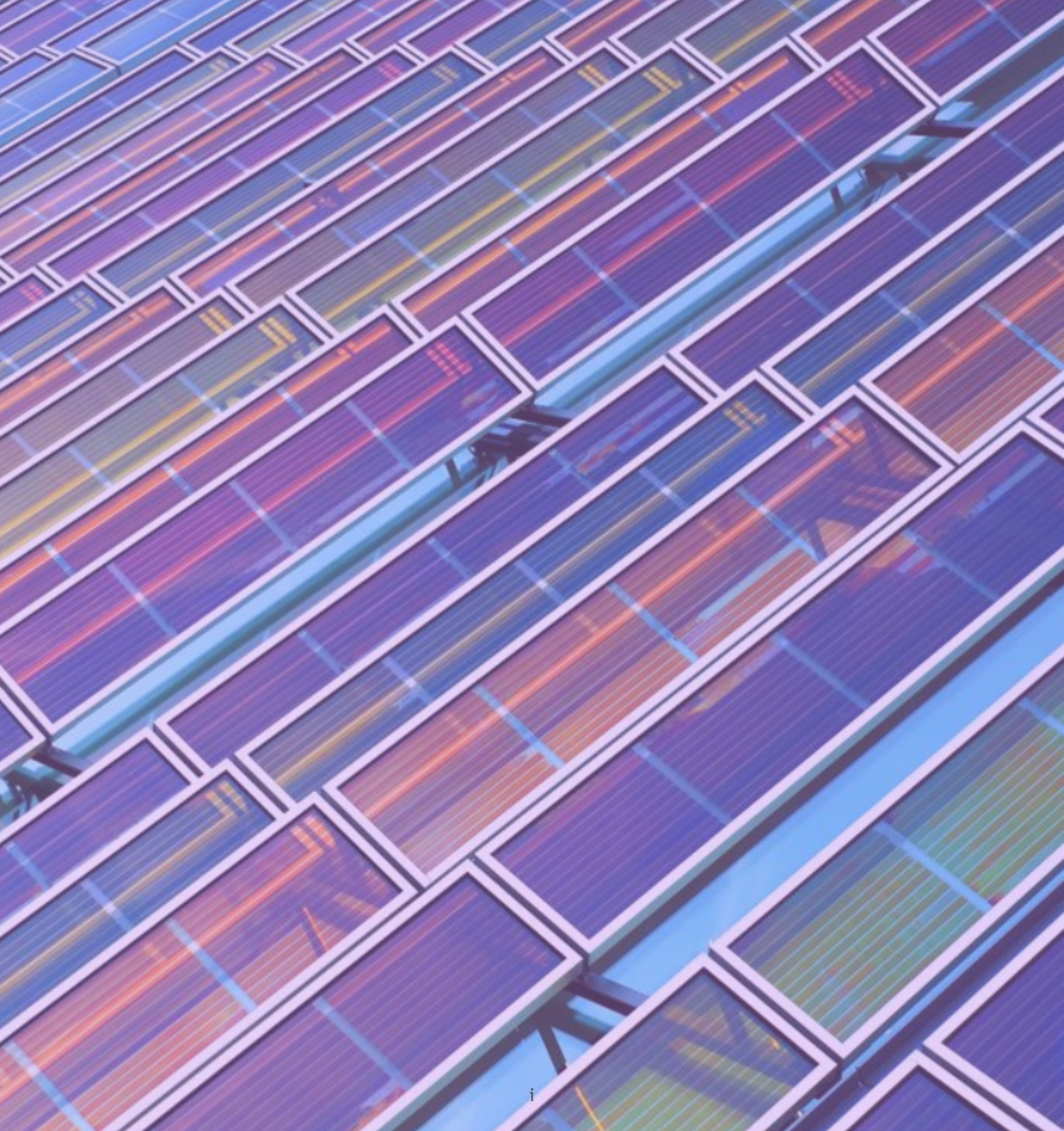


# From Plans to Practice

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change.

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## Land Acknowledgment

This project was carried out on the traditional territory of Tkaronto, the meeting place, where the Anishinaabe, Haudenosaunee, Wendat, and Mississaugas of the Credit have lived, gathered, traded, and cared for the land since time immemorial. Today, Tkaronto continues to be home to many First Nations, Inuit, and Métis peoples.

Our work included conversations and stories from across what is now known as Canada—from x<sup>w</sup>məθk<sup>w</sup>əy'əm , Skwxwú7mesh Úxwumixw, and səliłwətał territories (Vancouver), to the lands of the Niitsitapi (Blackfoot Confederacy), Tsuut'ina, and Îyârhe Nakoda peoples (Calgary area), to Mi'kma'ki (Halifax area), to Anishinaabe and Cree territories in northern Ontario, and back to Tkaronto. Each of these places holds deep Indigenous histories, teachings, and stewardship that long predate colonial borders.

This project is about resilience and sustainability—concepts deeply embedded in Indigenous ways of life. These are not just buzzwords or trends, but teachings that have been lived and protected for generations. Indigenous knowledge systems remind us that sustainability means reciprocity, responsibility, and respect—not extraction or endless growth.

## Abstract

This research investigates the gap between sustainability ambitions and practical implementation among Canadian Small and Medium-sized Enterprises (SMEs). Through literature review, interviews, and data analysis, the study identifies three critical implementation thresholds for SME's: stuck in ambiguity, buried in complexity, and struggling to start. The findings reveal that purpose serves as a foundational element rather than one of four equal pillars in the quadruple bottom line framework. SMEs demonstrate strong purpose-driven values aligned with sustainability principles, but face systemic barriers including emotional factors, resource constraints, and fragmented support systems. The paper reconceptualizes sustainability as an ongoing process of building organizational capacity while resilience represents the mobilization of that capacity during disruptions. This leads to a recommendation of ten practical interventions addressing barriers within and outside of SMEs control. This research provides actionable pathways for SMEs to strengthen their sustainability implementation and enhance overall resilience.

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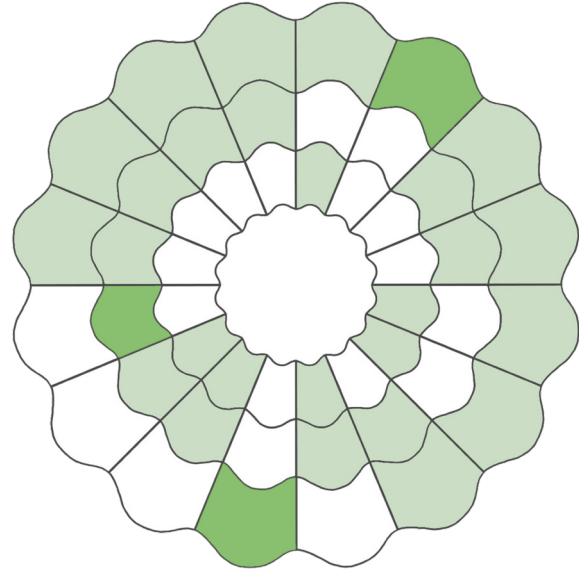
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## Positionality

The Power Flower tool, originally developed by educators Arnold, Burke, James, Martin, and Thomas in their 1991 work “Educating for a Change,” provides a structured and visual framework for examining positionality and intersecting identities. This visual representation helps individuals identify how various aspects of their identity influence their perspectives, potential biases, and interactions with the world. We’ll be using an adapted version of this tool developed by Morgan Bath and Danny Ghantous (2024), who enhanced it for application in research and design contexts. Their adaptation maintains the core principle of mapping identities across advantaged, disadvantaged, and ambiguous positions, encouraging ongoing reflexivity and transparency that can strengthen qualitative research practices.



Before engaging with our research, it is essential to clarify who we are and the biases that may have intentionally or unintentionally influenced us. Positionality shapes how we approach the topic, the lens through which we interpret findings, and the responsibility we carry in presenting them. This is an exercise that is deeply informed by our lived experiences, values, and academic orientation. As researchers exploring the intersection of business, sustainability, and resilience, we acknowledge that our distinct yet complementary positionalities shape how we approach, conduct, and interpret this work. We come to this research with different lived experiences—Morgan as a first-generation

Master’s student and white Canadian woman navigating predominantly male business environments with a neurodivergent perspective, and Yaw as a Black African man in his mid-30s whose experiences across Ghana, Nigeria, South Africa, and now Canada have informed his understanding of how business impacts quality of life. Our educational backgrounds and multilingual capabilities provide us with diverse lenses to engage with participants and interpret data.

Our combined experiences span both sides of privilege and marginalization. As a white researcher, Morgan recognizes that they are afforded certain privileges, which require

ongoing critical reflection—especially when engaging with diverse perspectives in my research. Meanwhile, Yaw’s observations of small business struggles in different contexts alongside his experience in the global for-profit sector offers a unique lens on how businesses prioritize financial gain, often at human cost.

We are united in our conviction that business should create tangible value beyond profit. Yaw’s observation that “quality of life is deeply tied to economic productivity” complements Morgan’s commitment to making sustainability practices more accessible across different socioeconomic contexts. We believe that if business systems were designed for what was once considered progress, they can be redesigned for what progress means today.

### Morgan

My educational journey influences how I navigate academic spaces and professional environments, sometimes experiencing imposter syndrome while simultaneously working to make complex concepts more accessible. My gender identity shapes how I interact in predominantly male business settings, while my neurodivergent perspective offers unique insights into organizational systems and communication needs.

### Yaw

Working in the global for-profit industry has made one thing clear, driving real, human-centered change is hard. Businesses are built to prioritize financial gain, and even when people want to do good, the systems in place often make it difficult. At the same time, I’ve seen business owners pour everything they have into their work, believing they’re building a better future, only to end up exhausted with little to show for it. That reality has stuck with me. It’s what drives my commitment to finding practical ways for businesses to not just survive but actually improve people’s lives. My own journey, living across multiple countries and experiencing different cultures, has only deepened my understanding of how work, business, and survival are intertwined. I don’t claim to have all the answers, but I do believe that real change happens when learning, growth, and action go hand in hand.

## Introduction

As two individuals from vastly different backgrounds, we found common ground in our concerns for the future. Recognizing that individual actions alone cannot create the transformative change needed to address the complex, interconnected, and deeply rooted challenges in how our systems currently work, we reject the rhetoric that places sole responsibility on personal choices for building a healthy future for all. We believe that true and lasting change can only be achieved through a collective effort that recognizes the interdependence and interconnectedness of all systems we exist within. Our world is governed by networks of relationships—economic, social, environmental—that rely on one another, and actions in one area can ripple through and impact others. No individual operates in isolation; personal responsibility is essential, but it must be coupled with collective action to create the transformative change necessary for a sustainable future. Only when we work together, leveraging our shared strengths and addressing the challenges as a unified whole, can we drive meaningful progress for all.

Businesses, particularly Small and Medium-sized Enterprises (SMEs), play a crucial role in enabling this collective action by providing a platform that brings together individuals from diverse socio-cultural backgrounds. Through their operations, products, and services, SMEs create spaces for collaboration and dialogue, allowing people with varying perspectives and experiences to work together towards shared goals. This capacity for connection and cooperation is essential for driving collective efforts that lead to sustainable transformative change. This realization led us to turn our attention to what we perceive as one of the largest leverage points for change: Small and Medium-sized Enterprises (SME).

SMEs form the backbone of the Canadian economy, representing 99.8% of businesses and serving as the lifeblood of society and commerce (Innovation, Science and Economic Development Canada, 2022). These enterprises shape not only economic growth but also societal norms and business practices, making them important building blocks of community cohesion and local identity. Unlike large corporations, SMEs are often deeply embedded in their local communities, fostering connections and cultivating a sense of belonging that goes beyond mere economic transactions (Gamage et al., 2020).

As global challenges intensify, businesses are now facing unprecedented pressure to swiftly adopt sustainable practices that can strengthen resilience from macro-economic systems to

individual business operations. Extreme disruptions like climate change, resource depletion, and social unrest are becoming more common, destabilizing communities and economies. The traditional linear economic model of endless extraction for growth has led us to overshoot several of the boundaries of what our planet can sustainably support (International Social Security Association, 2021; Intergovernmental Panel on Climate Change, 2021; United Nations Environment Programme, 2021; National Research Council, 2009). Now, more than ever, business ecosystems are expected to sustainably transform and build resilience across multiple fronts. The expectation is that this will increase their capacity to deliver sustainable outcomes, while withstanding and adapting to disruptive shocks and emerging shifts.

The term “sustainability” has been widely used and sometimes oversimplified. For this research, we approach it through the lens of the four interconnected pillars of the quadruple bottom line: purpose, people, planet and profit (Sawaf, 2014). This holistic view recognizes that true sustainability goes beyond environmental considerations, to incorporate the health of our economies, personal wellbeing, and the preservation of our diverse cultural heritage and identity.

Despite this broader understanding of sustainability, there seems to be a gap between the sustainability ambitions of SMEs and their practical implementation (Abdul Basit et al., 2024; Epstein & Buhovac, 2010; Huxley, Owen, & Chatterton, 2019; Siebrecht, 2020; Silva & Figueiredo, 2017; Turnheim & Nykvist, 2019; Vergerio & Knotten, 2024). This disconnect presents a unique chance to fundamentally reimagine and restructure value streams toward more sustainable outcomes.

Our research aims to bridge this gap by investigating the barriers SMEs face in integrating sustainable practices into their core operations and exploring actionable steps that will drive widespread change towards a more sustainable and resilient economy, one that balances economic prosperity with environmental stewardship, purposeful living, social equity, and cultural vitality. To guide our investigation into this topic, we have formulated the following primary and secondary research questions. These questions are designed to explore the underlying factors that influence the disconnect between sustainability goals and practical implementation, and to identify opportunities for bridging this gap within SMEs.

## Primary Research Question

The aspiration of SMEs to operate in ways that balance environmental, social, and economic impacts, whether formally articulated or embedded within the organization's purpose and values.

The tangible intergration of sustainability principles into day-to-day business operations, processes, and decision-making that translates intentions into consistent actions across the organization.

**How might we understand the gap between sustainability ambitions and practical implimentation among Canadian SMEs to strengthen their socio-environmental and economic resilience?**

An organization's capacity to maintain positive relationships with social systems (employees, communities) and environmental systems while adapting to disruptions and changes.

An SME's ability to absorb financial shocks, adapt business models to changing conditions, and maintain operational viability through disruption while perserving core purpose.

## Secondary Research Questions

What are the primary internal and external pressures that influence Canadian SMEs' sustainability approaches and how does it impact their resiliency?

How effective are current externally accredited sustainability evaluation frameworks in influencing the progression of SMEs' sustainability results?

What balance of leadership mindsets and organizational capacities (financial, human resources, knowledge) makes some Canadian SMEs succeed in delivering more sustainable outcomes, while others fail, and how can these success factors be replicated?

By addressing these questions, we hope to contribute valuable insights that can guide policy makers, business leaders, and sustainability professionals in supporting the transition of SMEs towards more holistic and sustainable operational models. This research will examine the current state of sustainability implementation in Canadian SMEs, explore the barriers and enablers of sustainable practices, and investigate the effectiveness of existing measurement frameworks in promoting tangible change across all four pillars of sustainability.

This research is not just about business sustainability, it's about uncovering pathways that will make it easier for SMEs in Canada and beyond to build more operational resilience in the face of short-term disruptions and contribute more tangibly towards broader sustainability progress.

# Glossary

## Small and Medium-sized Enterprises (SMEs)

As defined by the Government of Canada, small and medium-sized enterprises (SMEs) are businesses with fewer than 500 employees (Innovation, Science and Economic Development Canada, 2022). This definition can be further broken down into subcategories:

- Small businesses: Enterprises with 1 to 99 paid employees; and
- Medium-sized businesses: Enterprises with 100 to 499 paid employees

## Sustainability

In the context of this research, sustainability refers to business practices that meet the needs of all stakeholders – customers, employees, suppliers, communities, and shareholders – without compromising the ability of future generations to meet their own needs, through the lens of the quadruple bottom line. (Cho et al., 2020, Bansal & DesJardine, 2014).

## Quadruple Bottom Line

A framework that extends the traditional triple bottom line (Elkington, 1998) to include a fourth dimension: purpose (Sawaf, 2014). We define these elements as follows:

- Purpose - The personal sense of fulfillment, joy, and meaning that individuals find in their work and contributions. It represents the intrinsic motivation that drives people to engage authentically, align their actions with personal values, and build meaningful cultural and community connections through their work.
- People - The holistic well-being of all stakeholders connected to the business, including employees, customers, suppliers, and community members. This encompasses fair treatment, meaningful relationships, equitable opportunities, supportive working conditions, and genuine community engagement that creates reciprocal value.
- Planet - Responsible stewardship of natural resources and ecosystems through mindful business practices. This includes minimizing environmental impacts, creating regenerative systems where possible, making informed resource choices, and considering long-term environmental health in all operational decisions.
- Profit - The sustainable financial viability that enables a business to sustain over time. This includes generating sufficient returns to maintain operations, invest in growth, compensate stakeholders fairly, and build resilience against market fluctuations, while avoiding extractive practices that compromise other values.

## Resilience

At OCAD University’s Resilience Design Lab, resilience is defined as “the ability of a system – in this case an SME system - experiencing a significant shock to return to a stable state within a reasonable time” (Harfoush, 2025). This includes the capacity to adapt, recover and maintain essential operations amid disruptions like economic downturns, extreme weather events, unexpected policy decisions, or daily setbacks. It emphasizes the importance of not just recovering from disruptions but also maintaining business continuity and broader economic stability (Wishart, 2018).

## Common Acronyms

SME – Small and Medium-sized Enterprise  
KPI – Key Performance Indicator  
ROI – Return on Investment  
CSR – Corporate Social Responsibility  
ESG – Environmental, Social, and Governance  
GHG – Greenhouse Gas  
SDG – Sustainable Development Goals (from the United Nations)  
FedDev Ontario – Federal Economic Development Agency for Southern Ontario  
NGO – Non-governmental organization

TBL – Triple Bottom Line (People, Planet, Profit)  
QBL – Quadruple Bottom Line (People, Planet, Profit, Purpose)  
UNESCO - United Nations Educational, Scientific and Cultural Organization  
EPA – Environmental Protection Agency  
REB – Research and Ethics Board  
ISED – Innovation, Science and Economic Development Canada  
UI – User Interface  
UX – User Experience

# Methodology

Our research methodology is designed to uncover and articulate the underlying factors influencing this disparity between sustainability intentions and implementation among Canadian SMEs, while identifying practical pathways for enhanced sustainability integration. Our inquiry follows a three-phase methodology, designed to build a comprehensive understanding of the reality, challenges and opportunities in SME sustainability implementation.

## Framing our Understanding

Through a robust literature review, systems analysis, and case study examination, this phase establishes the theoretical and practical foundation for understanding sustainability implementation within the SME context. Followed by anonymous qualitative surveys, expert interviews, and SME leadership conversations to gather further insight into operational realities, implementation challenges, and strategic perspectives.

## Possibilities of Transition

Synthesizing research findings to identify patterns, leverage points, and innovation opportunities for transitioning from sustainability intentions to practical implementation.

## Potential for Change

Outlining practical interventions to shift SMEs towards sustainability-driven actions that enhance commercial performance and improve resilience. Validating these interventions through a real-world application.

This methodology structure allows us to examine the sustainability and resilience implementation landscape from multiple angles, ensuring that our findings and recommendations are both theoretically sound and practically applicable within the Canadian SME context.

## Framing our Understanding

This initial phase encompasses three complementary research streams designed to establish a robust foundation for understanding the complexities of sustainability implementation within Canadian SMEs.

### Literature Review

Our literature review examines existing research on sustainability and resilience in SMEs, with particular attention to implementation gaps, challenges and success factors. This serves multiple critical functions:

- Identifying knowledge gaps and documented barriers to sustainability implementation;
- Synthesizing expert insights on implementation and ensuing challenges;
- Mapping existing theoretical frameworks and their practical applications;
- Establishing a foundation for subsequent research phases by highlighting areas requiring deeper investigation;
- Reviewing documented case studies of sustainability integration; and
- Exploring new perspectives that could potentially bridge sustainability and resilience in SMEs.

This multi-faceted approach to framing our understanding ensures that subsequent research phases are built upon a solid theoretical foundation while maintaining clear sight of practical implementation challenges. By combining academic rigor with real-world applica-

tions, this phase establishes the groundwork for developing actionable sustainability implementation steps tailored to the Canadian SME context.

