><i>"Before I came into the project, I thought this would be dominated by Engineers. But I felt confident as I realized that my skills as a communication expert were crucial for the project completion"</i></p> <p><i>"When people were disgruntled—encouragement helped, especially when people felt they were adding value"</i></p> <p><i>"When we got on site and spend time in close proximity, that is when we started meshing with each other. There were cross disciplinary discussions. Engineers encouraged questions and I was asked about the importance of graphic design. This is when I felt encouraged"</i></p>

Gender diversity was not noted to be essential for successful enactment of sustainability leadership, although there was a recognition that the availability of feminine and masculine traits brought more mature forms of interactions, leading to notably more constructive discussions. Overtly, the team was made up of emotionally mature members who demonstrated an evolved self-awareness, with sensitivity to the disruptive potential of assumptions rooted in gender binaries; thus, the internal dynamics of the team were inclusive. There was also a recognition that an all-male team composition would have led to the potential for dominance of prototypical and stereotypical behaviors. This last was an important finding in itself as the diverse team composition (60/40 gender mix) acted as a restraint against exclusionary behaviors and thereby facilitated the constructive and inclusive communication necessary for cross-disciplinary skillsets to work together. The presence of two authoritative team leaders (a female and a male) who modeled the spectrum of communal and agentic behaviors further challenged stereotypical assumptions and strengthened team cohesion. For example, the female leader was described as 'agentic,' 'directive,' and 'resourceful' while the male leader communicated in a way described as both 'communal' and 'relationship-oriented,' thus creating a safe space in which all team members could interact. Both team leaders earned the respect of their team based on embod-

ied experience and expertise, combined with a facilitative approach to leadership. Another layer of diversity that was identified as leading to the winning sustainability project was the cross-disciplinary skillsets available to the team. Although the non-engineer members admitted that they had initially felt wary of their engineer teammates, their confidence strengthened when subsequent challenges that required non-engineering solutions brought them center-stage and increased the team efficacy and team synergy. A clear process was also developed by the team leaders to foster interdisciplinary synergy and to keep everyone focused on the task at hand through fortnightly meetings to discuss emerging problems and to familiarize one another with elements that fell outside the boundaries of their disciplines. This well-organized process facilitated collective discussion and problem-solving.

Moreover, all team members believed that they could communicate safely and openly with the leaders, which further strengthened the interdisciplinary synergy—a synergy that was considered a vital element in the incubation of ideas and in promoting innovation. The engineering team members fully acknowledged that they would not have been able to exercise sustainability leadership and arrive at winning solutions without the contributions of the members from other disciplinary backgrounds. At a macro level, the alignment of purpose with the UAE government’s strategic vision provided the necessary visibility and capacity building through opportunities to develop relevant networks and access to sponsorship and resources necessary for the sustainability project to be executed effectively. Thus, the team worked within a purposeful, inclusive, and synergistic context, wherein micro, meso, and macro levels and processes intersected constructively, leading to the ability of the team members to exercise sustainable leadership and achieve the goals of an innovative solution driven by sustainability goals.

3.4. Macro Factors Impacting the Enactment of Sustainability Leadership

Table 5 summarizes the key themes that emerged from an interview conducted with two senior government officials responsible for driving Dubai’s future economy portfolio. A number of interesting insights into macro enablers and inhibitors of sustainability leadership were discovered during the interview.

Table 5. Practice of sustainable leadership at the macro level.