## Understanding the SME System

Employing a systems thinking lens, this component examines the Canadian SME landscape as a complex, interconnected system. This approach meets a number of objectives:

- Maps key stakeholders, relationships, and power dynamics within the SME ecosystem;
- Outlines the value flows within a typical business ecosystem; and
- Identifies potential leverage points essential for smooth business operations.

## Engaging the SME System

This phase involves three distinct but concurrent streams:

### Anonymous Qualitative Surveys with SME Operators

A broad-based survey targeting SME workers and operators, designed to capture detailed perspectives on operational realities and implementation challenges. The survey is crafted to ensure structured data collection to leverage semi-quantitative metrics and qualitative insights methods. This approach allows us to gather data while maintaining the richness of individual experiences and perspectives.

### **Expert interviews**

The expert interview phase of our research comprises a minimum of ten in-depth conversations with sustainability and SME management specialists, selected for their extensive experience and demonstrated expertise in implementing sustainability initiatives within small and medium enterprises. These semi-structured interviews, conducted over 60-90 minutes, explore the nuanced challenges and opportunities in sustainability implementation, drawing on the participants' rich experience in both Canadian and international contexts. Designed to allow both structured investigation of key themes and flexibility to explore emerging insights, ensuring that we capture both anticipated and unexpected aspects of the topic.

### **SME leadership interviews**

Our engagement with SME leadership involves approximately fifteen in-depth conversations with business leaders who hold strategic decision-making roles within their organizations. These leaders have direct involvement in sustainability initiatives, provide crucial insights into the operational challenges and strategic opportunities. Through these conversations of 60-90 minutes, we explore the complex interplay between strategic decision-making, resource allocation, and sustainability integration, with par-

ticular attention to the unique challenges faced by Canadian SMEs. Our analytical approach combines rigorous qualitative and semi-quantitative methods to ensure we understand the reality behind the data. Primary analysis involves detailed thematic coding of interview transcripts, pattern identification in survey responses, and cross-referencing of expert insights with operational realities. The secondary analysis phase integrates these findings with our literature review insights, leading to the identification of change opportunities and development of actionable implementation recommendations.

### **Possibilities of Transition**

This phase synthesizes the insights gathered from previous streams—literature review, case studies, stakeholder analysis, and expert interviews—into a cohesive narrative. By identifying recurring patterns, barriers, and opportunities, this phase pinpoints key leverage points that will facilitate a smooth transition from SME sustainability aspirations to actionable, resilient practices. These leverage points, grounded in our research findings, serve as strategic opportunities for SMEs to address sustainability challenges and enhance their resilience. The synthesis of these diverse data sources allows for a nuanced understanding of both sector-specific and cross-sectoral trends in sustainability implementation. Emerging themes are mapped out to highlight areas

where shifts in strategy can yield significant sustainability outcomes.

In this phase, we begin to understand actionable pathways that SMEs can pursue to balance short-term operational objectives with long-term sustainability goals. This ensures that our findings are not only grounded in current operational realities but are also forward-looking, preparing SMEs for evolving market conditions and stakeholder expectations. Ultimately, serving as the bridge between understanding the problem and crafting practical solutions, providing guidance to enable a deeper integration of sustainability principles into the operations of Canadian SMEs.

### **Potential for Change**

Through a systems thinking approach, we begin to explore potential solutions by examining the broad leverage points identified in the previous phase. Aiming to utilize identified leverage points to suggest intervention areas through practical, context-specific application. To validate the practicality and effectiveness of these possible solutions, we will reconnect with SME leaders who participated in our research to gather their feedback on our preliminary findings and recommendations. This validation process will allow us to test the appeal and practicality of our proposed points of influence for meaningful change. By engaging directly with these leaders, we aim to gain critical insights into the dynamics of

implementing these solutions and assess how systemic barriers might be navigated and overcome in real business contexts.

Through this iterative process, we will refine our proposed solutions, ensuring they are actionable and applicable across diverse SME contexts. This validation approach not only strengthens our recommendations but also provides a clear, corroborated foundation for how SMEs can transition toward sustainability.

This methodology is designed to produce actionable insights that help bridge the gap between sustainability ambitions and practical implementation in Canadian SMEs, while maintaining rigorous academic standards and ethical considerations throughout the research process.

# Framing Our Understanding

## Literature Review

Despite Small and Medium Enterprises (SMEs) aspirations to adopt sustainable practices, SMEs continue to struggle in operationalizing sustainability, which often leads to a gap between their environmental, social, and governance (ESG) goals and practical execution (Martins et al., 2022). This gap not only undermines their contribution to global sustainability efforts but also compromises their operational resilience, particularly as it weakens their ability to navigate socio-economic shocks and environmental crises (Weber, 2023; Purwandani & Michaud, 2021).

A review of existing literature indicates that sustainability - centred on minimizing environmental harm, promoting social equity; and resilience - which focuses on adaptability during crises, are interdependent concepts (Weber, 2023; Vogus & Sutcliffe, 2007). Defined by the Brundtland Report (1987) as achieving development that meets current needs without compromising future generations, sustainability serves as a long-term vision for achieving balanced growth. However, studies show that while SMEs recognize the importance of sustainability, they often struggle to operationalize it due to barriers such as limited access to technology, resistance to change, and unclear financial benefits (Purwandani & Michaud, 2021; Liang & Cao, 2021).

Additionally, many SMEs often lack the resources, knowledge, and infrastructure needed to translate sustainability aspirations into actionable strategies (Sroufe, 2016; Purwandani & Michaud, 2021). This gap undermines resilience efforts, leaving SMEs vulnerable to disruptions (Liang & Cao, 2021).

The aspiration-implementation gap limits SMEs' competitiveness exposing them to multiple risks, including supply chain interruptions, and reputational risks as eco-conscious consumers demand greater transparency (Lopez-Torres, 2023). It also hinders their ability to attract green investors, form sustainable partnerships, and access the growing market of eco-conscious consumers (Weber, 2023). Addressing this gap could not only enhance operational resilience but could also unlock new opportunities for sustainable growth (Purwandani & Michaud, 2021).

This chapter explores existing knowledge on the intersection of sustainability and resilience focusing on strategies to bridge the gap between sustainability goals and practical implementation. It examines how closing this gap can strengthen an SME's organizational resilience and enhance their capacity to adapt to challenges.

## Operational Resilience Implications

The gap between sustainability aspirations and implementation directly affects operational resilience, manifesting in three critical ways:

### Vulnerability to Disruptions

SMEs without robust sustainability practices are more exposed to supply chain, environmental, and economic shocks (Liang & Cao, 2021; Bhamra et al., 2011). For example, a lack of energy efficiency or over-reliance on non-renewable resources can amplify costs during resource shortages or price volatility. Addressing these vulnerabilities through sustainable practices could reduce risks and improve long-term stability.

### Missed Opportunities

The failure to operationalize sustainability not only limits SMEs' access to green financing and environmentally conscious markets but also erodes customer trust in an increasingly eco-aware consumer landscape (Purwandani & Michaud, 2021; Weber, 2023). For instance, businesses unable to demonstrate transparency or commitment to sustainability may lose their competitive edge to more proactive organizations. Overcoming this gap can open doors to partnerships, funding opportunities, and customer loyalty in the growing green economy.

## Resilience as a Catalyst for Sustainability

Resilience and sustainability are mutually reinforcing. Resilient organizations are better equipped to experiment with and adopt sustainable practices, fostering innovation and long-term adaptability (Vogus & Sutcliffe, 2007; Sroufe, 2016). For SMEs, this creates a positive feedback loop: as they strengthen their resilience, they gain the capacity to integrate sustainability, which, in turn, enhances their resilience against future disruptions. This symbiotic relationship underscores the importance of addressing both resilience and sustainability holistically.

The interplay between sustainability and resilience not only shapes an SME's operational outcomes but also reflects deeper theoretical frameworks that define these concepts. Understanding the theoretical perspectives on sustainability and resilience provides a foundation for exploring their interconnection and how they can be strategically aligned within organizations.

## Theoretical Perspectives on Sustainability and Resilience

Sustainability and resilience, while distinct in their definitions, metrics, and organizational implications, are fundamentally interconnected. Although they are extensively explored in academic literature, these concepts are often examined in isolation, leaving room for further inquiry into their synergies.

### Sustainability

As defined in the Brundtland Report (1987), refers to development that meets present needs without compromising the ability of future generations to meet their own. It is often assessed through frameworks such as the Triple Bottom Line (TBL), which evaluates environmental, social, and economic performance (Weber, 2023). In business contexts, sustainability seeks to address long-term stability and objectives.

Rooted in the Triple Bottom Line framework, sustainability emphasizes balancing economic prosperity, environmental stewardship, and social equity (Weber, 2023; Mura et al., 2018). However, SMEs often perceive sustainability as an ideal rather than a tangible goal due to limited clarity in frameworks tailored to smaller organizations (Sroufe, 2016; Purwandani & Michaud, 2021).

As interest in sustainability "has moved from ideology to reality" (Lindgreen & Swaen, 2010,

p. 1), organizations have also started to make considerable investments in the measurement of sustainability-related aspects (Wood, 2010; Hansen & Schaltegger, 2016; O'Dwyer & Unerman, 2016). Research in sustainability measurement has been growing at a very high pace and exploring a variety of issues (Searcy, 2012). Namely, scholars have investigated the introduction of sustainability indicators within organizations and supply chains (Henri & Journeault, 2010; Brandenburg & Rebs, 2015), the roles of sustainability reporting (Burritt and Schaltegger, 2010; Gray, 2010), and the disclosure of information to a variety of external stakeholders (Roca & Searcy, 2012). These studies have enabled us to gain a much deeper understanding of both technical and behavioural aspects of sustainability measurement.

However, several issues remain. Organizations have struggled to increase the dimensionality of performance (Richard et al., 2009) to include environmental sustainability along with financial aspects (Chen et al., 2014). This is reflected in academic studies where scholars have highlighted the need for sustainability measures to be integrated in organizational performance measurement systems (Henri & Journeault, 2010; Hansen & Schaltegger 2016). As Bititci et al. argued, "the sustainability agenda needs to be explored as part of the whole rather than as a standalone, exclusive and independent performance-measurement system within the organization or the value

chain” (2012, p. 317).

Sustainability in this case is defined as “company activities demonstrating the inclusion of social and environmental concerns in business operations and in interactions with stakeholders” (van Marrewijk, 2003, p. 102). The concept of sustainability measurement addressed here is rooted in this definition and its practice is often aimed at improving and providing information over one or more organizations’ social and environmental impacts (Mura et al., 2018).

Despite widespread recognition of the need for a comprehensive sustainability measurement approach, research has typically segmented its analysis, focusing on selective elements such as sustainability reporting, carbon accounting, eco-efficiency, and specific organizational or supply chain measures (Searcy, 2012; Henri et al., 2016; Passeti & Tenucci, 2016). The rapid growth of the field has been accompanied by significant fragmentation, with emerging theoretical perspectives, competing conceptualizations of measurement processes, and a wide range of practical interventions (Mura et al., 2018).

Bibliographic coupling of 712 sustainability research documents uncovered that literature on sustainability measurement is characterized by various research strands that can be grouped into eight main areas of research, see Table 1. Even though researchers belong

to various academic communities and often adopt different approaches and terminology, they have tended to reach similar conclusions (Mura et al., 2018).

Bibliographic coupling comprises the collection, handling, and mathematical and statistical analysis of quantitative bibliographic data derived from scientific publications (for a review, see Verbeek et al. 2002). Each area represents a broad category or field of study within sustainability measurement research, while clusters indicate groups of related studies within an area that share similar research topics, methodologies, or approaches. The number of papers in each cluster indicates its significance within the broader area, with larger clusters suggesting more established or active research domains. Representative papers are included as key studies that best exemplify the themes, findings, or methodologies of a given cluster, often cited as foundational or influential works in their respective fields.

**Table 1 – Sustainability Bibliographic Coupling**

Area	Cluster	Number of papers	Representative papers
A - Sustainability disclosure and performance	Environmental reporting and environmental performance	7	109
B - Determinants of sustainable disclosure	Determinants and outcomes of environmental disclosure	21	50
C - Critical environmental accounting	Critical environmental accounting	8	136
D - Sustainability metrics	Sustainability measurement	9	641
E - Sustainable operations and supply chain management	Sustainable operations	3	46
	Environmental management systems used in OM	2	204
F - Carbon accounting	Carbon accounting	8	102
	Carbon footprint	5	166
	Carbon accounting indicators	2	642
G - Diffusion of sustainability standards	Diffusion of sustainability standards	2	543
	Diffusion of sustainability standards over time	2	643
H - Assurance of sustainability reporting	Assurance of sustainability reporting	2	112

## Resilience

Refers to an organization's capacity to adapt, recover, and stabilize from immediate disruptions. Increasingly recognized in organizational studies, its prominence reflects a growing need to navigate complex and unpredictable challenges (Vogus & Sutcliffe, 2007; Liang & Cao, 2021). Resilience is often measured through following factors:

- Adaptive capacity, resource flexibility, employee engagement, and robust systemic planning (Sutcliffe & Vogus, 2003); and
- Values and purpose, trust, leadership, preparedness, support systems, rest, exploration, exploitation and improvisation (Zubair, 2021).

In contrast to sustainability, resilience seeks to address adaptability to shorter-term shocks and challenges. Resilient organizations demonstrate cognitive, behavioural, and structural flexibility, which allows them to weather crises and adapt dynamically to changing environments (Bhamra, Dani, & Burnard, 2011; Sezen-Gültekin & Argon, 2020). Leadership plays a vital role in embedding resilience, as adaptive decision-making and proactive planning often stem from organizational leaders (Vogus & Sutcliffe, 2007).

The concept of resilience has received little systematic empirical work and independent attention (Sutcliffe & Vogus, 2003). Predominately, resilience-based literature has been

conceptual, focusing on developing a static knowledge base for the area through establishing the fundamental concepts and principles (De Jong & Ferguson-Hessler, 1996).

The concept of resilience is both multidisciplinary and multifaceted. The notion is firmly grounded within ecology and the working definitions used by many authors developed following Holling's (1973) original research relating to ecosystem stability. Within a specific resilience-based context, several authors have attempted to broadly cover all these general areas within one study, as a result, a diverse literature base has developed (Bhamra, Dani & Burnard 2011).

### **Perspectives in resilience literature**

Table 2 demonstrates a comprehensive approach to resilience research, strategically spanning perspectives from individual actors to broader ecological systems. Within this landscape, supply chain resilience has garnered increased scholarly attention, particularly in the post-2001 period, occupying a critical intersection between organizational and community frameworks (Bhamra, Dani & Burnard 2011).

**Table 2 - Resilience Perspectives**

Ecological	Individual	Socio-ecological/ community	Organizational	Supply Chain
15	19	17	21	9

### **Topics studied under resilience**

Table 3 reveals that behaviour and dynamics dominated the research landscape, appearing in 52 out of 74 papers examined. This represents the most extensively studied aspect of resilience research by a significant margin. The remaining three topics - strategy, capabilities, and performance - were studied either on their own or in conjunction with behaviour, feature in almost similar numbers across the reviewed papers, though notably less often than behaviour (Bhamra, Dani & Burnard 2011).

**Table 3 - Resilience Research**

Behaviour and dynamics	Capabilities	Strategy	Performance
52	17	17	14

### **Methodologies used in research**

Table 4 highlights the methodological analysis of theory building as the predominant research approach in resilience studies, with 52 papers employing this method. Case studies and model/framework development were utilized in approximately one-fifth to one-quarter of the papers. Survey-based research proved to be the least common methodology (Bhamra, Dani & Burnard 2011).

**Table 4 - Resilience Research Methodologies**

Theory building	Case study	Survey	Model/framework
52	21	6	16

### **Intersection of Sustainability and Resilience**

These concepts are often studied independently, leaving a gap in integrated strategies for SMEs. Recent studies suggest that sustainability and resilience are complementary, with both long-term visions, provided by sustainability, and short-term adaptability, provided by resilience, being critical to help SMEs withstand immediate disruptions while pursuing enduring goals (Weber, 2023; Sezen-Gültekin & Argon, 2020).

SMEs that integrate sustainability and resilience are better equipped to handle both long-term environmental shifts and sudden disruptions, such as economic downturns. For instance, a sustainable SME with diversified supply chains can quickly adapt during a shortage (Liang & Cao, 2021).

A significant portion of academic literature on sustainability and resilience emphasizes theoretical frameworks, yet practical implementation remains underexplored (Vogus & Sutcliffe, 2007). Sroufe (2016) highlights the need for operationalizing sustainability by shifting from broad paradigms to actionable, context-specific strategies. Similarly, Weber (2023) identifies a lack of consensus on how sustainability and resilience should be defined and measured in practice, further complicating the transition from aspiration to action. These theoretical complexities create adoption barriers for SMEs, as they lack the

resources or expertise to translate broad sustainability goals, which often require proactive planning, into tangible and resilient operational actions, which demand reactive adaptability (Weber, 2023).

Weber (2023) underscores this challenge, noting that sustainability tends to drive resilience by reducing vulnerabilities, but resilience is not always a direct outcome of sustainability practices. For SMEs, this disconnect fosters a gap between their aspirations and the ability to operationalize sustainable and resilient strategies, limiting their impact on both environmental as well as organizational performance.

### **Barriers to SME Sustainability Implementation**

Despite growing awareness, SMEs face significant internal barriers and external pressures in implementing sustainability goals. SMEs often cite several multifaceted factors that deepen the gap between sustainability aspirations and practical implementation:

#### **Resource Constraints**

A primary challenge for businesses, especially SMEs, is the lack of financial and human resources. Implementing sustainability practices often requires upfront investment in technologies, staff training, or infrastructure, which many SMEs cannot afford. Additionally, smaller businesses often lack the personnel with the necessary expertise to

drive sustainability initiatives, leaving them reliant on external consultants or partners, which adds to the costs (Sroufe, 2016; Purwandani & Michaud, 2021).

### **Knowledge Gaps and Lack of Technical Expertise**

Businesses often face challenges in understanding what sustainability entails and how to operationalize it. SMEs often lack the technical expertise to translate sustainability goals into actionable strategies (Liang & Cao, 2021; Sroufe, 2016).

For example, many SMEs struggle to track and measure their environmental impacts due to a lack of technical expertise or awareness of available tools and frameworks, such as the Global Reporting Initiative (GRI), and Future Fit Business Benchmark (Muraet al., 2018; Liang & Cao, 2021). This knowledge gap prevents businesses from identifying opportunities to improve their practices.

### **Cultural Resistance and Organizational Inertia**

Resistance to change within organizations, compounded by a lack of sustainability-focused leadership, can inhibit progress towards sustainability adoption. Employees and management may be reluctant to shift from established practices, particularly if the benefits of sustainability are not immediately apparent. This resistance is often

rooted in scepticism about whether sustainability measures will yield financial returns or improve competitiveness (Mura et al., 2018; Weber, 2023).

### **Complex Regulatory Requirements**

Navigating sustainability-related regulations and policy standards can be overwhelming, particularly for smaller businesses without dedicated compliance teams. They add layers of complexity, making sustainability appear as an additional burden rather than an integrated business priority. This creates uncertainty, making businesses hesitant to invest in sustainability initiatives (Purwandani & Michaud, 2021; Bhamra et al., 2011).

### **Perceived Lack of Immediate Financial Benefits**

Many businesses view sustainability initiatives as cost centres rather than investments. Without clear evidence of a short-term return on investment, businesses may deprioritize sustainability in favour of projects with immediate financial gains (Weber, 2023; Sroufe, 2016). This perception is especially pronounced in industries where profit margins are slim.

### **Market and Consumer Pressures**

While some markets demand sustainable products, others are less receptive. Businesses operating in regions or sectors where consumers prioritize cost over sustainability may feel less incentivized to

adopt green practices. This lack of market demand creates a vicious cycle, as businesses fail to innovate sustainably, and consumers are not exposed to greener options (Purwandani & Michaud, 2021).

### **Supply Chain Challenges**

Implementing sustainability across the supply chain can be particularly challenging. SMEs often rely on suppliers and partners, who often hold more power than SMEs, that may not prioritize sustainability, making it difficult to create a cohesive and transparent value chain. Supply chain disruptions and the lack of green alternatives further complicate these efforts (Liang & Cao, 2021; Bhamra, Dani, & Burnard, 2011).

These barriers are not exhaustive, but they prevent SMEs from reaping the benefits of sustainability, such as improved efficiency and market competitiveness. Without sustainability, SMEs are also more vulnerable to environmental and economic disruptions (Bhamra, Dani, & Burnard, 2011).

### **Evaluation of Sustainability and Resilience**

Measuring sustainability and resilience is critical for businesses, particularly SMEs, to identify progress, pinpoint areas for improvement, and integrate these concepts into their operations. Measurement enables SMEs to identify inefficiencies and risks, helping them improve operations. For instance, tracking energy use could lead to cost savings and reduced envi-

ronmental impact (Sroufe, 2016).

Metrics and frameworks provide the tools for organizations to quantify their environmental, social, and economic impacts, sustainability, while assessing their adaptability to challenges, resilience. These tools are essential for bridging the implementation gap between aspirations and tangible action, enabling informed decision-making and enhancing operational resilience.

Sustainability measurement tools, like the Global Reporting Initiative (GRI), provide standards for tracking environmental and social impact (Mura et al., 2018). Resilience metrics focus on response times, resource adaptability, and recovery capabilities (Vogus & Sutcliffe, 2007). However, SMEs often struggle to adopt these tools due to their complexity and resource requirements (Liang & Cao, 2021).

Effective measurement is critical to bridging the implementation gap. We have taken a critical look at some measurement frameworks and metrics across both sustainability and resilience:

#### **Sustainability Metrics**

Sustainability metrics aim to track an organization's environmental, social, and economic performance. These measures help businesses align their operations with sustainable development goals.

### **Global Reporting Initiative (GRI) Standards**

GRI is one of the most widely used frameworks for sustainability reporting. It provides organizations with guidelines for disclosing their environmental, social, and governance (ESG) impacts. Also, helps businesses identify areas of improvement and communicate their sustainability efforts to build stakeholder trust, foster transparency and accountability. This enables companies to showcase their sustainability and resilience efforts, making them more attractive to eco-conscious consumers and green investors (Mura et al., 2018).

Metrics:

- Carbon emissions and energy consumption
- Waste generation and recycling rates
- Gender diversity in the workforce

### **Triple Bottom Line (TBL) Framework**

Popularized by Elkington (1997), TBL evaluates sustainability based on three dimensions: profit (economic), planet (environmental), and people (social). It encourages businesses to consider holistic decision-making and impact, rather than focusing solely on financial outcomes.

Metrics:

- Financial performance (e.g., cost savings from sustainability)
- Environmental indicators (e.g., water usage, renewable energy adoption)
- Social metrics (e.g., community en-

gagement, employee well-being)

### **Carbon Disclosure Project (CDP)**

The CDP focuses on tracking carbon emissions and climate-related risks. It facilitates alignment with global climate goals and attracts environmentally conscious investors (Weber, 2023).

Metrics:

- Greenhouse gas (GHG) emissions
- Climate change mitigation and adaptation strategies

### **The United Nations Sustainable Development Goals (SDGs)**

The 17 SDGs provide a global framework for achieving sustainability across economic, environmental, and social dimensions by 2030. Each of the 17 SDG goals have between 8-12 targets, and each target is measured by 1-4 indicators. They are particularly relevant for aligning business practices with societal and environmental priorities (United Nations, 2015).

SMEs can use the SDGs as a roadmap to align their strategies with international goals, enhancing global competitiveness and access to green financing. Focusing on a subset of SDGs, such as those tied to their industry, can make operational implementation more manageable, ensuring compliance and long-term viability (Purwandani & Michaud, 2021).

Metrics:

- Tracking waste reduction, resource efficiency, and sustainable supply chain practices
- Monitoring carbon emissions, renewable energy use, and climate risk adaptation
- Measuring fair wages, employee well-being, and sustainable economic productivity

### **Resilience Metrics**

Resilience metrics assess an organization's ability to adapt to and recover from disruptions, ensuring long-term operational stability.

### **Organizational Resilience Framework (ORF)**

Examines resilience through three core dimensions: leadership and culture, network relationships, and change readiness (Vogus & Sutcliffe, 2007). It helps businesses evaluate their readiness for crises and build adaptive capacity.

Metrics:

- Resource redundancy and flexibility
- Speed of recovery from disruptions
- Employee adaptability and engagement

### **Supply Chain Resilience Metrics**

Focuses on assessing the robustness of supply chains to withstand shocks. It enables businesses to identify vulnerabilities in their supply chain and implement strategies to ensure continuity (Bhamra, Dani, &

Burnard, 2011).

Metrics:

- Supplier diversity
- Inventory buffering and lead times
- Risk mitigation strategies in supply networks

### **Adaptive Capacity Index (ACI)**

Measures an organization's ability to anticipate, absorb, and recover from external shocks. Also, aids in assessing long-term viability and readiness for uncertain events (Liang & Cao, 2021).

Metrics:

- Financial buffers for crisis management
- Decision-making flexibility and decentralized authority
- Collaborative partnerships with stakeholders

### **Integrated Metrics**

Integrated frameworks for sustainability and resilience are essential tools that bring together two vital aspects of organizational performance: the ability to operate sustainably in the long-term while being agile and adaptive in the face of disruptions. Their importance lies in offering businesses a structured approach to align sustainability goals with resilience strategies, enabling them to achieve both environmental responsibility and operational stability.

### **The Natural Step Framework**

Uses system conditions based on scientific

principles to measure ecological and social sustainability. It helps SMEs integrate sustainability into core business strategies while fostering resilience through resource efficiency and closed-loop systems (Mura et al., 2018). This promotes closed-loop systems, enabling businesses to minimize waste and maintain steady resource availability during supply chain disruptions.

Metrics:

- Renewable energy use
- Material recovery rates

### **Ellen MacArthur Foundation's Circular Economy Framework**

Encourages SMEs to design out waste, use renewable inputs, and regenerate ecosystems, creating both resilience and sustainability benefits by reducing dependency on finite resources (Weber, 2023). This emphasizes reducing waste while maintaining supply chain flexibility, ensuring that businesses are both resource-efficient and responsive to external pressures. It aligns long-term goals with short-term adaptability.

Metrics:

- Material circularity indicators (MCI)
- Recycling rates
- Energy recovery percentages

### **Integrated Reporting Framework (IR)**

IR helps SMEs communicate a holistic value creation story to stakeholders, aligning sustainability with long-term financial

resilience (Purwandani & Michaud, 2021). It combines financial and non-financial performance indicators.

Metrics:

- Carbon offsets
- Social impact investments
- Innovation outputs

Despite advancements in measurement frameworks, SMEs often lack the tools and expertise to adopt these metrics comprehensively (Weber, 2023; Liang & Cao, 2021).

### **Exploring Fundamental Principles**

While much of the sustainability and resilience discourse focuses on organizational strategy, policy, or system design, these concepts are deeply rooted in natural systems. Nature, with its 3.8 billion years of evolution, offers powerful models of sustainability and resilience, embodying principles such as closed-loop cycles, adaptability, redundancy, and diversity (Benyus, 2002; Sroufe, 2016; Weber, 2023). Understanding these natural foundations opens a compelling pathway for how we might approach sustainability in business, particularly for SMEs facing limited capacity and overwhelming complexity.

Sustainability in nature is guided by closed-loop cycles and feedback mechanisms, where waste becomes input and systems regenerate (Mura et al., 2018; Weber, 2023). This has inspired closed-loop business practices like Interface's use of recycled materials in carpet

production, directly mimicking natural resource cycles.

Resilience, similarly, emerges through features like diversity, decentralization, and redundancy, allowing ecosystems to adapt, absorb shocks, and evolve (Sroufe, 2016; Sezen-Gültekin & Argon, 2020). These same principles can guide SMEs in building flexible, future-ready operations.

The practice of biomimicry translates these natural principles into actionable business strategies. It offers a framework that integrates sustainability with resilience through nature-inspired design. The Eastgate Shopping Centre in Zimbabwe, for example, reduced energy use by modelling its cooling system on termite mounds (Sroufe, 2016). In the SME context, biomimicry can help simplify complex frameworks by focusing on core principles like adaptability, modularity, and feedback (Mura et al., 2018; Bhamra et al., 2011; Vogus & Sutcliffe, 2007).

While biomimicry presents promising insights, applying its principles requires careful adaptation to business realities. As Sroufe (2016) notes, translating nature's logic into effective strategies demands a deliberate and contextual approach.

Nature's intelligence reminds us that sustainability and resilience are not separate goals, they are interdependent, evolving processes.

Grounding business thinking in these principles may offer SMEs a more intuitive and effective path forward.






### Case Studies

Despite the theoretical focus, several cases provide insights into bridging the sustainability-resilience gap. Sroufe (2016) outlines a structured approach to integrating sustainability through action-based learning and cross-disciplinary collaboration. This approach enabled firms to embed sustainability into their strategic planning, yielding both environmental and operational benefits.

Another example is from Weber (2023), who reviewed a dairy industry model that optimized resilience and sustainability by addressing environmental, social, and economic challenges holistically. These cases demonstrate that successful integration requires tailored, industry-specific strategies that consider both sustainability and resilience goals. Additionally, that collaboration, both within and beyond the organization, is essential to overcoming barriers (Weber, 2023; Sroufe, 2016).

We have highlighted a few real-world examples in Table 5 across companies and industries to demonstrate the practical application of sustainability and resilience principles:

Table 5 - Case Studies

	<p><b>Interface</b> A global carpet manufacturer, Interface adopted closed-loop systems, recycling old carpets into new ones. This initiative reduced waste significantly and enhanced the company's public image (Mura et al., 2018).</p>
	<p><b>Patagonia</b> Known for its sustainable outdoor clothing, Patagonia integrates environmental responsibility into every aspect of its business. For instance, it promotes product repair over replacement, reducing waste and encouraging sustainability (Purwandani &amp; Michaud, 2021).</p>
	<p><b>European SMEs</b> SMEs adopting circular economy practices achieved cost reductions and enhanced sustainability through waste-to-resource initiatives (Purwandani &amp; Michaud, 2021; Mura et al., 2018). Using circular economy principles, such as breweries recycling spent grains into animal feed, also show how small actions can have a significant impact (Weber, 2023).</p>
	<p><b>High-Tech Industries</b> Organizations recovering from supply chain disruptions leveraged employee adaptability and resource flexibility to maintain operational continuity (Liang &amp; Cao, 2021; Bhamra et al., 2011).</p>
	<p><b>Education Sector</b> Higher education institutions balancing organizational sustainability and resilience highlighted the importance of aligning strategy with operational practices (Sezen-Gültekin &amp; Argon, 2020).</p>

## Takeaways

The literature underscores that while SMEs recognize the value of sustainability, significant barriers hinder their ability to translate ambitions into action. Existing frameworks provide theoretical guidance, but they often lack the practical, industry-specific strategies needed for effective implementation. Case studies highlight the importance of adaptability, cross-sector collaboration, and innovative approaches like biomimicry in integrating sustainability and resilience. However, these insights remain largely conceptual, leaving critical questions unanswered about how SMEs navigate real-world constraints, make sustainability decisions, and balance short-term operational needs with long-term resilience goals.

While these theoretical foundations provide important conceptual scaffolding, addressing systemic barriers to sustainability adoption requires a deeper exploration of SMEs' operational landscape. Before engaging with stakeholders directly, we must first understand the underlying structures, relationships, and flows that define how these businesses function in practice. By mapping these system dynamics, we can identify both the practical constraints and potential leverage points for meaningful sustainability integration.

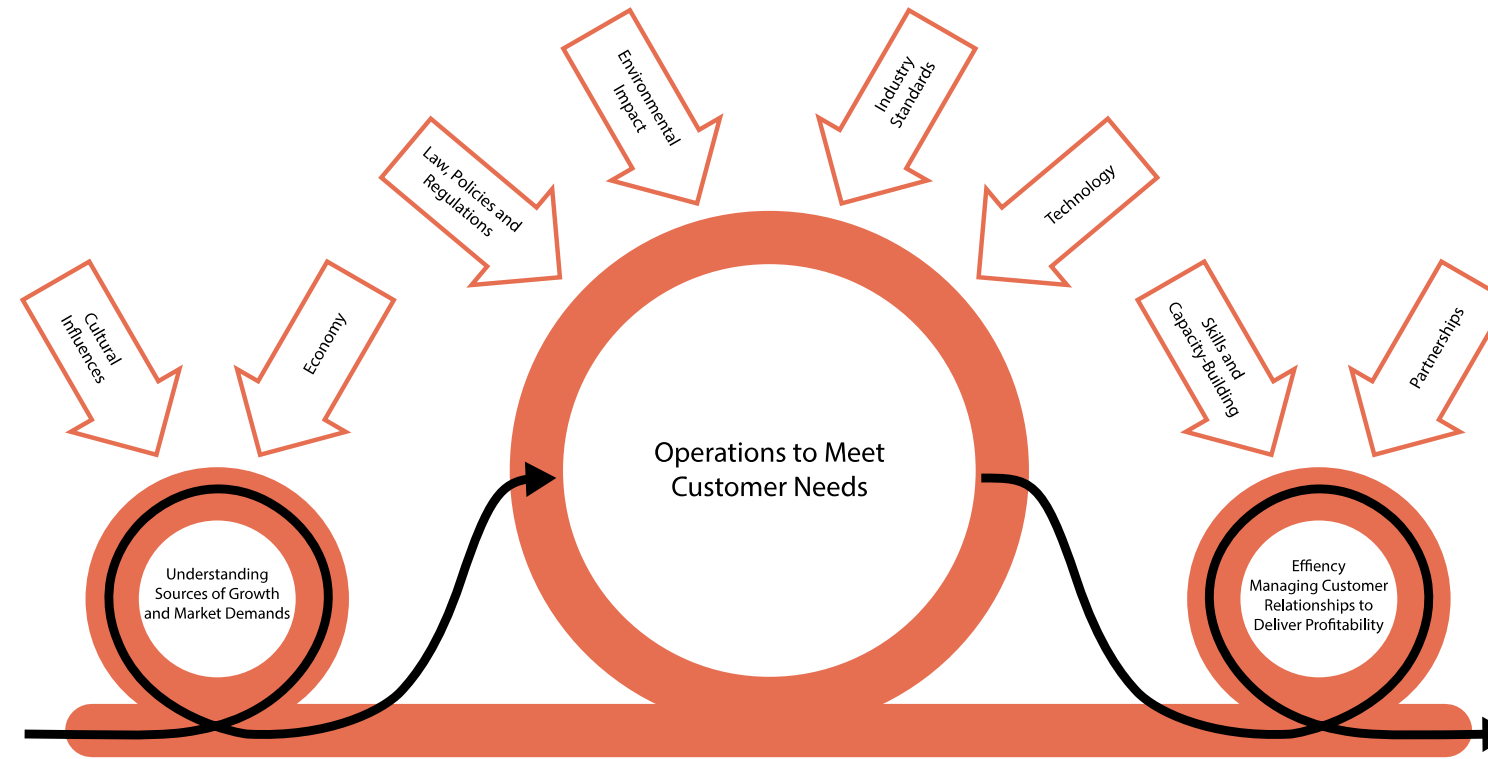


Figure 1 -Value Flows

## Understanding the SME System

This section explores the everyday realities that shape how SMEs operate within their systems. Through desk research conducted prior to interviews, we examined how value flows - decisions, resources, and information - move through SME operations, revealing where sustainability intentions may gain traction or break down. We also analyzed the internal and external relationships that influence decision-making, highlighting the key dynamics that shape how SMEs engage with their broader ecosystem. Together, these insights provide critical context for understanding the practical potential for sustainability integration across

different SME environments.

### Value Flows

We used a Value Chain Analysis to better understand how value flows within SME organizations, across different stages of operations. This method examines the interconnected activities within an organization that create value, highlighting areas for competitive advantage and operational efficiency (Zamora, 2016). By mapping these value flows, businesses can better understand how leadership, core business functions, and external relation-

ships influence sustainability adoption and resilience within their operational systems (Zamora, 2016).

Our value chain analysis, figure 1, shows that operational functions and value flows within SMEs are primarily focused on five core outputs:

- Understanding sources of growth and market demand;
- Operational planning to meet customer needs;
- Efficiently managing customer relationships to deliver profitability;
- Complying with laws, regulations, and policies; and
- Developing necessary skills and capacities.

The business functions that contribute to these outputs are tightly interconnected, interdependent and form a self-reinforcing cycle. Mapping the value flow brought to light success metrics within SMEs were predominantly defined by short-term financial performance and customer satisfaction. This suggested that ecological and social impacts remain secondary considerations across core business functions, competing for already limited SME attention and resources.

## Internal and External Relationships

To explore how different stakeholders within the broader SME ecosystem interact with each other and the characteristics of their relationships with sustainability, we utilized an Actors Map. This is a tool used to visually depict the network of individuals and organizations within a system, capturing their roles, relationships, and influences to understand the dynamics and power structures at play. This process aims to capture who the key actors are, how they interact, and how their actions

impact the system, providing insights into potential intervention points and opportunities for collaboration or conflict resolution (McAra et al., 2022; Bryson, 2004).

The actors mapping illustrated an asymmetrical power dynamic within SME ecosystems, where external actors with high influence, including economic climate, often operate with limited knowledge of SME constraints, while entities with deep understanding of SME operations, including industry standards and certifications, typically possess lower

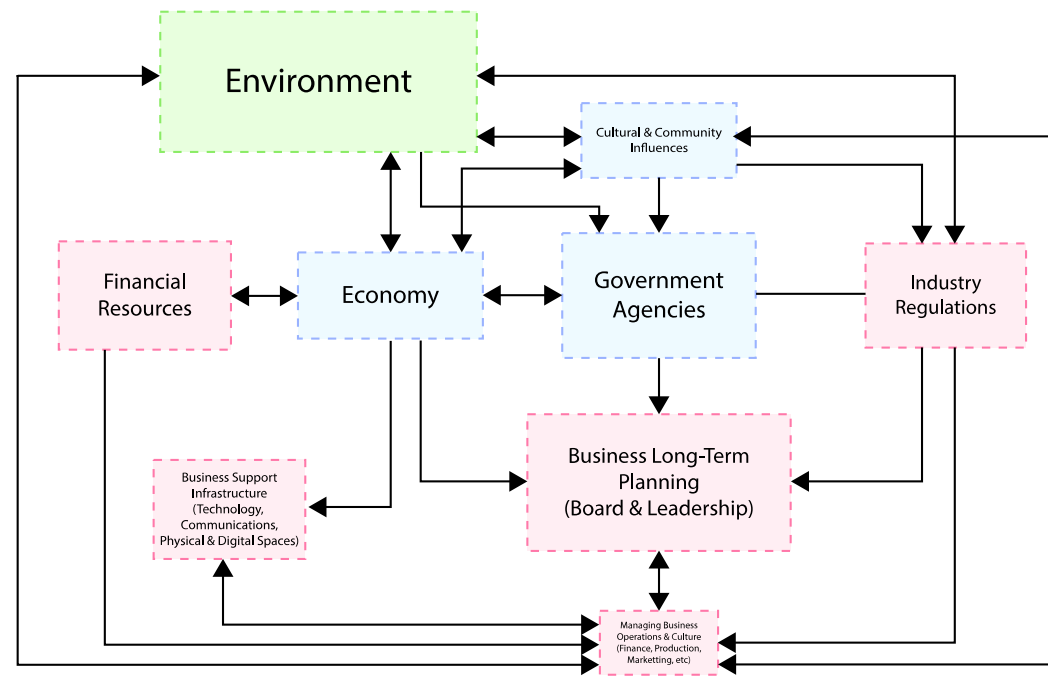


Figure 2 - Internal & External Relationships

decision-making power. Figure 2 reveals the following major tension points:

- Cultural and community influences exert significant influence on business operations and values;
- Economic climate factors drive many business decisions and create constraints;
- Government agencies and regulatory bodies shape compliance requirements; and
- Industry standards and certifications set expectations and market access conditions.

This creates a misalignment where the most influential forces shaping the business environment may have the least contextual understanding of operational realities. SMEs must navigate these power dynamics while processing information vital for ongoing stability from multiple sources with varying degrees of relevance, credibility, and actionability, a situation that often relegates sustainability to something “nice to have” rather than a core operational consideration.

## Engaging the SME System

Academic literature has established a conceptual understanding of the barriers SMEs encounter when attempting to implement sustainability initiatives, yet these theoretical frameworks often fail to capture the nuanced, day-to-day realities faced by practitioners on the ground. To bridge this gap, this chapter details how we sought the input of actors in the system, outlining how direct engagement with SME employees, owners, and industry experts provided a deeper understanding of resilience and sustainability adoption in practice.