Themes	Description and Quotes
1. Innovation as a disruptor at the policy level	<p>Innovation can be considered as an act of value creation that aims at increasing competitiveness, improving efficiencies, and reaching a new level as an individual, as a team, as an organization.</p> <p><i>“We are not really talking about innovation as an incremental value creation because that will be just continuous improvement. Instead, we’re talking about innovation as a radical value creation which is game changing and therefore is a disruptor.”</i></p> <p><i>“We are not looking at service or product innovation, we’re looking at policy innovation.”</i></p>
2. Enablers of innovation	<p>Social and economic changes, and technological advances:</p> <p><i>“These are big trends of demographic changes or political or social economic changes, and giving the rise to new need for things, which is accelerated by the technology. Technology has come in play to give solutions to the needs of society. That is a necessity that is driving this new innovation.”</i></p> <p>An Innovative mindset and asking the right questions:</p> <p><i>“We’re always uncomfortable, we say, “Oh, this is business as usual.” But if the innovator asks, “What needs to be changed to reach a new level to meet a new need?” And that question or the discourse by the person who is asking questions is also the starting point. I mean, because you imagine a different world and then you ask the right questions.”</i></p> <p>Visionary leadership and striving to be the best:</p> <p><i>“Visionary leadership has this attitude towards the future and acceptability towards the future, which is also another driving factor helping all of us to embrace to this new innovation and accelerate it.”</i></p> <p><i>“Every city, every city state, every nation state is trying to compete to be the most innovative, the most digitally connected. So, they are the enablers in the future, or the drivers in the future and why the government must also change.”</i></p> <p>Need for economic diversification and advancement:</p> <p><i>“Diversification of an economy is also very important, it’s also tied to innovation. Because the more you innovate the more you diversify, the more complexity you add to an economy the better it is. So, your skillset and your capabilities and capacities are varied and diverse and that’s how economies are able to advance.”</i></p>

Table 5. Cont.

Themes	Description and Quotes
3. Impediments of innovation	<p>Slow rate of change and adoption of innovation: <i>"If you look at the theory of technology diffusion and how innovation is diffused, it takes time to adapt. It takes time for society to change to a new innovative lifestyle or new model, so it takes time . . . Many solutions are also being digitized, but the rate I feel can be faster. The digital adoption of digital cash for example is still a bit slow."</i> <i>"I think the telecom sector needs to adapt faster to the changing needs of a globally connected telecommunication sector. I think the other industry that also needs to improve the pace also I think I would be probably finance. Finance and banking. Even though they're trying to digitalize their services that are customer centric, they're still using, from my knowledge, a lot of legacy systems."</i> <i>"The other professions, the legal profession, accounting profession, they also need to adapt. Because now with the advancement and explosion of data there needs to be a way to manage this new data explosion."</i></p> <p>Incumbent businesses influencing policy to their benefit or stifling competitive innovation: <i>"If one company or a start-up goes up, I mean they have a big market share, they tend to command some stature of the policy. They become very strong lobby groups. The role of the government is to then make sure that they take a very objective view and ensure there's a competitive level playing field."</i> <i>"Many of these big corporations to a certain extent in many, many economies, try and determine the market needs and they can also be a show stopper. If they prevent others from coming to disrupt them it's a problem."</i></p>
4. Government initiatives that encourage sustainable innovation	<p>Inclusive and collective engagement policy: <i>"I think one of the things that government can do to enable wide industry-based growth is to ensure that their industry is fairly represented by a collective voice, and not to cater to a small group of incumbents who represent the industry."</i> <i>"So, the government must rethink now about the engagement policy that whenever there's an industry challenge, it must be an industry wide challenge, and not a challenge posed by a few incumbents or big cooperates. It must be an industry view, and therefore why it is important that government engages bona fide business groups that are truly representative of the sector or part of that value chain."</i></p> <p>Fairness policy: <i>"The second policy is to ensure that there's a level playing field for all sectors. All enterprises in the industry or all enterprises in the various sectors must have equal opportunities, there must be equal entry barriers, and also simple exit mechanisms."</i></p> <p>Market-based regulations and acting as an enabler rather than a market player: <i>"And the third thing I feel strongly about is that a government should be an enabler and not be a player in the market."</i> <i>"government should look at regulations, making sure that regulations are innovation friendly and future friendly, that it must work with the market rather than regulate the market."</i> <i>"What I call market-based regulations policies. And as far as possible it should not be a player in the market competing with the market, it should be an enabler in infrastructure to ensure that there's a public good and public value created for industries and businesses and businessmen to thrive."</i></p>

As a first theme, it was noted that at the policy level in a governmental context, in order to support a sustainability driven agenda, government entities often perceive innovation as a disruptor. From a government perspective, innovation is considered as an act of value creation that aims at increasing competitiveness, improving efficiencies, and reaching new heights. Furthermore, at the macro level, the focus seems to be more on policy innovation rather than service or product innovation—given the government's role as regulatory authority.