This process was designed to capture diverse perspectives across different levels of SME operations, complementing the theoretical foundations established in our “Framing our Understanding” phase. Interviews and surveys were structured to encourage open, reflective conversations rather than prescriptive responses, allowing participants to share their organizational realities and perceptions of sustainability. This approach recognizes that sustainability implementation exists within complex interconnected networks of stakeholders, processes, and external pressures.

The discussions that took place revealed critical insights into the challenges, motivations, and decision-making processes surrounding resilience and sustainability in SMEs, providing essential input for the “Possibilities of

Transition” phase of our research.

The following sections outline the structure of the participant selection criteria, the interview content and structure, followed by reflections on this phase of the research.

### Recruitment Criteria

To ensure a comprehensive understanding of resilience and sustainability implementation within SMEs, we focused on businesses that have been operating for over a year. Participants were sought out based on organization-

al hierarchies and diverse industry sectors. Our selection strategy targeted individuals from various levels within SMEs, from frontline employees to executive leadership, external industry experts, and representatives from diverse business functions. This multi-dimensional approach allowed us to capture a full spectrum of sustainability implementation challenges and opportunities across the operational landscape of Canadian SMEs, outlined in the selection criteria Table 6.

Table 6 - Recruitment Criteria

Participant Group	Perspective	Scope	Geographic Location	Experience	Target	Actual
Employee Survey	Functional roles with daily tasks	Gain insight into the experiences of sustainability implementation in Canadian SMEs and identify gaps between leadership intent and operational realities.	Canada	1+ years in organization	75	9
Expert Interviews	External professionals with diverse SME experience	Identify common challenges, external pressures, and structural barriers to SME sustainability adoption.	Global	10+ years in SME leadership or sustainability	10	12
SME Owner Interviews	Founders or leaders responsible for making internal decisions	Explore operational realities, leadership challenges, and barriers to sustainability integration	Canada	5+ years in managerial or leadership roles	15	11

We identified and recruited potential participants across the range of SMEs actively pursuing sustainability initiatives and others that had not yet considered or identified themselves as sustainable. Our recruitment approach combined structured methods with adaptive strategies to ensure a successful and inclusive recruitment process allowing us to engage a broader spectrum of participants that enriched our research.

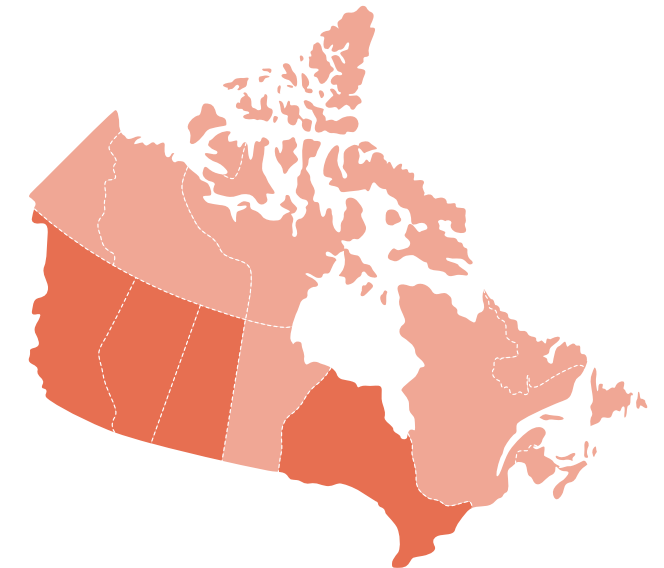
### Recruitment Process

The three complementary methods employed - survey, expert interviews and SME leader interviews enabled us to delve much deeper into the realities of sustainability implementation and unique perspectives across a breadth of industries and geographies in Canada and beyond.

### Survey Implementation

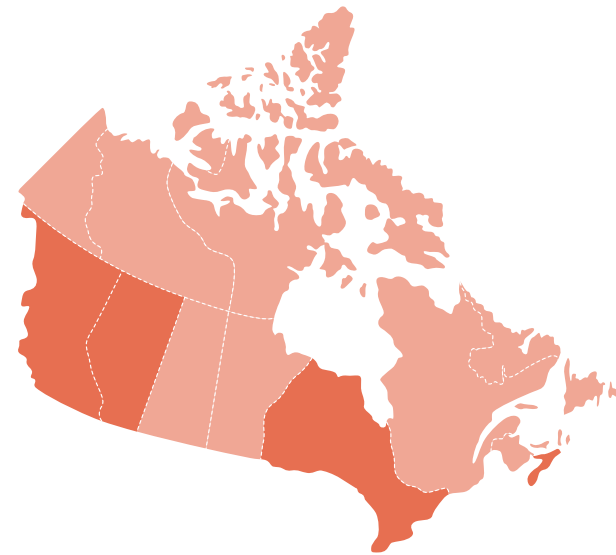
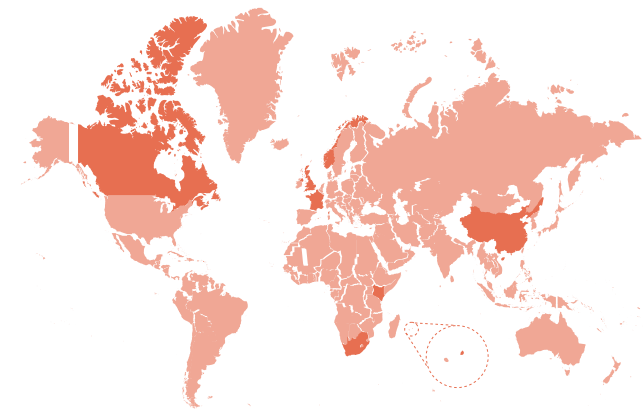
We distributed an anonymous online questionnaire to potential respondents, who were screened based on relevance to the study. The survey recorded nine respondents that met the criteria located across Canada, including Alberta, British Columbia, Ontario, Saskatchewan. The 10-15-minute survey explored how SME staff experienced resilience and sustainability in daily operations. It covered areas such as organizational context, factors influencing decisions, perceptions of resilience and sustainability, integration into daily operations, barriers to progress, and future approaches. While we did not achieve the

expected number of respondents, primarily due to the use of industry jargon creating language inaccessibility, and survey fatigue, the survey responses did provide qualitative depth rather than statistical significance.



### Expert Interviews

We conducted online interviews with 12 experts from diverse geographical locations, including Hong Kong, Europe, South Africa, Kenya, and Canada. Each interview involved two researchers - one leading the discussion and another taking notes. The interviews focused on operational resilience requirements for SMEs, best practices for resilience-building, evaluation frameworks, legal and policy influences, relationships between sustainability and compliance, and future opportunities. These conversations provided critical insights into common high-level barriers facing SMEs and potential leverage points for sustainability implementation. Despite geographic and industry diversity, recurring themes emerged across regions, offering overarching perspectives on systemic challenges.



### SME Leader Interviews

We interviewed 11 business founders or leaders across multiple Canadian provinces, including Nova Scotia, British Columbia, Alberta, and Ontario. The interviews, structured similarly to expert interviews, focused on operational adaptation, balancing short-term decisions with long-term growth, leadership challenges, resource utilization, progress evaluation methods, and future outlook on sustainability and business growth. This geographic diversity provided rich insights into regional variations in sustainability implementation challenges.

### Takeaways

Our interactions with SME leaders revealed that sustainability is often lived, not labeled. Many leaders were practicing values-aligned behaviours, prioritizing community well-being, ethical sourcing, and employee care, without explicitly identifying these actions as “sustainability”. This disconnect pointed to a deeper challenge: conventional sustainability narratives and tools often fail to reflect how SMEs actually think, speak, and act. It became clear that sustainability is not always a declared objective, but often embedded in quiet, everyday decisions. Survey responses reinforced this pattern: while only a third of respondents reported having clearly defined resilience goals, many described practices that closely aligned with sustainability principles. This suggests that conventional definitions may not fully capture how sustainability shows up in practice, and highlights the need to clarify its current understanding beyond the ecological component alone.

What emerged most strongly was the emotional weight of decision-making. Cognitive and psychological barriers, particularly uncertainty and a reluctance to “get it wrong”, influenced how leaders engaged with sustainability. Across contexts, awareness of sustainability issues, their perceived relevance, and access to formal tools all remained low. For some SMEs, the value of these tools in improving day-to-day operations was unclear; for others, there was a call for more guidance in navi-

gating available frameworks. Many gravitated toward informal, peer-based resources that felt more reflective of their lived realities. Geography and community dynamics added further nuance. Rural SMEs often approached sustainability through community reciprocity and mutual support, while urban businesses described more fragmented pressures, determined by policy or market demands. These early signals set the basis for our approach, grounding our inquiry not in abstract frameworks, but in the practical realities that define SME efforts to do good, stay resilient, and move forward.

# Possibilities of Transition

Despite growing interest in sustainable business practices, organizations vary widely in their actual implementation progress. While some companies have successfully integrated sustainability into their operations, many others struggle to move beyond good intentions to meaningful action. Our literature review highlights a range of internal and external barriers that SMEs face, including limited access to technology, resistance to change, unclear financial benefits, resource constraints, and a lack of technical expertise (Purwandani & Michaud, 2021; Liang & Cao, 2021). Supply chain complexities and cultural resistance add additional layers of difficulty to an already challenging process. While these challenges are well-documented, much of the literature remains focused on theoretical models, leaving a gap in understanding how sustainability is implemented in practice (Vogus & Sutcliffe, 2007).

This chapter seeks to explore this gap by shifting the focus from theory to the lived experiences of SME leaders. Drawing from our interviews, we analyze and interpret the data to distill how barriers are encountered and navigated across different stages of sustainability implementation. Throughout our research, we have approached sustainability by expanding its traditional definition to encompass the quadruple bottom line – considering purpose, people, planet and profit – to provide a more holistic understanding of sustainable business practices in the SME context. It will

examine operational influences beyond theory within Small and Medium Enterprises (SMEs) in Canada and how they navigate barriers to sustainability adoption.

Our analysis reveals how SME leaders develop evolving response approaches rooted both in purpose and organizational pragmatism. We uncovered complex, interdependent relationships between organizational behaviour patterns, operational barriers, and core business functions that collectively determine the ways in which leaders integrate sustainability into SME operations. This chapter synthesizes our findings of the current operational reality of SMEs in Canada, illuminating the systemic challenges preventing more widespread adoption of sustainable operations.

We approached the research from a multi-systemic lens, aimed at reaching a deep contextual understanding of the everyday reality of SMEs, and the effects of decision-making. We sought to understand:

1. *Making sense of the system reality:*
  - Analyzing interview data to uncover the operational dynamic of SMEs and how they arrive at decisions
  - a. Barriers: Identifying fundamental obstacles that prevent SMEs from adopting sustainable practices
  - b. Response Patterns: Recognized distinct behavioral approaches SME leaders take when engaging with sustainability integration challenges

2. *Learning from the system:* Analyzing how response patterns interact with barriers to create cascading impacts throughout organizations and identifying key business areas that strategic interventions could most effectively support in line with sustainability adoption.
3. *Sustainability as a Path to Resilience:* Exploring the nature of the interconnected and interdependent relationship between sustainability and resilience.

The combination of these different analyses facilitated a rich understanding of SME dynamics and the specific points in the system that hinder sustainability adoption.

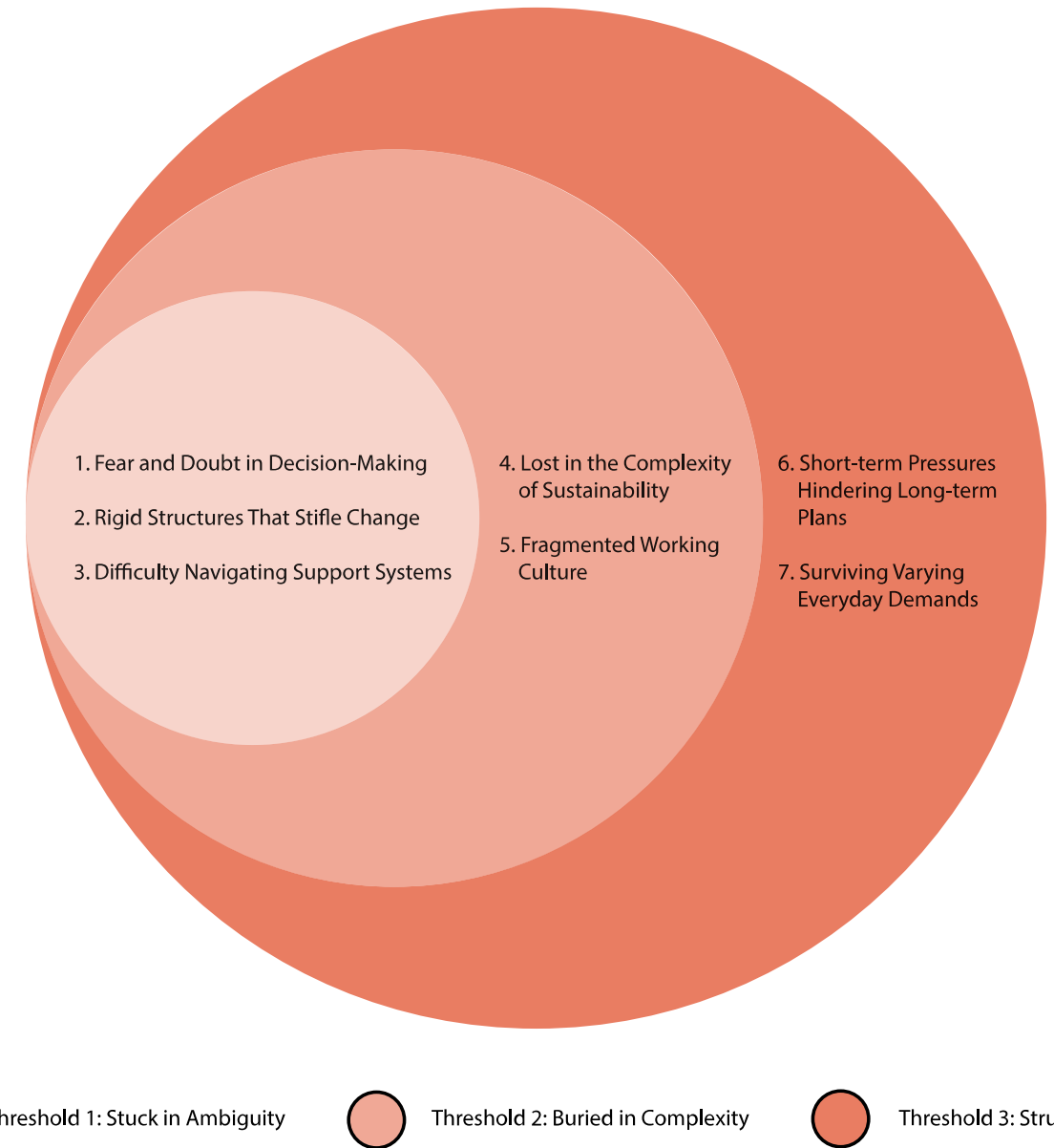
## Making Sense of the System Reality

The research was conducted using a thematic approach, allowing the natural emergence of barriers and response patterns from the data. Themes were identified based on commonalities across SME operational dynamics, in relation to sustainability. These themes not only offer insights into the barriers SMEs face and how they perceive sustainability but also highlight internalized and operationalized sustainable practices despite systemic and organizational constraints.

## Barriers to Sustainability

Through conversations with industry experts and SME leaders, we identified 36 barriers which we distilled into seven distinct barrier categories. These barriers represent a complex interplay between internal organizational dynamics and external pressures, creating a multifaceted challenge that goes beyond simple resource constraints. The interconnected nature of these barriers creates cascading effects, where challenges in one area can amplify difficulties in others. This reinforces insights from McDougall's (2016) findings that the real challenge in the transition to sustainability is to take inner transformation from an implicit, unconscious process at the individual level to being an explicit, conscious one. Such conscious transformation should take place in many small enterprises and through organizational leadership. By making this shift, we can scale up efforts and achieve greater impact toward a more sustainable society at the contextual level.

While our literature review identified knowledge gaps and lack of technical expertise as significant barriers (Liang & Cao 2021; Sroufe 2016; Mura et al 2018), our research uncovered a more nuanced understanding of these challenges. Specifically, we found that these barriers manifest in contextually specific ways that previous research has not fully captured, providing deeper insight into how SMEs experience and navigate sustainability transitions. What makes these barriers particularly chal-



Threshold 1: Stuck in Ambiguity    Threshold 2: Buried in Complexity    Threshold 3: Struggling to Start

Figure 3- Identified Barrier Thresholds

lenging is how they manifest across three progressive implementation thresholds, outlined in figure 3, operating at multiple levels simultaneously from individual mindsets to systemic structures.

### **Stuck in Ambiguity**

This first threshold emerges at the knowledge and awareness level, where SME leaders struggle to meaningfully comprehend sustainability's scope and relevance to their operations. It encompasses the difficulties in trying to make sense of the concept of sustainability and inability to visualize how it could shift their business endeavours beyond its existing paradigm.

#### **1. Fear and Doubt in Decision-Making**

SME leaders often hesitate to act on sustainability initiatives, caught between the fear of making the wrong choice and a lack of confidence in their ability to navigate the complexity. Without clear frameworks tailored to smaller businesses, every decision feels uncertain and risky. This hesitation, driven by concerns about financial or reputational failure, frequently leads to inaction or superficial compliance, rather than meaningful, transformative change. Leaders may feel scrutinized but unsupported, expected to implement sustainability without the necessary resources or guidance. As a result, many avoid the topic entirely, further hindering progress.

Key characteristics include:

- Fear of unknown outcomes and uncertain returns on investment;
- Shame and fear of getting sustainability initiatives wrong;
- Avoidance of conversations to escape feelings of judgment or inadequacy;
- Feeling overwhelmed by the complexity of sustainability challenges;
- Fear of failure in navigating sustainability transitions; and
- Absence of clear guidance tailored specifically to SME contexts.

As Pablo Romero, Co-CEO & President, The Ally Co. candidly acknowledged:

*“There’s fear mongering but we all don’t want to lose what we’ve worked so hard for. We’re trying to protect what we believe in, and I think sometimes the behaviours we exhibit to protect or defend can actually be harmful or don’t allow us to see that these solutions or pathways would actually be more empowering or powerful”*

#### **2. Rigid Structures That Stifle Change**

Many SMEs feel stuck in traditional business models that prioritize short-term gains over long-term resilience, where sustainability seems more like a needless complication than a necessity. Rigid organizational structures, misaligned policies, and complex regulations only create resis-

tance at multiple levels - from organizational processes to market expectations to regulatory environments. For SMEs, these barriers are especially problematic as they are forced to navigate systems primarily designed for larger organizations while lacking resources to pioneer alternatives. Without clear, actionable frameworks for integrating sustainability, SMEs struggle to integrate sustainability beyond their current operations, despite their interest in change.

Key characteristics include:

- Perception of sustainability as an addition rather than a core business priority;
- “Not in my backyard” (NIMBY) mentality that resists changes perceived as disruptive;
- Misalignment between regulations/government policy and SME operational realities;
- Entrenched capitalist mindset prioritizing short-term gains over long-term resilience;
- Business models not designed to deliver or contribute to sustainability goals;
- Inadequate training and knowledge application of sustainability in academia;
- Disconnect of critical external stakeholders from SME realities;
- Complex, impractical and inconsistent regulations not tailored to SME contexts; and

- Superficial compliance of new regulations in business operations.
- As some business leaders expressed:

*“A term called NIMBY right which means “Not in my backyard” and that goes for things that are good for the environment too. People don’t want them in their backyard, they don’t want to live beside windmills. People don’t want to live beside solar parks. We can argue how good those are for the environment; how efficient they are in terms of collecting and storing energy, but the bottom line is people don’t want to live by it.”*

*“Sustainability from the government often feels inaccurate. What we really find useful and life-giving is when other farmers share their knowledge through books, podcasts, or farm visits. That peer-to-peer exchange is invaluable. Even when academic experts write about important topics like climate change, there can be a gap between theory and practical application...”*

### 3. Difficulty Navigating Support Systems

Even when SME leaders are eager to pursue sustainability, the support they need is often out of reach. Resources are expensive, funding processes are complex and often misaligned with SME priorities. The right tools, suppliers, or training can also be difficult to locate. Many industry support organizations remain underfunded and disconnected from the day-to-day realities of small business operations. As a result, many SMEs struggle to make real progress despite motivation and good intentions. The gap between available support and what SMEs need continues to limit their ability to implement meaningful, lasting sustainability initiatives.

Key characteristics include:

- Lack of sustainable infrastructure in supply chains and operations;
- High cost to access integration resources and limited availability of sustainable options;
- Use of complex language, industry jargon and technical terminology in sustainability frameworks;
- Underfunded SME support organizations and lack of support networks;
- Complex funding application processes with mismatched priorities;
- Insufficient practical education and training for leaders;
- Limited awareness of sustainability tools, resources and funding opportuni-

ties;

- Conflicting information and competing sustainability narratives; and
- Inability to contextualize sustainability understanding in specific focus areas.

Some business owners we interviewed didn't even identify with the term "SME" despite fitting the definition, preventing them from accessing relevant support systems. As one SME leader said:

*"I reached out to the Chamber in my area, but there wasn't anything they had to offer at the time... I mean the Chamber, I know every community has one, so we have it [the chamber] to help communicate, somewhat, it's helpful, but they're also just super understaffed and underfunded."*

Aashima Asthana, Co-Founder at Wear Revolve, a sustainable fashion manufacturing enterprise, also stated:

*"There is less industry specific support [for SMEs]. Unlike if we talk about large corporations, they have ESG departments in their companies, right? But if you talk about SMEs, we don't have customized sustainability roadmaps tailored towards just one industry..."*

### Buried in Complexity

After navigating past initial awareness hurdles, SMEs encounter a second threshold where they become overwhelmed by the complexity of sustainability in practice. At this stage, the sheer volume of sustainability information, frameworks, certifications, metrics, and data requirements create decision fatigue that can derail progress.

### 4. Lost in the Complexity of Sustainability

SME leaders understand the importance of tracking and measuring their sustainability efforts, but knowing what data to collect, how to use it, and which framework to follow is a major challenge. Conflicting guidelines, vague metrics, and limited in-house expertise often leave businesses guessing instead of acting with confidence. Rather than enabling progress, many sustainability frameworks feel overwhelming and hard to apply. This confusion makes it difficult to demonstrate meaningful results or clearly communicate their impact to stakeholders. Fully supporting the complex regulatory requirements barrier highlighted in our literature review (Purwandani & Michaud 2021, Bharna et al 2011).

Key characteristics include:

- Overwhelming number of frameworks not tailored to SMEs;
- Unclear starting points for sustainability integration;
- Difficulty tracking and communicating

progress;

- Uncertainty about relevant data requirements and effective measurement approaches;
- Operational misalignment between sustainability goals and business priorities;
- Lack internal sustainability knowledge, skills and capacities;
- Confusion about sustainability reporting expectations;
- Narrow societal understanding of sustainability and its application in business; and
- Fragmented guidance about how to interpret data.

Aashima Asthana, Co-Founder at Wear Revolve, articulated this challenge clearly:

*"Many SMEs leaders, they feel that sustainability is too complex and expensive. It was very complex for me too, but I was very stubborn about it, and I wanted to do it right. That's why I figured out the way, but I believe it's not that easy."*

### 5. Fragmented Working Culture

Many SME operations are siloed making sustainability feel disconnected from the rest of the business. Even when leadership sets a clear vision, it rarely takes hold without employee buy-in, clear governance, and collaboration across teams. Without these foundations, sustainability stays stuck as a high-level idea rather than becoming

part of daily operations. Communication breakdowns and limited trust within teams further limit honest conversations and new thinking - both essential for meaningful change. This reinforces a barrier identified in our literature review about cultural resistance and organizational inertia barrier (Mura et al., 2018; Weber 2023).

Key characteristics include:

- Siloed thinking and fragmented ways of working;
- Disconnect between vision and execution;
- Broken feedback loops between leadership and operations and missing proof points leading to cultural resistance;
- Lack of psychological safety and employee empowerment inhibiting innovation;
- Poor involvement/engagement of stakeholders in sustainability conversations;
- Prevalence of linear, transactional and extractive business models;
- Fragmented SME ecosystems making it hard to share resources and best practices;
- Unclear governance metrics and process flow guidance;
- Lack of employee motivation and connection to organization's sustainability mission; and
- Transactional working conditions and failure to establish a shared responsi-

bility.

In the perspective of Pablo Romero, Co-CEO & President, The Ally Co.:

*“It’s hard to build trust. It’s hard to engage in healthy conflict. That’s going to drive the most amazing innovation, right? We want people to come with their different perspectives and their different ideas, but if I’ve never seen you on camera. Or we haven’t shared a moment, or you know what I mean. It’s so like we’re going to have this artificial heart. That’s the biggest killer; it’s because of the stuff that none of us are saying because we don’t want to rock the boat or are walking on eggshells with each other. That’s the killer of innovation and performance.”*

### Struggling to Start

Beyond the first two thresholds, SMEs also face challenges attempting to translate acquired sustainability knowledge into practical, organization-wide implementation. Making sense of how existing business processes, functions and outputs should evolve feels almost impossible, especially with the limited bandwidth SME leaders have in trying to keep the business afloat. The ambiguity and weight of responsibility in trying to transform their core operations becomes too much to deal with on top of everyday expectations.

### 6. Short-term Pressures Hindering Long-term Plans

For many SMEs, long-term sustainability planning feels like a luxury when they're focused on staying afloat. Day-to-day organizational pressures, tight margins, rising costs, and constant operational demands, leave little space for future-focused thinking. Even when leaders care about sustainability, the urgency of immediate business needs often takes priority. With limited time, capacity, and resources, short-term survival wins out over long-term investment, making it even harder to invest and build momentum toward lasting change.

Key characteristics include:

- Time constraints and constant operational pressures;
- Survival mindset focusing on immedi-

ate needs and profit;

- Failure to see how sustainability fits into long-term business success;
- Cash flow struggles and rising costs of doing business;
- Mental fatigue and burnout among leaders;
- Difficulty proving ROI for sustainability investments;
- Inconsistent operational direction, goals and resource allocations;
- Difficulty disconnecting from business demands leading to a lack of work-life balance;
- Challenging sustainability certification applications, requirements, and roadmaps;
- High financial and time investment in sustainability certification journeys; and
- Feeling “bogged down” by minor, administrative tasks and issues.

To quote one SME leader:

*“As a small business, there’s a lot of stress put on a guy for all that administration your bills, all of that kind of stuff... That’s the biggest thing for me is the all the extra work after I work that I have to do right.”*

## 7. Surviving Varying Everyday Demands

SME leaders constantly juggle the day-to-day demands of running a business—managing clients, paying utility bills, processing invoices, staying on top of taxes. These tasks, while essential, absorb valuable time and energy that could otherwise be used to add value or plan for the future. Sustainability often falls to the bottom of the list—not due to lack of interest, but because so much of the work is about keeping up with the everyday. With limited capacity, it becomes difficult to step back, think strategically, or invest in initiatives that could drive both long-term impact and short-term gains.

Key characteristics include:

- Funding difficulties and cost justification challenges;
- Lack of time to upskill and invest in sustainability education;
- Limited industry-specific expertise for sustainability implementation;
- Insufficient sustainable infrastructure;
- Internal financial and support resource constraints;
- Tax and regulatory compliance burdens;
- Uncertainty about how to properly leverage financial structures; and
- Emotional toll and increasing stress levels over business performance.

As Aashima Asthana, Co-Founder at Wear Revolve, reflected:

*“I don’t know that whether they teach sustainability in schools or not, but if not, they should because there is no expertise out there.”*

### Adaptive Responses to Constraints

Despite facing significant and often compounding barriers, leaders continue to find ways to adapt. Through in-depth conversations with eleven SME leaders across Canada, we identified nine recurring response patterns that reflect how they react to and work within the constraints of their current environments. These patterns emerged from a detailed analysis of their approaches through three interconnected dimensions: the intrinsic motivations that guide leadership decisions, the organizational design choices that shape internal structure, and the management approaches that define day-to-day operations.

The three elements combined to form the response patterns are:

### Guiding Motivations (light purple)

The fundamental values, beliefs, and internal drivers that shape business leaders’ decisions and actions. These intrinsic motivations represent the core principles that direct an organization’s purpose and provide resilience when facing barriers and challenges.

### Management Approaches (medium purple)

The tactical and strategic actions organizations make when responding to different situations, including people management, customer service, innovation, and long-term planning. These approaches reflect how abstract values translate into concrete operational decisions and behaviours.

### Organizational Design Choices (deep purple)

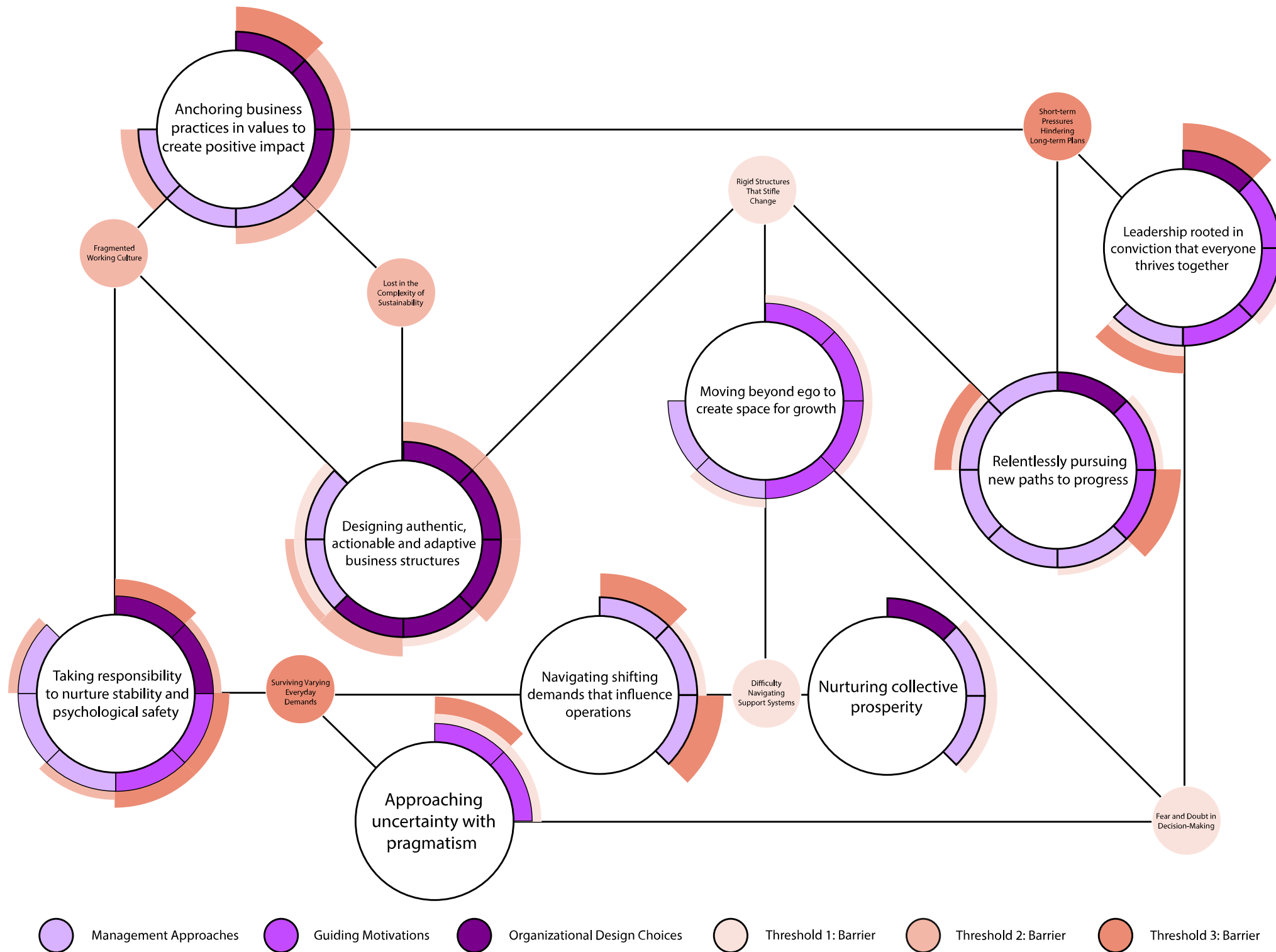
The deliberate choices taken to structure an organization, including team composition, business models, compensation systems, and operational frameworks. These choices create the tangible infrastructure that enables the implementation of both values and management approaches.

Figure 4 illustrates the complex interconnections between the nine response patterns and the seven key barriers they address. This network visualization reveals how different patterns connect to specific barriers, creating an integrated system of adaptive strategies that SMEs employ to navigate sustainability implementation challenges.

This mapping shows that certain response patterns, such as “Designing authentic, actionable and adaptive business structures,” serve as central nodes that address multiple barriers simultaneously. Similarly, barriers like “Fear and doubt in decision-making” and “Lost in

the complexity of sustainability” influence multiple response patterns, requiring varied approaches to overcome.

The visualization also demonstrates that SMEs are not passive in the face of sustainability challenges, they actively develop strategic responses even without formal guidance or external support. Understanding these natural adaptation patterns provides valuable insight into where interventions might be most effective.



Each response pattern visual, figures 5-13, displays three core components represented in different shades of purple: management approaches (light purple), guiding motivations (medium purple), and organizational design choices (dark purple). The circular arrangement illustrates how these components combine to form each unique response pattern.

In our analysis of how these response patterns interact with operational barriers, we identified specific components that demonstrate resilience. These components, represented by the extended purple segments radiating outward from the central circles, remain unaffected by the barriers SMEs typically encounter. These barrier-resistant elements maintain their effectiveness regardless of organizational challenges, serving as foundational strengths within each response pattern.

The nine response patterns, each with their distinctive composition and barrier-resistant components, shown as the extended purple segments, are outlined on the following page.

Figure 4 - Response Pattern Connections

## 1. Designing authentic, actionable and adaptive business structures

Characterized by SME leaders who create flexible organizational designs that can adapt to changing conditions while maintaining a clear identity.

Key characteristics include:

- Creating flexible and adaptable organizational designs;
- Developing an authentic cultural identity that guides decisions;
- Building shared trust and feedback loops; and
- Establishing clear, actionable visions that connect daily work to purpose unding difficulties and cost justification challenges.

This pattern primarily addresses barriers related to rigid structures and fragmented working culture, enabling SMEs to build organizations that can respond to challenges with agility and authenticity.



Figure 5 - Designing authentic, actionable and adaptive business structures

## 2. Taking responsibility to nurture stability and psychological safety

This pattern reflects leadership approaches that prioritize creating stable, supportive environments where team members feel secure enough to engage with change and innovation.

Key characteristics include:

- Leading with care and kindness toward all stakeholders;
- Fostering continuous learning and growth environments;
- Creating psychological safety across multiple dimensions (inclusion, learning, contribution, challenge); and

- Balancing workloads to support employee wellbeing and capacity.

This pattern helps overcome barriers related to fear and doubt in decision-making and fragmented working culture by establishing the psychological foundations needed for sustainability innovation.



Figure 6 - Taking responsibility to nurture stability and psychological safety

### 3. Moving beyond ego to create space for growth

This pattern involves leaders who demonstrate personal vulnerability and openness to learning, creating environments where admitting knowledge gaps becomes a strength rather than a weakness.

Key characteristics include:

- Demonstrating vulnerability and practicing self-reflection;
- Trusting intuition while remaining open to learning;
- Embracing unconventional thinking and approaches; and

- Willingness to ask for help when needed.

This pattern addresses barriers related to fear and doubt in decision-making by modeling a learning mindset that embraces sustainability as a journey rather than an achievement.

#### Moving beyond ego to create space for growth

- Demonstrating vulnerability and self-reflection
- Trusting intuition while remaining open to learning
- Willingness to ask for help when needed

Openness to Innovative Solutions

Ability to Deeply Reflect About the Role you Play



Figure 7 - Moving beyond ego to create space for growth



#### Leadership rooted in conviction that everyone thrives together

- Navigating with hope and intentionality
- Designing desired futures with passion
- Promoting shared prosperity within the organization

### 4. Leadership rooted in conviction that everyone thrives together

This pattern centers on leadership driven by a deep belief that business success depends on collective prosperity rather than just individual gain.

Key characteristics include:

- Navigating challenges with hope and optimism;
- Designing future-oriented business models with passion;
- Leading with clear intention aligned with values;
- Promoting shared prosperity within the organization; and
- Grounding decisions in a strong belief system.

This pattern helps overcome barriers related to rigid structures and short-term pressures by anchoring decisions in a longer-term, collective vision of success.

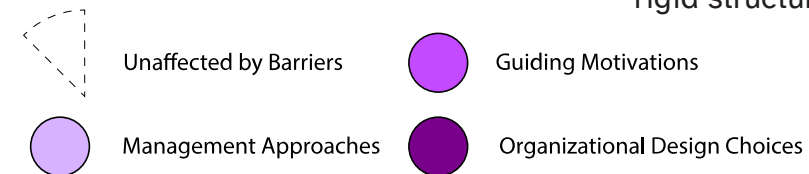


Figure 8 - Leadership rooted in conviction that everyone thrives together

### 5. Nurturing collective prosperity

This pattern extends beyond internal team dynamics to focus on the relationship between the business and its broader community.

Key characteristics include:

- Building and supporting strong community connections;
- Developing reciprocal relationships between business and community;
- Creating and communicating shared value across stakeholder groups; and
- Providing tangible community benefits through business activities.

This pattern addresses barriers related to rigid structures and difficulty navigating support systems by embedding the business within supportive community networks.

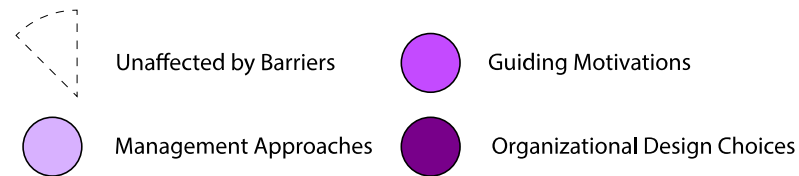
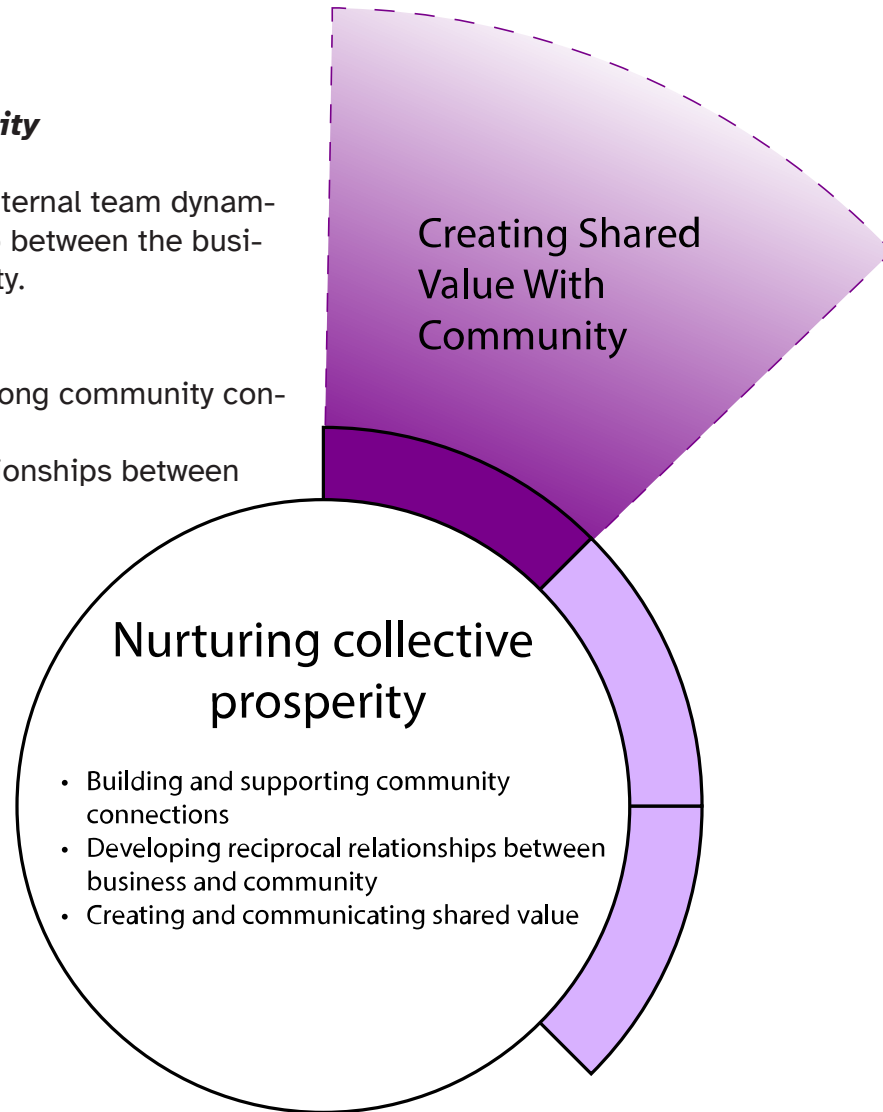


Figure 9 - Nurturing Collective Prosperity

### 6. Relentlessly pursuing new paths to progress

- Maintaining curiosity and commitment to improvement
- Engaging meaningfully to enhance performance
- Preparing proactively for future challenges

### 6. Relentlessly pursuing new paths to progress

This pattern reflects a persistent drive to improve and innovate despite challenges and constraints

Key characteristics include:

- Maintaining curiosity and commitment to continuous improvement;
- Engaging meaningfully with stakeholders to enhance performance;

- Preparing proactively for future challenges and opportunities;
- Going against conventional business approaches when necessary; and
- Demonstrating confidence in the impact of contributions.