A theme that emerged as a key enabler for sustainability leadership included the observed social and economic changes that led to the need for innovation to solve real life problems. Technological advances were also perceived as key drivers for innovation, including nurturing an innovative mindset that leads consumers to ask the right questions—questions that would drive innovations and lead to improved quality of life and sustainability. Most importantly, striving to be the most innovative and digitally connected nation, coupled with a visionary and future ready leadership at the government level, was perceived to be a strong driver for innovation and sustainability.

However, several key impediments were also noted for the effective implementation of sustainability leadership at a macro level in general. These included the slow pace of change and adoption of innovation in certain sectors, such as telecommunication, finance, banking, legal, and accounting. Another impediment that was observed was the influence of large organizations on policy: it was noted that incumbent companies with a large market

share tended to form lobby groups that influenced policies to their advantage or tried to stifle competition and disruption from emerging players. The respondents particularly emphasized the governments' role in ensuring a level playing field, which could include all the business groups within that value chain in relevant discussions, such that there might be a fair representation of all voices and not just dominant incumbents. The need for economic diversification was also noted as an imperative for innovation, as the diversity of skillsets and capabilities would drive economies to advance. In the European context, studies have highlighted legal impediments to entrepreneurship and innovation [38,39]. In [38], the author highlights the obligation to operate as public organization to conduct business, the inability to operate as a multi-national organization in multiple countries that are members of the European Union, and the high cost of market entry as part of the impediments to entrepreneurship and innovation, in Europe. In [39], the same author argued that despite the existence of an anti-discrimination policy in the European labor law, the enforceability of such policy in practice is insufficient and complex, thus representing an impediment to diversity and inclusion.

The key role of the government in encouraging sustainable innovation emerged as a strong theme. Among the insights revealed were the importance of an inclusive and collective engagement policy that ensured fair representation of all market players. Furthermore, equal opportunities and equal entry barriers were noted as critical for creating a level playing field. Specifically, it was noted that the government must continuously audit regulations to ensure that these were both innovation friendly and future ready. The key role of the government was to come up with 'market-based regulation policies' by working with the market rather than merely regulating the market in a context-free manner. Finally, it was noted that the government should act as an enabler rather than as a market player to retain fairness, with a focus on investing in infrastructure to ensure public good and private value would be created for industries to prosper. Indeed, the UAE government is currently contemplating a policy to prevent government departments from setting up private companies or competing with the private sector.

4. A Multi-Level Framework for Sustainability Leadership

4.1. *Breaking with Traditional Models of Sustainable Leadership and Moving towards a Dynamic and Reciprocal Multi-Level Model*

The findings from the four phases of data collection point to a very unique and dynamic interplay between micro, meso and macro levels, with the potential to impact the exercise of sustainability leadership. Furthermore, the data were collected in an emerging market context, adding another layer of complexity. Consensus building through wide stakeholder engagement as a lateral (as opposed to a vertical) process emerged as critical for creating a template for collaborative solutions, specifically at three levels:

- **Governmental (Macro Level):** From a macro perspective, engaging diverse stakeholders (including regulatory authorities) at the design and implementation stages was needed to arrive at consensual solutions and sustainability related mandates. Ensuring a level playing field, specifically for small and medium-sized businesses operating in high-risk environments, was critical for promoting sustainability. Software applications were seen as a tool to democratize the process of pooling and building consensus, with structured feedforward and feedback loops, between the end-users, corporations, governments, and regulatory authorities.
- **Organizational (Meso Level):** Sustainable leadership can be implemented at the organizational level by reconstituting: (1) the structures, i.e., attention to reconfiguring workplaces and structures to facilitate cross-functional teaming, such as open-space offices and horizontal structures; and (2) the cultures, i.e., clear rules, policies, and practices, consistently applied; modelling of inclusive behaviors by leaders; engaging teams by providing clarity of purpose, and multi-cultural immersion, through engagement and conscious challenging of exclusionary assumptions and behaviors.