This pattern helps overcome barriers related to the complexity of sustainability and everyday demands by fostering a mindset of persistent, incremental progress.

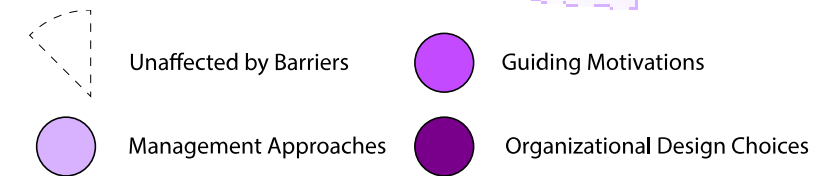
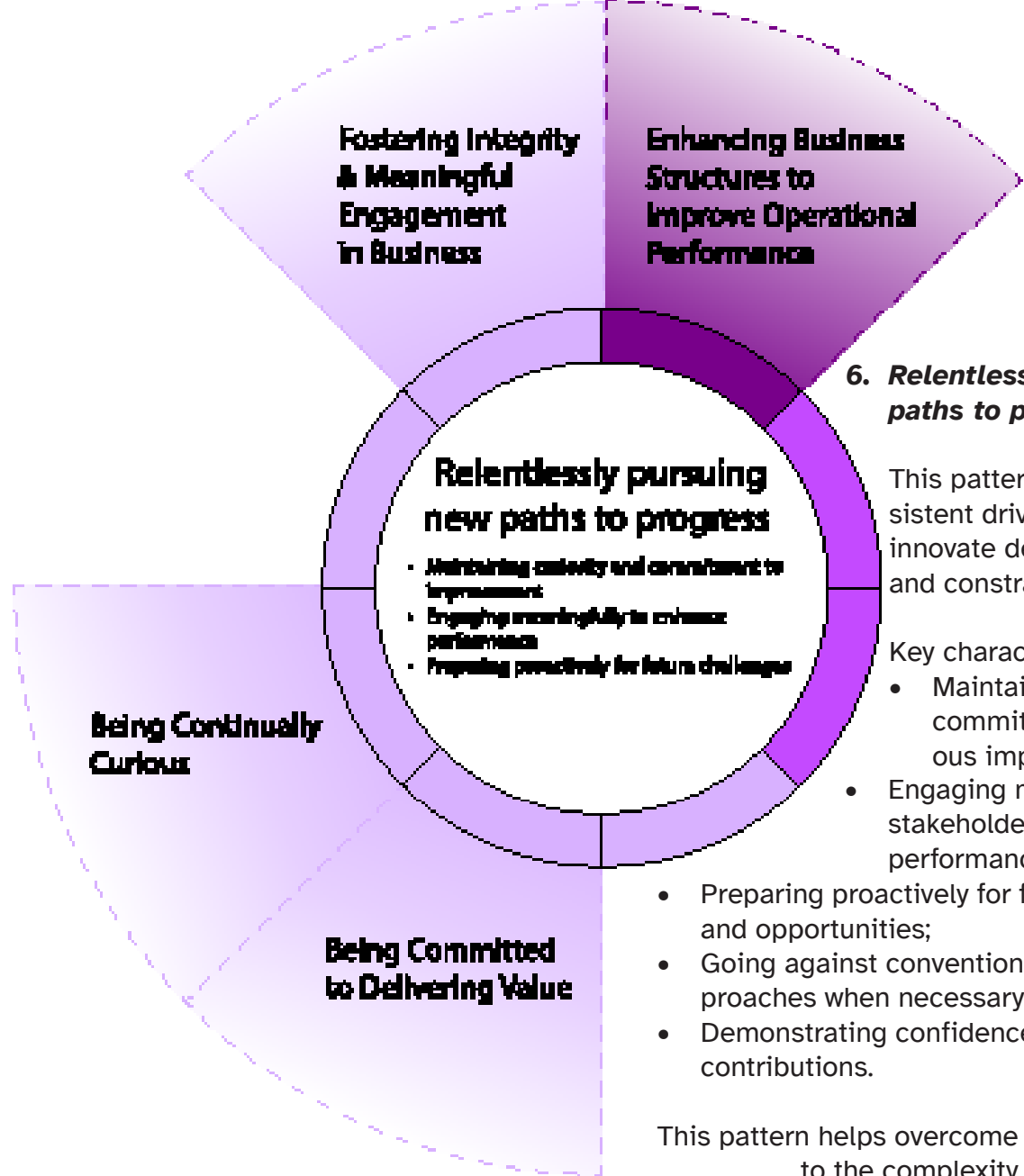


Figure 10 - Relentlessly pursuing new paths to progress

### 7. Navigating shifting demands that influence operations

This pattern demonstrates pragmatic adaptability in the face of changing business environments and requirements.

Key characteristics include:

- Making the best of challenging situations;
- Maintaining business continuity despite constraints and limitations;
- Finding ways to keep operations running amid disruption;
- Managing resource limitations with creativity; and
- Balancing reactivity with strategic planning.

This pattern addresses barriers related to everyday demands and short-term pressures by finding practical ways to maintain momentum amid constant change.

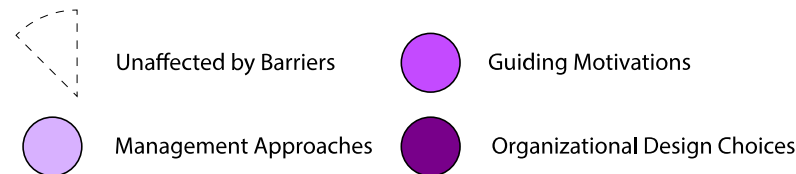
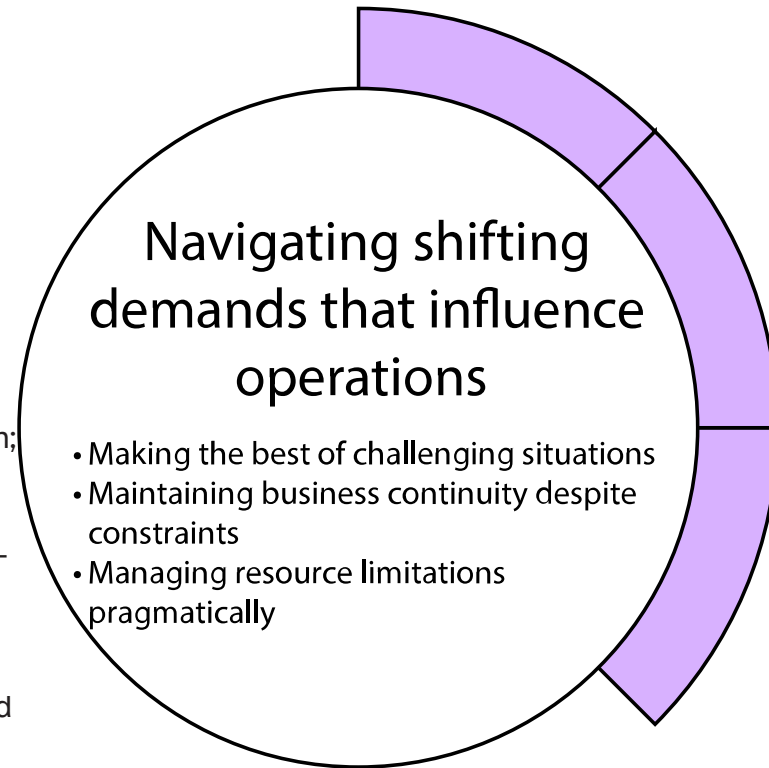


Figure 11 - Navigating shifting demands that influence operations

### 8. Anchoring business practices in values to create positive impact

This pattern involves consistently aligning business decisions and operations with core values and impact goals.

Key characteristics include:

- Continually evaluating internal progress toward impact goals;
- Aligning growth strategies with fundamental values;
- Practicing transparency in operations and decision-making;
- Leading with purpose and creating ripple effects; and
- Appreciating and incorporating diverse perspectives.

This pattern addresses barriers related to

fragmented working culture and lost in the complexity of sustainability by viewing sustainability as a competitive advantage that shapes a business's approach rather than an additional consideration.

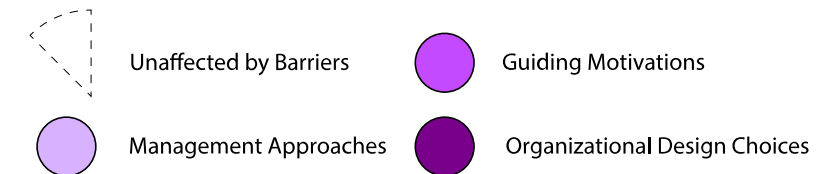
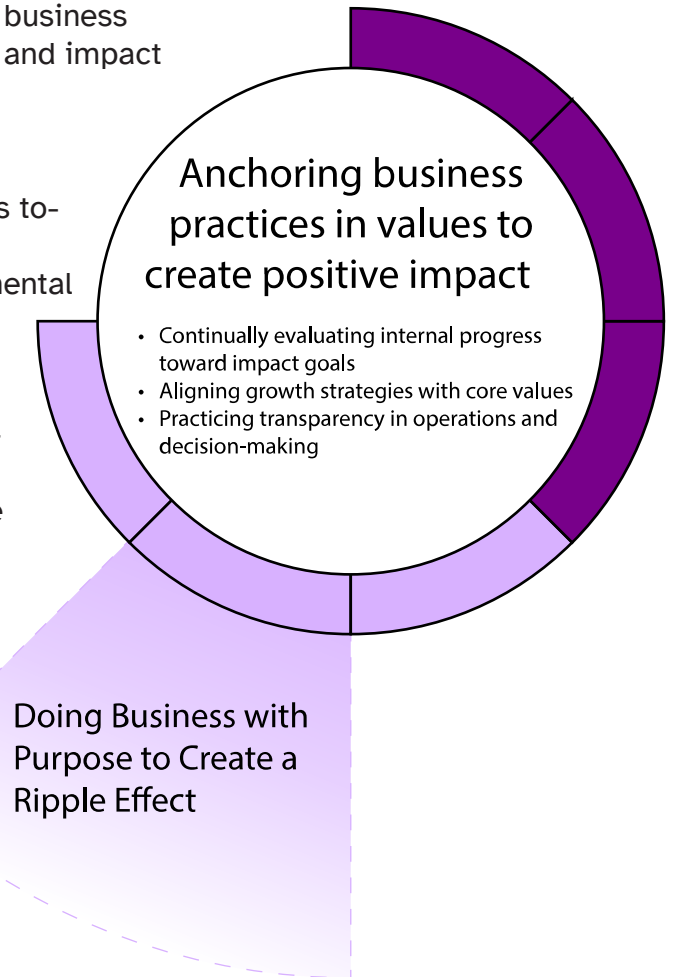


Figure 12 - Anchoring business practices in values to create positive impact

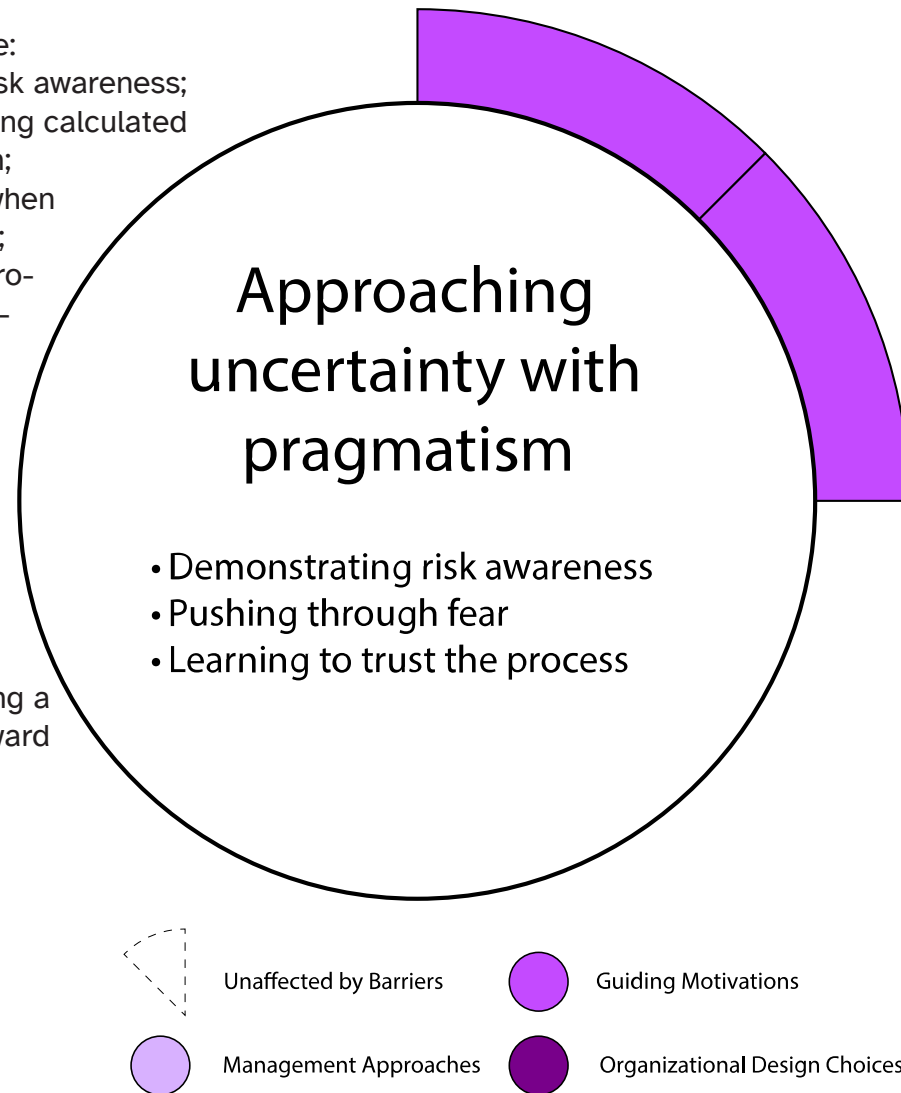
## 9. Approaching uncertainty with pragmatism

This final pattern reflects a balanced approach to risk and uncertainty, neither avoiding challenges nor taking reckless risks.

Key characteristics include:

- Demonstrating clear risk awareness;
- Finding comfort in taking calculated steps into the unknown;
- Pushing through fear when necessary for progress;
- Learning to trust the process despite uncertainty; and
- Being pragmatic about business realities and constraints.

This pattern helps overcome barriers related to fear and doubt in decision-making and short-term pressures by providing a framework for moving forward amid uncertainty.



**Figure 13 - Approaching uncertainty with pragmatism**

By understanding how SMEs already respond to sustainability challenges, support systems can be designed to strengthen what's working while addressing gaps in capability. The response patterns reveal that sustainability in SMEs is not about transforming organizational values, in many cases, these are already aligned with sustainability principles, but rather about enabling consistent expression of those values through practical operational approaches.

By understanding and supporting these existing response patterns, interventions can be proposed to amplify SMEs' natural prevailing tendencies toward sustainability rather than imposing entirely new approaches that may face resistance.

## Learning from the System

### Anchoring Practice in Purpose

Our examination of SME response dynamics revealed that the response pattern components demonstrating resilience against implementation barriers are predominantly those aligned with the Purpose element of sustainability. Purpose, as manifested in these organizations, is deeply ingrained in cultural foundations, belief systems, and lived experiences. Unlike examples such as environmental sustainability (planet), which may be perceived as an abstract or external obligation, purpose-driven decisions feel natural, familiar, and self-evident to these leaders.

In large corporations the focus is on articulating purpose through carefully designed actions or structured initiatives to demonstrate intent; essentially using action to make intent visible. Intent is often expressed strategically, externally communicated, and organized to align with broader corporate social responsibility (CSR) or compliance objectives. SMEs, on the other hand, tend to operate from a place where purpose is already embedded in the core of how the business functions, in day-to-day processes, and in business outputs. It is not something layered on or translated into external messaging—it is lived and reflected in how decisions are made, how people are treated, and how value is created. In this context, sustainability is not a separate track

but a natural extension of deeply held values. However, the visibility and consistency of this integration can vary depending on the SME's size, capacity, and clarity of purpose.

This distinction was reinforced in our Actor's

Map, which identified culture and community as a major influence on business operations. Whereas the other three influences identified, economy, regulations, and industry certifications, operate as external forces shaping business activities, culture and community

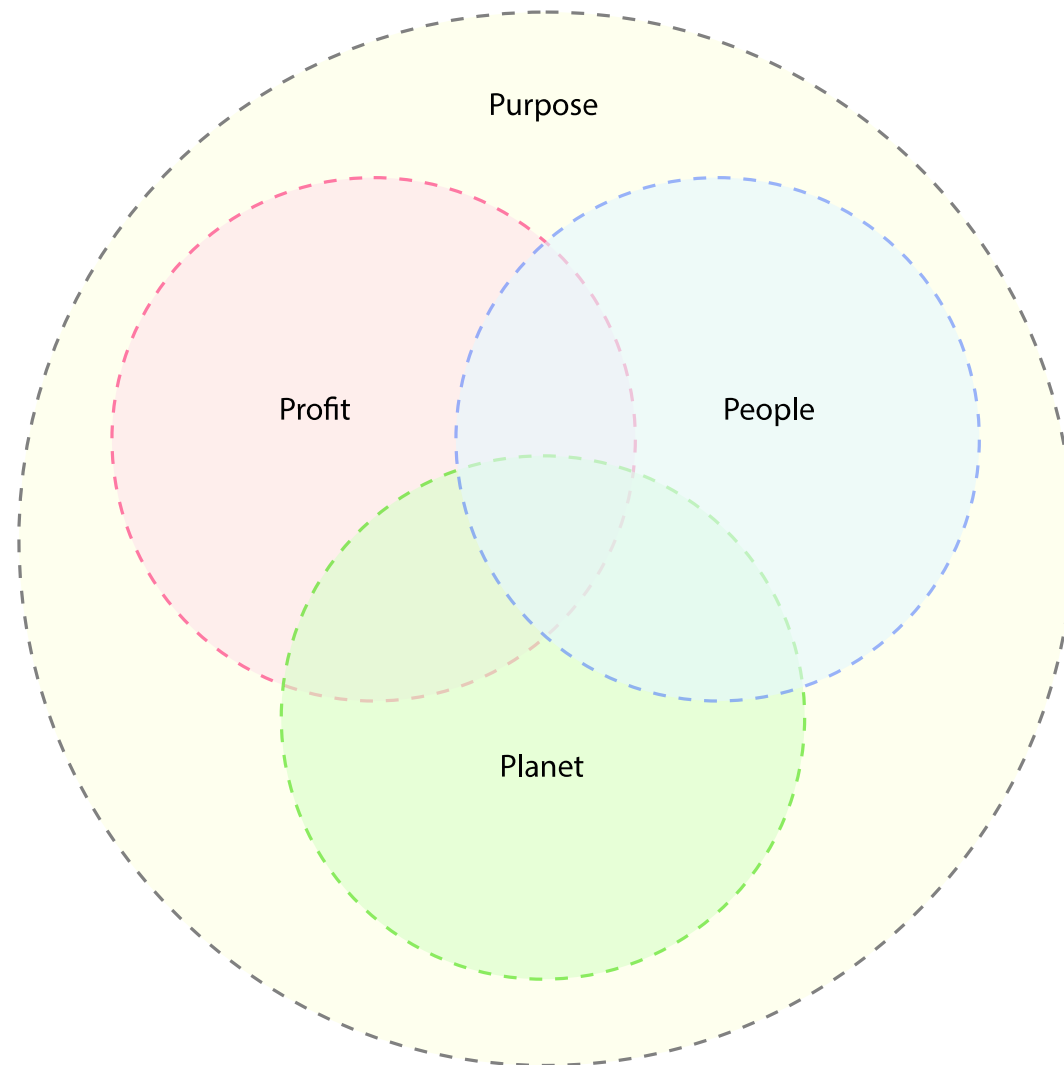


Figure 14- Sustainability seen through the Quadruple Bottom Line

directly inform the internalized values which guide SME leader decision-making within organizations. These cultural foundations are not questioned; they are intrinsic to the way these leaders were raised, how they engage with the world, and ultimately, how they run their businesses.

As a result, this analysis revealed a fundamental shift in how to reframe our understanding of sustainability within SME operations. Initially conceptualized as interdependent relationships between four pillars, people, planet, profit, and purpose, our findings indicate a more fluid and purpose-centric model. Instead of four separate but interconnected elements, sustainability within SMEs operates as three interdependent domains, people, planet, and profit, embedded within an overarching sphere of purpose, as shown in figure 14. This reframing reflects the way SME leaders approach the management of their businesses: every decision, operational choice, and sustainability-related action is first and foremost an expression of their purpose and values.

Through our research, we observed business leaders consistently emphasize the importance of serving their communities, employees, and customers, ensuring that their operations contribute meaningfully to the people and ecosystems they engage with.

As one SME leader expressed:

As Annelies Tjebbes, CEO & Founder, Roots & Rivers Consulting, expressed:

*"I'm not building an empire, I'm not. I didn't enter into this work with the idea that I want to create a wildly scalable and successful business. I entered with a desire to wear my heart on my sleeve, do work that matters and do it with care."*

This manifests in several ways; many SMEs enact sustainability not as a set of prescribed actions but as an organic extension of what they believe is right. Paying employees fairly, maintaining ethical supply chains, minimizing environmental harm, and fostering long-term community relationships are not seen as obligations but as inherent responsibilities. Business leaders are not making decisions based on external sustainability guidance, but rather on deeply held values that prioritize collective prosperity. Their focus extends beyond individual financial success to include creating opportunities for others, supporting local economies, and ensuring that all stakeholders benefit from their business's activities.

These findings challenge conventional sustainability models that often highlight external motivators such as regulatory requirements or market incentives. Instead, they suggest that sustainability adoption within SMEs, according to our sample size, is most effective when aligned with intrinsic motivations rather than imposed expectations. By recognizing what

motivates SMEs' decisions, sustainability initiatives can be designed to align with their existing belief systems, leading to faster and more effective adoption.

Purpose is central to how they adopt sustainability practices. They don't see profit and sustainability as opposing forces but embrace both as part of their commitment to making a difference. Understanding this framing provides a critical foundation for designing sustainability adoption strategies that align with lived realities and can lead to meaningful and enduring positive impact.

### Exploring the Role of Organizational Functions

Small and Medium Enterprises (SMEs) are key players in building a sustainable economy, but their efforts often remain scattered. While many are actively trying to integrate sustainability into different parts of their business, these efforts are often isolated and uncoordinated. As a result, the opportunity to create a stronger impact through a more unified approach is missed.

To systematically evaluate how SME organizations react to sustainability, we employed the Viable Systems Model (VSM) as an analytical framework to examine organizational behaviours. This framework examines how organizations distribute resources, energy, and attention across five organizational functions. Our analysis clarified specific leverage points where tailored support can be most effectively delivered to meet real needs.

The VSM encompasses the following organizational functions:

*Identity* - Establishes the system's overarching purpose, values, and strategic direction, balancing stability with adaptability (Espinosa et al., 2022);

*Planning* - Scans the external environment, anticipates future challenges, and ensures the organizational system remains

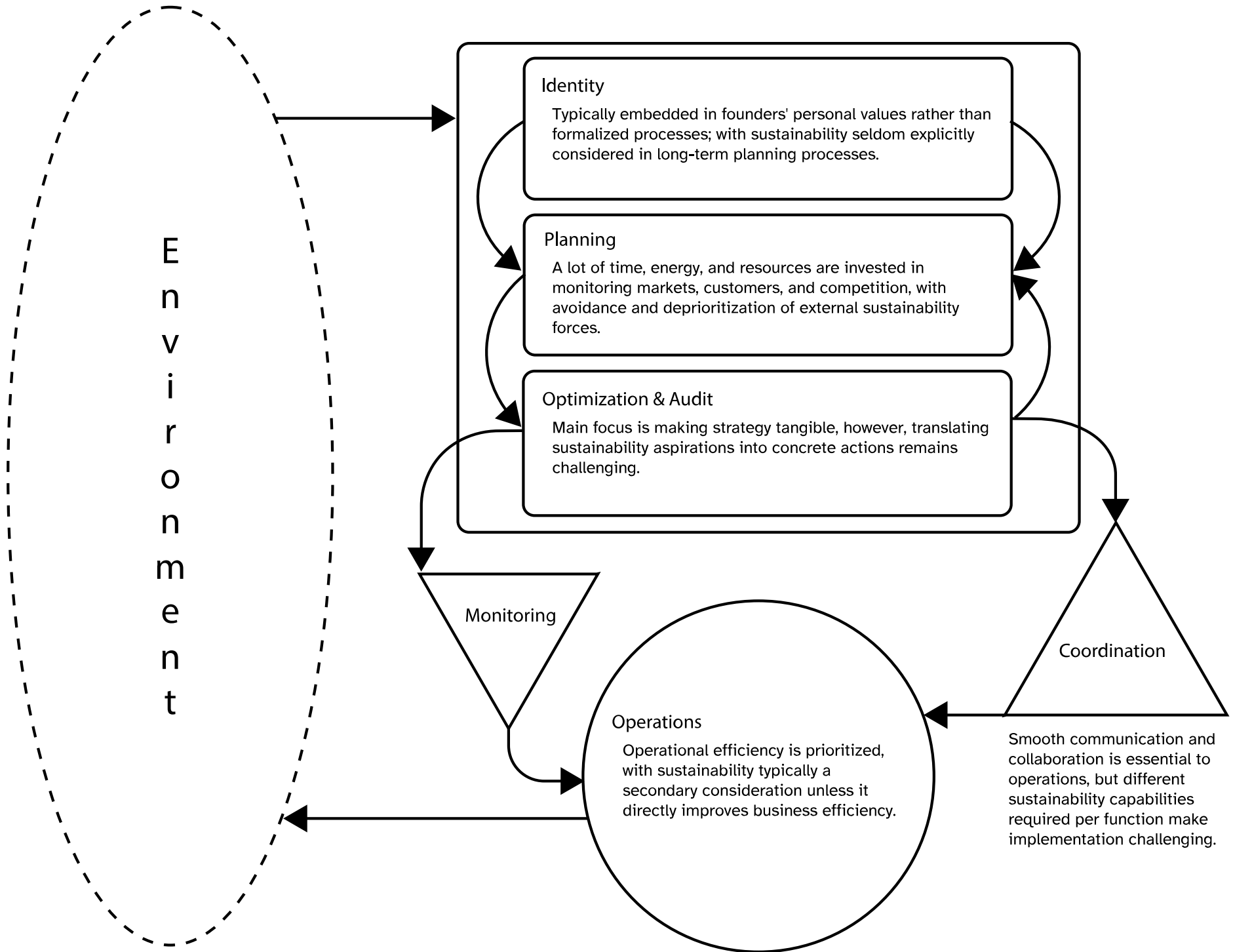


Figure 15- Viable Systems Model 64

adaptable to external changes (Espinosa et al., 2022);

*Optimization & Audit* - Manages internal cohesion by overseeing operations, allocating resources, setting internal policies, and monitoring performance to ensure efficiency and compliance (Espinosa et al., 2022);

*Operations* - The units responsible for activities to deliver products or services, directly interacting with the environment and adapting to changing conditions (Espinosa et al., 2022) and;

*Coordination* - Regulates interactions between operational units to prevent instability, ensuring smooth communication and reducing internal conflicts (Espinosa et al., 2022).

Our analysis revealed distinct characteristics within each VSM function when mapped against response pattern components identified in our interviews with SME leaders. These characteristics illustrate both the challenges and opportunities for sustainability integration across the organizational system.

### **Current State of Operations**

Figure 15 presents a snapshot of how current SME behaviours align with each of the five core functions of the Viable Systems Model. By mapping our interview insights to this framework, we highlight how each function

is currently expressed in practice, revealing areas of strength, tension, and potential leverage for sustainability integration within the operational system .

Mapping SME response patterns to each function of the VSM clarified how different elements come together to define the inner workings of the organization:

*Identity* - We observed that leaders rarely have capacity to proactively plan for the long-term due to other pressing demands. Limitations in sustainability knowledge and awareness also hinder its inclusion in long-term planning processes. Albeit the research findings show evidence that SMEs naturally orient toward positive social and environmental impacts through leadership values, even without formal sustainability frameworks.

*Planning* - With a keen eye on external business forces, SMEs typically exclude sustainability factors from this process due to limited awareness, perceived irrelevance to immediate priorities and the sheer overwhelm of available sustainability information. This leads to deprioritizing sustainability which undermines long-term resilience.

*Optimization & Audit* - Business leaders focus significantly on converting strategic plans into tangible outcomes. However,

many struggle to understand, contextualize and incorporate 'expected' sustainability practices into governance, performance management, and evaluations. This creates a significant gap between intention and actual implementation.

*Operations* - In core productive activities operational efficiency is prioritized. However, operational decisions are strongly influenced by the founder's guiding motivations. This demonstrates how effective an organization can be in implementing a clearly defined strategic direction and envisioned impact. If sustainability is properly aligned with this and guided, it creates opportunities for successful integration.

*Coordination* - The lean teams that exist in SMEs rely heavily on smooth communication to resolve conflicts between functions and facilitate integrated engagement. Sustainability implementation often falters due to the lack of sustainability capabilities required in different organizational functions. In addition to functions being managed in silos, they do not have clarity about how sustainability fits into their everyday responsibilities. Developing effective coordination processes could significantly enable better sustainability adoption throughout the organization.

### **Interacting with Barriers**

The seven key operational barriers to sustain-

ability implementation, introduced on page 39, span across areas within and outside of the SME's control. Each barrier shapes SME organizational behaviour differently and uncovers specific interactions of organizational functions, as SMEs seek to address them. Using the VSM, we identified the priority functions most frequently leveraged by SMEs in response to barriers within or outside their control. They revealed the strategies used to strengthen organizational capacity and enhance adaptability in response to systemic challenges. Each function plays a unique role in shaping how sustainability is approached, and their interactions reveal where efforts are thriving, fragmented, or absent.

Through categorizing the barriers into two broad groups: those within the SME's control, and those outside their control, from the broader system, it allowed us to analyze how different types of barriers activate specific organizational responses. We identified four key barriers that consistently limit progress from within the SME's control: fear and doubt in decision-making, fragmented working culture, short-term pressures that hinder long-term planning, and surviving varying everyday demands. From outside the SME's control, we also identified three key barriers that limit progress: rigid structures that stifle the possibility of change, difficulty navigating support systems and feeling lost in the complexity of sustainability.

Our analysis unveiled the two core organizational functions that cut across both within SME control and outside SME control are Optimization & Audit and Planning. We found that each function interacts with the barriers in specific ways:

### 1. Optimization & Audit

Prioritized to improve internal clarity, reduce uncertainty and confusion of ever-changing standards. This function simplifies and adapts external sustainability knowledge to fit practical business steps and metrics to evaluate progress more consistently. Reducing fear and doubt in decision-making to build more stakeholder confidence in evidence-based sustainability efforts.

### 2. Planning

Once internal clarity is established, it is essential to keep pace with emerging regulations and market trends to pivot easily. Actively scanning the broader landscape for evolving sustainability requirements and connecting those goals with business needs. Anticipating regulatory surprises and converting it into a competitive advantage, shifts the focus from just reacting to short-term pressures toward re-evaluating longer-term plans.

This also revealed that a third function for each was affected differently by barrier within

SME control and outside of their control with Operations being affected by barriers within the SME control and Coordination affected by the barriers outside of the SME control.

The barriers within their control expose the series of efforts that SMEs are developing to strengthen organizational capacity for change.

#### Operations

Slowly adapting workflows to include sustainability where possible. Investing in upskilling staff, experimenting with small changes, and embedding more sustainable practices into daily tasks. These operational tweaks make sustainability feel more manageable and less disruptive.

While the barriers outside their control are the hurdles that force the organization to adapt or change direction, for instance, government policies, industry expectations, market conditions, and support networks.

#### Coordination

Improving the gathering, sharing, and response to information from external sources. Building stronger connections between internal teams and external stakeholders, such as suppliers, customers, and support organizations, to ensure that sustainability efforts are consistent, aligned, and agile. Enabling better messaging coherence and smoother implementation across the organization.

The shift from 'Operations', for barriers within control, to 'Coordination', for barriers outside of control, is particularly noteworthy. It suggests that as SMEs navigate external pressures, their ability to coordinate across organizational functions becomes increasingly important for sustainability integration, more so than operational efficiency. This distinction is crucial for developing targeted interventions that can enhance SME capacity for sustainable operations.

## Sustainability as a Path to Resilience

Our research into how SME leaders' approach sustainability as purpose, people, planet and profit revealed a paradigm shift in understanding. Rather than treating sustainability as a separate goal or compliance task, many SMEs are engaging with it as an ongoing process to increase their potential for impact, though often in an ad-hoc or fragmented manner, lacking structured implementation. Similarly, resilience emerged not simply as withstanding disruption, but as an organization's ability to navigate toward their desired impact despite challenges.

This insight emerged clearly in our interviews with eleven SME leaders across Canada, where ten of the eleven respondents had been in business for more than five years. This provided a rich perspective on how their or-

ganizations had evolved and the daily actions taken in response to challenges over time.

Our analysis revealed the need to reframe both concepts: sustainability is best understood as the continuous process of building internal capacity aligned with purpose, while resilience represents an organization's ability to mobilize that capacity effectively during disruption. This distinction has important implications for how we support SMEs, not only in strengthening their operations, but in enabling them to adapt, respond, and thrive in the face of growing uncertainty.

### Sustainability as Capacity-Building

In the SME context, sustainability is not a fixed destination or a checklist of compliance activities; it is a process of continuous capacity building rooted in purpose. It is a purpose-driven process of developing the organizational capabilities needed to thrive amid uncertainty while making meaningful contributions to people, planet, and profit.

SME leaders in our study were not simply reacting to global sustainability discourse. Rather, they were responding to what they perceived as core responsibilities to employees, communities, and future generations. Their decisions are shaped less by compliance frameworks and more by the deeply held values that ground their organizations. These values manifest as intentional choices and

actions that we've identified as nine response patterns. Each one reflects a practical way leaders are building internal capacity to serve the sustainability interests of their business.

Our findings suggest that sustainability is, fundamentally, the ability to act on purpose. The capacities built over time through aligned action allow SMEs to make the impact they envision. This purpose is powered by either the drive of the founder or the organizational mission; shaping how sustainability is pursued and enacted. The data leads us to the conclusion that response patterns directly build internal capacity, aligned with purpose.

For example, Aashima Asthana, Co-Founder at Wear Revolve, a sustainable fashion manufacturing enterprise emphasized her commitment to human rights and ethical labour practices:

*"I have been working in these industries and saw what the loopholes are. So, I was very actively taking part in not exploiting human resources. Basically, supporting human rights. That was one of my aspects... because there are a lot of workers involved. Families coming from four generations just trapped in a loophole... So, my first perspective was fighting for human rights."*

Here, capacity-building is evident in her response pattern of anchoring business practices in values to create impact. The business

isn't just operating ethically, it is cultivating knowledge, systems, and practices that reinforce ethical operations over time.

Aashima went on to explain her efforts toward circular business models, further reinforcing our hypothesis. These aren't abstract goals, but capabilities being built through tools, relationships, and infrastructure that enable businesses to act on their values, adapt to market changes, and pursue new ways of working.

This was reinforced across our interviews and survey responses. Many of the business leaders we interviewed described actions aligned with sustainability principles, directly reflecting the nine response patterns. This was bolstered by our survey results where only a third of respondents indicated they had clearly defined resilience goals. Whether through nurturing collective prosperity, designing adaptive business structures, or navigating shifting demands, business leaders were building internal capabilities that aligned with their purpose, often without explicitly labeling them as sustainability initiatives.

Leaders also demonstrated a high level of self-awareness and humility. They acknowledged their limits, whether in knowledge, resources, or influence. However, they did not let those limits become barriers. Instead, exhibiting a clear willingness to seek help, bring in advisors, and create space for learning and adaptation was shown. Five business leaders

expressed how they were bringing in external expertise to support them in building certain internal capacities. As Annelies Tjebbes, CEO & Founder, Roots & Rivers Consulting, put it:

*"We're also bringing in fractional support - we just hired a digital transformation agency. They'll be helping us figure out which tools and systems we should be using as we grow, how to transition to them effectively, and how to ensure the process is smooth both for our team and for our clients."*

This statement reflects how sustainability is viewed not as a constraint but as a capability that can enhance competitive positioning. The decision to pursue sustainability, in this view, is a strategic one. It requires building internal structures, systems, and mindsets that allow values to be translated into daily practice, essentially, a form of organizational capacity-building. Aashima Asthana, Co-Founder at Wear Revolve, stated:

*"We embedded resilience into our day-to-day operations without adding any extra financial or operational burden, and we don't position it as a selling point to our clients. As a buying agency, we operate sustainably but don't label ourselves that way. Instead, we focus on revolutionizing the manufacturing process, and sustainability just happens to be part of how we do it. For*

*our clients, it's about results, they don't see sustainability as their problem."*

The leaders we spoke to are not designing sustainability for perfection or accolades; they are designing for impact. They are responding to complexity with pragmatism, balancing financial viability with social and ecological responsibility, and cultivating business models that reflect their values. These are not businesses that chase sustainability; they embody it, operationalizing it through practical steps that reflect their convictions.

In this way, sustainability becomes a living expression of organizational purpose - not a singular program or a finish line, but the strengthening of internal capabilities that allow the business to operate with intention and adapt with resilience. SMEs are actively shaping the conditions that allow their values to endure and evolve, positioning themselves to respond to disruption in ways that are both operationally effective and aligned with their broader impact goals, safeguarding both long-term viability and core identity.

### **Resilience as Activating Capacity**

If sustainability builds internal capacities aligned with an SME's purpose, then resilience is the ability to activate those capacities effectively, navigating complexity, responding to disruption, and maintaining momentum toward long-term impact. For SMEs, resilience is not a simply overcoming disruption; it is

a continuous practice of forward movement, grounded in the systems, relationships, and convictions that sustainability has helped them build.

Our research indicates that SMEs approach resilience not as a state to be achieved or a return to a prior stability, but as the mobilization of developed capacities to meet challenges. These capacities, built from their commitments to people, planet, purpose, and profit, are activated as needed. Thus, resilience emerges not separate from sustainability but as a plausible outcome, prototyped and realized in real time.