- **Team/Individual (Micro Level):** Sustainability leadership can be embodied at the team and individual level by consciously creating: (1) a structure encompassing multi-disciplinary team members who embody diversity of disciplinary specializations and experience; (2) a process involving the recognition of a clear purpose and interdependence, facilitated through structured opportunities for interaction in a collaborative environment; and (3) decisive leaders who modelled inclusive behaviors while demonstrating requisite competence.

The key thesis proposed in this study's findings is that sustainability leadership cannot be studied in a decontextualized manner with a singular focus on individual competencies. Our findings extend sustainability leadership literature by providing evidence that individual competencies and attitudinal predispositions intersect with team dynamics and organizational culture, as well as the governmental and societal context, to impact sustainability leadership. Those findings are in line with Šimanskienė and Župerkienė's [23] proposal that sustainability leadership needs to integrate different levels. Our study addresses gaps in traditional and sustainability-focused business-model literature [5,10,11] by providing evidence of the multi-level stakeholder factors that intersect in dynamic and reciprocal ways to impact the enactment of sustainability leadership. We propose a dynamic model wherein the micro, meso and macro factors intersect horizontally to achieve sustainability goals. It is clear that for the successful enactment of sustainability leadership at a firm level (particularly SMEs which are not always the dominant players), there should be sufficient support from the government and public-policy context in a level playing field. Our findings, particularly with regard to the macro-context enablers, provide strong support of Stubbs and Cocklin's seminal paper [11] in which the authors point to the significance of considering changes to the wider context, including: (a) structural changes such as investment for sustainability related technology and redesigning of equipment and systems; (b) modification of the taxation system, to make it pro-sustainability, such that there are penalties imposed for consumption of non-renewable resources or damage to the environment; (c) reinvestment of capital amongst the community stakeholders with an objective to achieve economic, social, and ecological outcomes that benefits the community; and (d) collaborative planning of business strategy, amongst businesses, government agencies, communities, and competitors for sustainability goals to be achieved [11]. Furthermore, at all levels, the kind of dynamic exchange that we are proposing as a model assumes an individual, a communal, an institutional, and a governmental commitment to the dynamic and reciprocal process of value creation. Specifically, the enactment of effective sustainability leadership is only possible in a context wherein the various entities and groups operate in a manner unrestricted by the limitations imposed by hierarchy and binaries. This is precisely because the relationship recognizes the need for the divergent resources of all involved to be in constant mutual support since it is never clear what will be needed when, and from whom.

In effect, we are proposing to topple the traditional vertical and compartmentalized business model and replace it with a dynamic horizontal model which has integral to it a process of multi-level consultation that is continuously reiterative and free flowing, as illustrated in Figure 3.

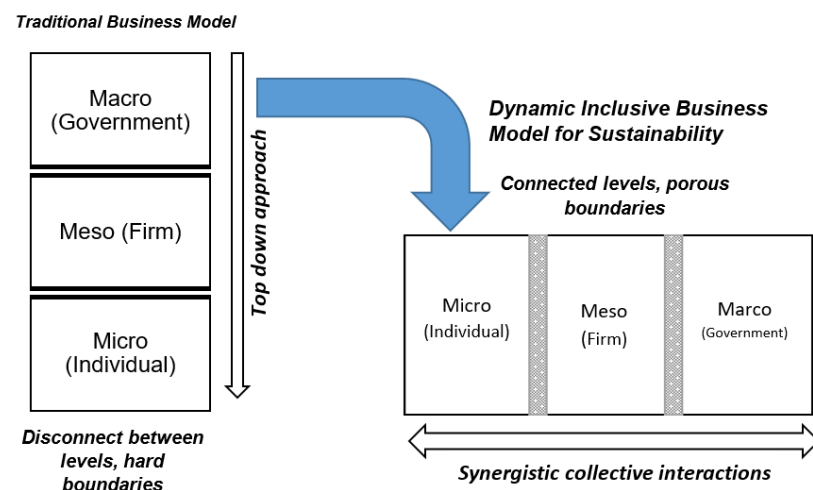


Figure 3. A dynamic inclusive business model for sustainability.

4.2. A Dynamic Multi-Level, Multi-Stakeholder Framework for Sustainability Leadership

To conclude, we propose a multi-level, multi-stakeholder framework for sustainability leadership that is data driven and supported by evidence. This framework is meant to portray a holistic model that is dynamic and reciprocal in the manner in which micro, meso and macro factors impact each other, as depicted in Figure 4.

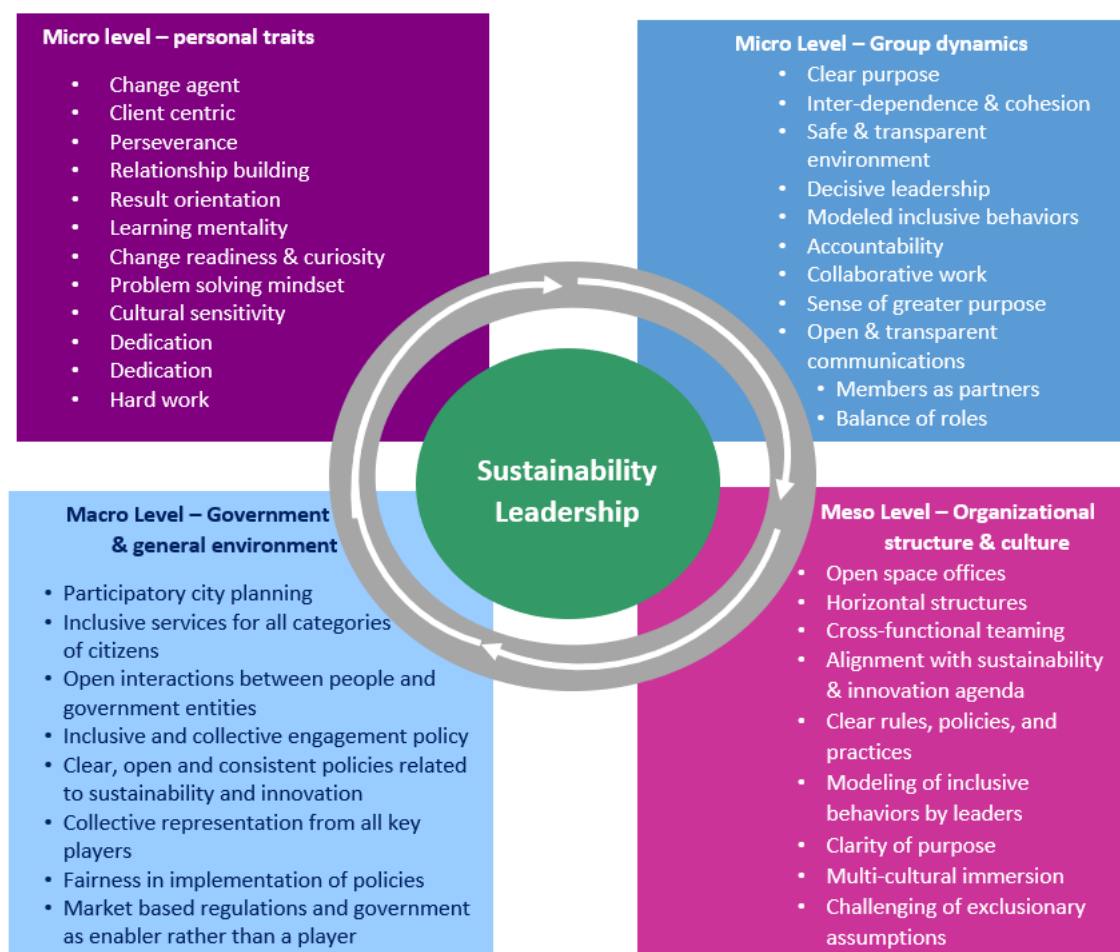


Figure 4. Multi-level and multi-stakeholder framework for sustainability leadership.

At the individual level, personal traits such as change agency, a problem-solving mindset, cultural sensitivity, and a client-centric approach are critical for driving sustainability agendas. At the group level, inclusive group structures and group dynamics can act as enablers for the enactment of sustainability leadership. An enabling group structure focuses on multi-disciplinary teams, diversity of thought, diversity of experience, a top-down inclusion mentality, role clarity, status congruence, enabling supervisors who are functionally and emotionally competent, and a team exhibiting a balance of skills. In terms of group dynamics, we mention clarity of purpose, inter-dependence and cohesion of team members, a safe and transparent work environment, decisive leadership, modeled inclusive behaviors, accountability and collaborative work, a sense of greater purpose, balance of roles, and team members as partners.

At the meso level, the interplay between organizational structure and culture can shape how sustainable leadership is enacted. In terms of organizational structure, open-space offices, horizontal structures, and cross-functional teams are essential. In terms of organizational culture, modeling of inclusive behaviors by leaders, having clarity of purpose, encouraging multi-cultural immersion, and challenging exclusionary assumptions are important for driving sustainability.

At the macro level, a number of factors can act as enablers to innovation and sustainability, including: participatory city planning; inclusive services for all categories of citizens; open interactions between people and government entities; inclusive and collective engagement policy; clear, open, and consistent policies related to sustainability and innovation; collective representation from all key players; fairness in the implementation of policies; and market-based regulations with government as an enabler rather than as a player. At the same time, inhibitors of innovation and sustainability should be monitored and mitigated. Such inhibitors include: a profit-driven mentality, competing pressures, the inability to influence sustainability agenda, outsourcing of innovation, a lack of capacity building, a consumption-driven model, and limited civic engagement.

5. Conclusions

5.1. Summary of Contributions and Findings

Businesses are increasingly being held accountable for managing the triple bottom line by balancing the focus on economic imperatives with a focus on managing divergent stakeholder interests, in alignment with sustainable development goals [10,11]. Although there is evidence of scholarly research with regard to sustainability leadership, the studies have predominantly focused on the role of individual competencies, without due consideration of the organizational or other macro and meso contextual factors that can impact the enactment of sustainability leadership [2,4–6]. Drawing on stakeholder theory [9] and responding to calls for more research [12,16,27], the current paper has set out to explore: (1) the key forces impacting the practice of sustainable leadership at the firm level; and (2) how micro- (individual/group), meso- (organizational) and macro- (government and policy) level factors intersect to jointly impact the practice of sustainable leadership at the firm level.

The data-driven, multi-level, multi-stakeholder framework proposed in this work extends the literature by providing insights on the key factors that impact the practice of sustainability leadership in the context of SMEs, operating in an emerging market context. This framework argues that the effective practice of sustainability leadership by SMEs is influenced by the interplay of factors at micro, meso and macro levels, as represented by individuals, organizations/firms, and governments [13,15,18]. As per the findings of our study, the sustainability goals at a firm level are achieved through a dynamic, multidirectional, and horizontal relationship between the three levels. Traditional conceptualizations of these levels as stratified and discrete, with an assumption of a hierarchical relationship, has constituted a principal impediment to the dynamic communication and engagement that is necessary for the achievement of sustainability goals, as we have shown through our study. Mitigating factors include well-chosen teams and organizational structures, which

are driven by implicit core values and alignment in purpose, that is, teams that thrive on experimentation and learning. Furthermore, as seen as in the innovation prize-winning team, enabling mechanisms at the institutional level, including access to resources and networks, provided the thrust for continued motivation and experimentation. Diversity of gender, experience, and competence, likewise, was a key mediator between innovation and sustainability. As evident in the results from the first focus group (phase 2), the emotional and intellectual talent and maturity of the team, and a work context focused on inclusivity led to a design intervention that went beyond merely being an engineering solution, but also a smart and sustainable solution.

An underlying theme that emerges out of these findings is that the interplay of levels (micro, meso, and macro) is not only enriched by the distinctive flavors brought in by specialized disciplines and variegated experience but allows for an inclusive climate that nurtures the 'collective' while enabling 'distinctiveness'. Furthermore, the collective itself is strengthened (as per our findings) through collaborations 'within' and 'between' the three levels. Exclusionary workplaces and gendered or other related substructures that acted as blocks to innovation were mitigated by individual agency, and such structures and cultures were unlikely to lead to the kind of team and institutional commitment required for innovation and sustainable solutions, especially in the absence of enabling governmental policy and frameworks that provide a level-playing field for SMEs. Our findings strengthen the argument that the enactment of sustainability leadership should be driven by a multi-level and horizontal model built on the fundamentals of reciprocity and inclusivity, not as a tick-box exercise, but as a fundamental requirement. More specifically, the results point to the situated nature of sustainable leadership behavior, with the need for feedforward and feedback loops intersecting at micro, meso, and macro levels in a dynamic and integrated manner for sustainability goals to be achieved.

Finally, at the government (macro) level, our results highlighted some of the approaches that could encourage innovation and sustainability, such as an inclusive and collective engagement policy that ensure that each industry is represented by a collective voice, one that is inclusive and not limited to a small group or big corporations [33]. Another worthwhile initiative might be the introduction of a fairness policy to ensure a level playing field, equal opportunities, equal entry barriers, and simple exit mechanisms within specific industries. A third approach is the introduction of market-based regulations policies that are innovation and future friendly, and which ensure that the government remains an enabler and not a player in the market. As for impediments to innovation and sustainable business models at the macro level, we note the slow rate of change and adoption of innovation/technology in certain industries, and incumbent businesses influencing policy to their benefit or stifling competitive innovation. Those aspects need to be mitigated to enable the successful enactment of sustainable leadership.

5.2. Theoretical and Practical Implications

Evidence from sustainability research on the triple-bottom-line perspective strengthen the need for more holistic models, which incorporate the requirements of society and environment through wider stakeholder engagement (including employees, consumers, shareholders, and future generations) while engaging them in formal and informal ways [2,4–6,11]. Our findings validate previous conceptual frameworks (for example, [5]), which indicate that a joint purpose must be arrived at through a consensus for value creation and exchange if sustainability goals are to be achieved.

The comprehensive, holistic, and multi-level model proposed in the present study provides evidence that business do not exist in a vacuum. Instead, individual, organizational, and societal/governmental factors in particular impact a firm's ability to exercise sustainability leadership [2,6]. Our findings also support related studies that make a case for aligning the divergent stakeholder interests with education, empowerment, and regulation, in addition to creating value through strengthening mutual interests related to sustainability goals [12].

On a practical level, the holistic model proposed in this work provides practical insights into how multi-stakeholder inclusivity might be leveraged by leaders, teams, and governments to arrive at new and better business models for innovation and sustainability.

5.3. Limitations and Future Directions

Our study has some limitations. First, our study investigated the factors impacting the practice of sustainability leadership in an emerging market context, within the broader context of SMEs largely focused on sustainable engineering projects. Furthermore, the study focused only on one country (the UAE), which has a unique makeup in terms of regulations and population composition: this paves the way for future research to examine the issue in other countries as well as other industries and different types/scales of organizations, thereby providing a more concrete ground for generalization. Moreover, the practice of sustainability leadership in developed nations might differ from emerging economies because of different regulatory settings: such differences need to be accounted for in the proposed model in any future study.

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