The business leaders we spoke to often described their resilience not in terms of bounce-back ability, but through stories of how they had adapted, adjusted, and stayed on course toward their vision. One leader in the farming sector described setting aside funds to prepare for future climate-related disasters:

*“As far as climate change goes, we’re actually trying to save money every year that we’re putting aside in a liquid savings fund... by the time you’re my age, the chances of everything you see here not being blown away by hurricane are low. So, in order for everyone [the staff] to feel like they have a future here, we’re going to save money. So that when everything gets blown*

*away, we’ll have money to rebuild.”*

Annelies Tjebbes, CEO & Founder, Roots & Rivers Consulting, also stated:

*“We have a financial cushion; we save money every year to make sure that we are preparing for a rainy day. We build that into our financial design.”*

This highlights resilience as the proactive use of internal capabilities, financial, operational, cultural, developed through sustainability commitments, and activated to prepare for an uncertain future. Their ability to plan ahead was not derived from external regulations, but from a clear sense of purpose and values. Resilience also appeared in how businesses treated people. Several leaders emphasized how sustainability-oriented choices, like paying a living wage or investing in training, were being actively built. With one leader speaking to how they managed their people during COVID:

*“We call it driving the five which is sleep, nutrition, exercise, stress management and connection to others. So, when COVID hit, if we’re doing a performance review. We’re always talking about this because those are the quiet pieces of the business for the individuals that whether you address it or not, they’re impacting performance... but really we want to have consciousness and all those*

*things. Whether you address them or not. They’re impacting you. It’s just like breathing, all those things impact you.”*

This emphasizes how these capacities, built intentionally over time, can become powerful tools in navigating shocks. Other leaders were actively building these practices. Highlighted by Annelies Tjebbes, CEO & Founder, Roots & Rivers Consulting:

*“We are living wage certified. It’s an important commitment that we’ve made to ensure that we are paying our team enough to cover their cost of living and support them to invest in their future.”*

Aashima Asthana, Co-Founder at Wear Revolve, a sustainable fashion manufacturing enterprise also noted:

*“As a company, we do training for our employees, training for our workers, and training for the manufacturers. I guess this is very absent—both mentorship and networks—but it is gradually improving as more platforms and communities start supporting SMEs in sustainability-driven industries.”*

Exhibiting resilience was not about reacting to crises in the moment but about having established systems, relationships, and support mechanisms that could be leveraged when needed, not as add-ons but as embedded

parts of the business, consistently cultivated through sustainability practices.

Jaclyn Geisberger, Founder, Witch in the Woods Tattoo, shared how their consistent community engagement provided not only visibility but a strong relational buffer in challenging times:

*“Once we posted about one of the community collaborations that we were doing on a local Facebook group and this local woman went off talking about how we worshiped Satan and blah blah blah. Saying that we were bringing down our community, but our community members had clearly seen all of the things that we were doing locally and all these people who had never, ever been tattooed by us or don’t even have tattoos we’re defending us. Saying all these lovely things. Since then, I have definitely recognized those last names coming in, it’s their daughters or cousins. Where we are, it’s a very grassroots kind of thing and community support just goes a really long way.”*

Here, we see how relational capital, built over time through sustainable practices, becomes a source of strength and resilience. Community trust and goodwill are not just intangible values but vital forms of capacity that can be activated when challenges arise.

Resilience in this context is not just about recovering; it is about being ready to move forward while staying true to values. SMEs are preparing not just to survive disruptions but to navigate them without compromising their purpose. Our findings suggest that the most resilient SMEs are those that see every challenge as a moment of activation, an opportunity to test, reinforce, and evolve the internal capacities they have built through sustainability.

This reorients how we understand resilience in SMEs context. Rather than viewing it as an endpoint or the opposite of vulnerability, resilience represents an ongoing engagement with challenges, knowing what capabilities to draw upon, when to shift directions, and how to maintain movement while staying true to purpose. We see resilience as the practical test of sustainability, where established values inform decisions under pressure, where strategies adapt to changing conditions, and where purpose provides the clarity needed to navigate uncertainty.

Without this foundation of sustainability-aligned capacity, businesses may weather disruptions but often at the expense of their values, impact goals, or reputation. In today's reality, resilience means more than bouncing back; it's about moving forward with clarity, integrity, and the competencies needed to address complex challenges.

## A Reinforcing Connection

Our research revealed a clear pattern: in SME's lived experience, sustainability and resilience function not as isolated or sequential concepts but as complementary forces that shape how businesses navigate uncertainty. Sustainability develops organizational 'muscle', the purpose-driven orientation that shapes direction, systems, knowledge, resources, and processes. Resilience activates that muscle, enabling SMEs to respond with intention when faced with volatility.

Weber (2023) reinforces this dynamic, noting that while sustainability tends to reduce vulnerabilities and enable more stable operations, resilience is not always automatically guaranteed, it must be intentionally built and mobilized.

This shows that SME leaders with a stronger sense of self and clarity around their business purpose, have been more successful in translating that identity into an organizational mission. This alignment has enabled them to steadily build capacity across key parts of the business, from employee systems and governance structures to product innovation and local partnerships. As a result, when disruption occurs, these businesses have more foundational internal capacities to depend on, demonstrating resilience not as reaction, but as purposeful motion.

One business leader in the farming sector

described this clearly:

*"We pay our staff much better than most businesses our size. We do profit sharing."*

*"We are constantly innovating our farming systems. Pretty radically. Right now we're working on a system called bio strips... prototyping an affordable mobile snow-shedding and wind-resistant greenhouse."*

*"The market in the city has tons of autonomy... They kind of just self-manage it and we let them do it and it generally works pretty well."*

*"I insisted that we build cabins on the farm, I really wanted housing to be available on the farm for people who want to come here... Now, 10 years later... We had one employee who was living in the city working at our store and just working on the farm about one or two days a week. Then she lost her housing, and you know what that means these days. She was like, 'I think I might be able to get in with some friends of mine in like a month or two.' So, we said, 'you know what, why don't you just move to the farm?'"*

This example demonstrates how the leader was not simply building for stability but equipping their organization with the capability to maintain momentum despite disruption. Be-

cause they had been investing in sustainability capacities for years, they were further along the journey, able to respond to complexity with more coherence, autonomy, and trust in their people.

Another business leader similarly stated:

*"The best thing you can do is work to give employees ownership, so instead of a pure capitalist model, it's a shared capitalism model. Where we all do well and it's profitable. Behind the scenes, quietly enfranchising."*

We heard from leaders who view resilience and sustainability not as theoretical constructs but as daily operating realities. Many spoke of maintaining 'balance' between profitability and purpose, between managing people and protecting the planet, between immediate needs and long-term impact. This equilibrium is not static but constantly maintained by drawing from, refining, and returning to the capacities built for sustainability. Business leaders consistently described a deep connection between their sustainability practices and their ability to navigate challenges. Aashima Asthana, Co-Founder at Wear Revolve explained how including sustainable elements in products could create a competitive advantage:

*"Let's say I'm producing a product for \$75. I can offer a version for \$78 or*

*\$79 by simply including a sustainable element like a glass straw, and that small shift gives the brand a sustainability label. I've helped clients get green certifications and even land in Europe's top listings. One of my clients became one of the top ten sustainable resort brands in the world. In less than two years, they completely transformed their model using sustainable materials. That makes me really proud."*

In this example, the carbon tracking capacity built through sustainability was actively mobilized to create business value and respond to market needs. Across multiple interviews, leaders highlighted how their investment in people systems, ethical operations, and community relationships became essential levers during disruption.

Our interviews revealed that SME leaders draw directly from purpose to inform how they engage with systems, people, and markets to weather disruptions. This creates a reinforcing feedback loop where sustainability practices, when purpose-aligned, become strategic infrastructure. Sustainability strengthens the operational core, while resilience calls upon and sharpens those capacities through real-world application. Each encounter with disruption becomes a moment of refinement.

Without this alignment between values, operations, and direction, our data suggests

that SMEs are more likely to fall into reactive patterns, patching holes instead of moving forward with intention.

While much literature positions resilience as the foundation from which sustainability can emerge (Vogus & Sutcliffe, 2007; Sroufe, 2016), our findings suggest the inverse may be more accurate: businesses that invest early and consistently in sustainability-aligned systems are more likely to demonstrate operational resilience over time. We argue that resilience is not about reacting to crises in the moment, but about having established systems, relationships, and support mechanisms that can be depended on when needed.

What became evident through our research is that many businesses do not use formal resilience strategies. Instead, their day-to-day operations reflect an intuitive understanding of what it means to remain in motion, protected, prepared, and clear on their purpose. In doing so, it creates a loop of operational learning: the more businesses test their capacities under stress, the more clarity they gain about what works, what matters, and what must evolve.

One without the other is incomplete: Resilience without sustainability risks being merely reactive; sustainability without resilience risks remaining aspirational. Together, they enable business leaders to make decisions that are both responsive to today's challenges and

aligned with long-term visions. Pablo Romero, Co-CEO & President, The Ally Co., captured this sentiment well:

*"Am I getting out of the way enough to allow others to step in? We just hired a full-time Director of Operations... It's really about ensuring I'm creating the space for her to grow into and supporting her in ways that matter most to her. Letting go of things that got us 'here' can be a scary part of the journey for leaders. But, it can also generate incredible moments of growth and impact."*

This also underscores the importance of purpose as the compass that guides the entire process. When sustainability and resilience operate in concert, businesses develop a rhythm that is both grounded and agile. Purpose provides direction, sustainability builds organizational capacity, and resilience keeps the business moving forward, adapting in ways that are proactive instead of reactive.

What distinguishes truly resilient business in our research is not simply their ability to withstand pressure but their capacity to respond in alignment with their purpose and values. These organizations are not merely surviving uncertainty, they are using it to sharpen their systems, deepen their impact, and evolve their practice.

This relationship is the central insight our

research brings to the conversation on SME sustainability adoption. Sustainability and resilience are not ends in themselves; they are embedded ways of working, thinking, and evolving. For Canadian SMEs navigating the uncertainty of a changing climate, market disruptions, and shifting social expectations, this reinforcing connection offers not just a framework for survival, but a pathway to meaningful, purposeful business.

# Potential For Change

Our research into the barriers and response patterns of Canadian SMEs revealed a landscape shaped by systemic constraints, resource limitations, and siloed support. Yet, amidst this complexity, leaders consistently show a deep sense of purpose, a commitment to community, and a willingness to evolve. With over 1.21 million SMEs representing 99.7% of all businesses in Canada (Government of Canada, 2023, p. 8), addressing these barriers presents a significant opportunity for nationwide sustainability impact.

A critical shift is needed to move from fragmented, reactive sustainability efforts to an integrated system that builds and mobilizes capacity through aligned, purpose-driven support.

By strengthening what businesses already do well, without additional burdens, we can design interventions that unlock their potential to act more confidently, cohesively, and sustainably, enabling the transition to resilient business practices.

## **Current Support System for SME Sustainability**

To understand the nature of this shift, we must first recognize the existing ecosystem that SMEs navigate when implementing sustainability practices. The current landscape consists of several interconnected components

that, while well-intentioned, often create barriers rather than enablers for SME sustainability adoption:

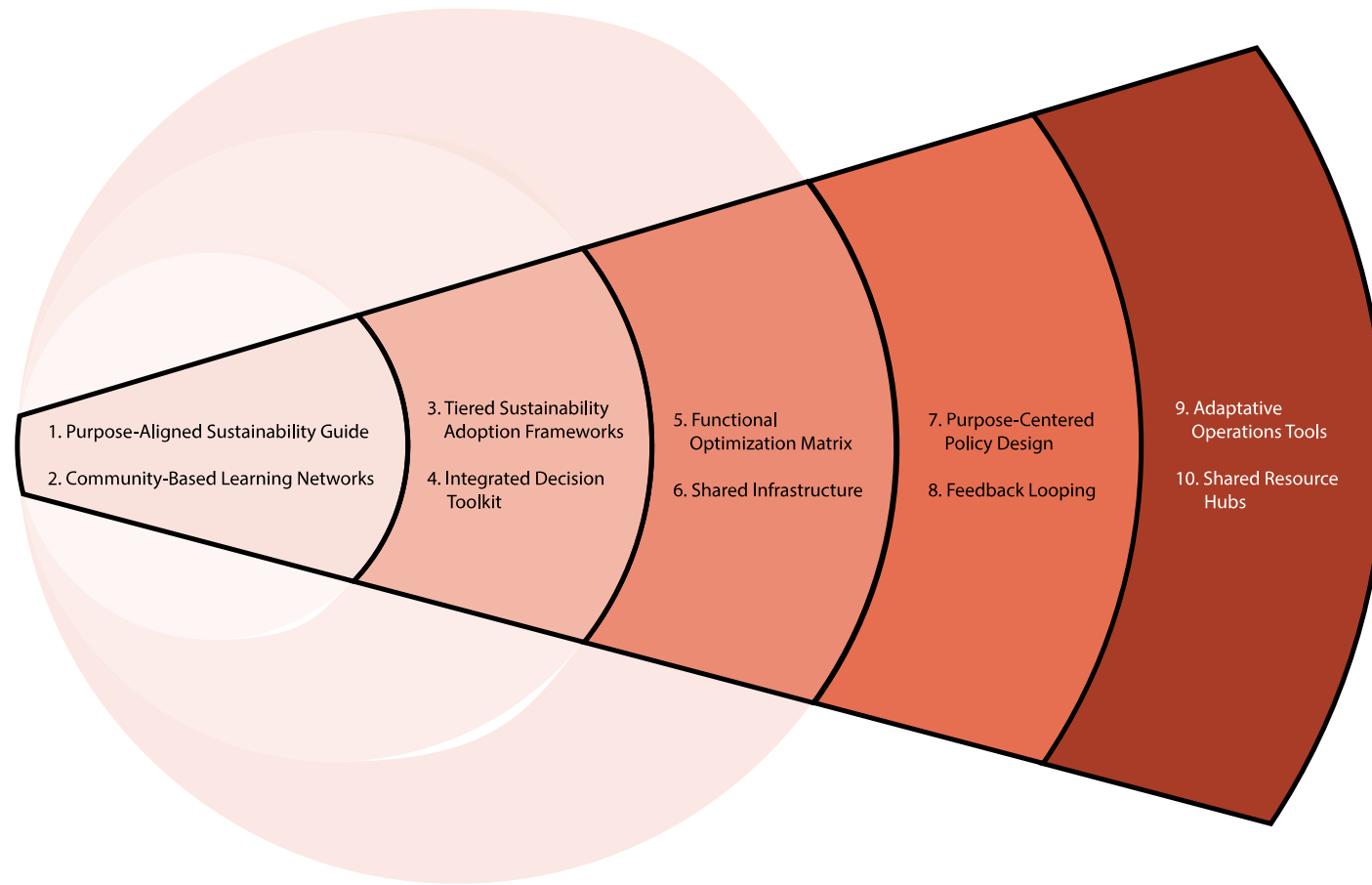
*Knowledge Resources - Government guidelines, industry best practices, and sustainability frameworks that typically employ complex terminology and assume organizational capacities beyond most SMEs' reach;*

*Regulatory Framework - Environmental compliance requirements, reporting obligations, and policy mechanisms that frequently create disproportionate administrative burdens without corresponding benefits for smaller organizations;*

*Financial Mechanisms - Grants, loans, and incentives that remain difficult to access due to complex application processes, misaligned eligibility criteria, and limited awareness;*

*Technical Assistance - Consulting services, certification processes, and technology solutions predominantly designed for and priced at levels that are largely inaccessible to smaller enterprises;*

*Networking Platforms - Business associations and industry networks with varying levels of sustainability focus and practical implementation support that may feel repetitive and redundant to small enterpris-*



- Threshold 1: Stuck in Ambiguity
- Threshold 2: Buried in Complexity
- Threshold 3: Struggling to Start
- Effective Policy and Regulatory Development
- Building a Resilient Ecosystem

**Figure 16- Opportunities for Progress**

es; and **Market Infrastructure** - Certification schemes, consumer education initiatives, and supply chain systems that many SMEs struggle to effectively leverage.

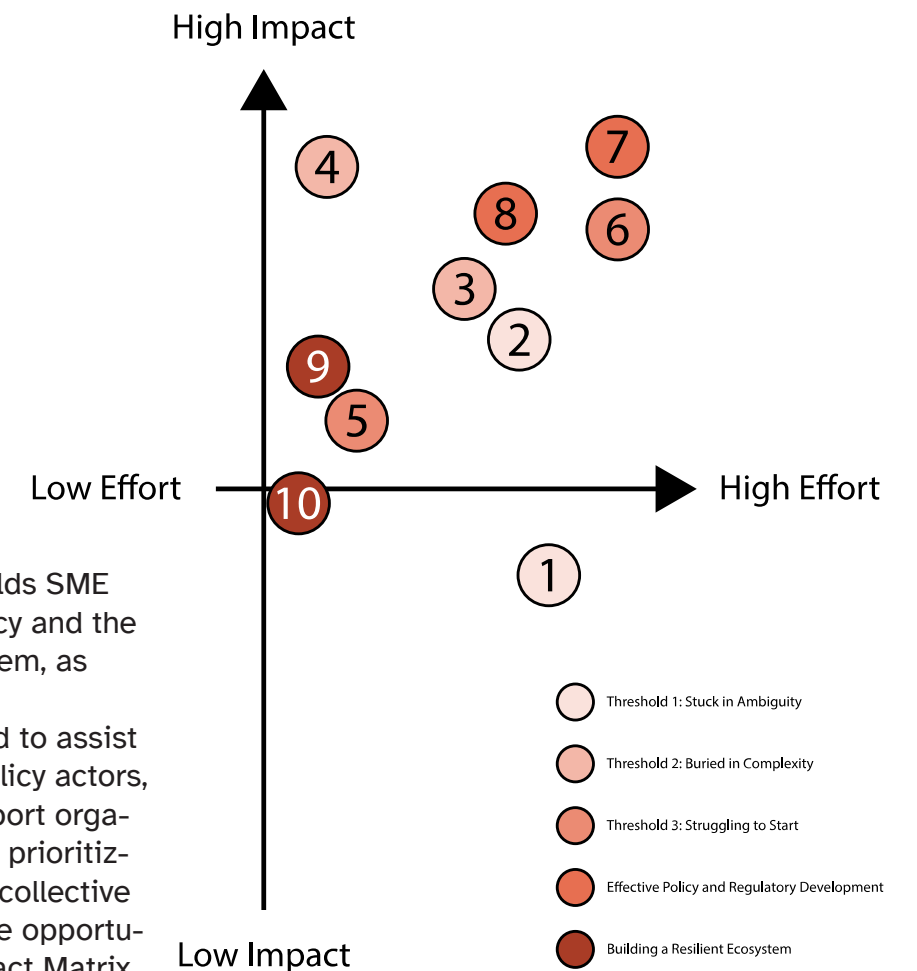
Our research reveals that while these components exist, they function more as a fragmented landscape than a coordinated system. SMEs report significant challenges in navigating this ecosystem, with resources scattered

across organizations, mismatched to their operational scale, geographically inaccessible (especially in rural areas), and often disconnected from day-to-day business realities.

The interventions we propose directly address these systemic gaps by creating more integrated, accessible, and appropriately-scaled support that build on existing SME behaviors and capacities rather than requiring fundamental organizational restructuring.

### Opportunities for Progress

This chapter presents ten practical interventions to address barriers that are both within and outside the SME's control, drawing from our interview insights and the potential solutions proposed by SME leaders and industry experts. These interventions are based on opportunities identified across SME sustainability adoption journeys in line with the



**Figure 17- Effort vs Impact**

three implementation thresholds SME leaders face, key shifts in policy and the broader sustainability ecosystem, as illustrated in figure 16.

These opportunities are aimed to assist decision-makers, including policy actors, ecosystem builders, SME support organizations, and SME leaders, in prioritizing investments and targeted collective support. Figure 17 presents the opportunities within an Effort vs. Impact Matrix,

followed by detailed breakdowns of each initiative. Together, they help to outline possible paths forward.

This mapping underscores the insight, previously highlighted, that many SMEs are ready and willing to act, but the right support is essential to turn good intentions into sustained progress.

The high-impact, medium-effort interventions identified in Figure 17 - such as 4. Integrated Decision Toolkit, 9. Adaptive Operations Tools and 5. Functional Optimization Matrix offer timely pathways to mobilize progress.

While longer-term systemic shifts, such as 6. Shared Infrastructure, 7. Purpose-Centered Policy Design and 8. Feedback Looping, offers critical system-level levers for long-term transformation, their success depends on multi-stakeholder collaboration, funding, and in some cases policy alignment.

The following section unpacks each intervention in greater depth, per figure 16, showing how they directly respond to the challenges embedded within the three barrier thresholds, Stuck in Ambiguity, Buried in Complexity, and Struggling to Start. The first three intervention areas, Building Confidence, Creating Clarity, and Enabling Action, focus on what SMEs can help to shape, such as how decisions are made, resources are used, and priorities are set. The final two, Effective Policy and Regu-

latory Development and Building a Resilient Ecosystem, speak to the broader environment in which SMEs operate, offering ways to reduce friction, improve support, and strengthen the systems that surround them. Together, these thresholds offer a more practical and coordinated response to the layered challenges SMEs face.

### **Building Confidence**

These interventions address barriers in highlighted in Threshold 1. For SMEs struggling with basic sustainability knowledge and awareness, we propose interventions that simplify concepts and build a connection to existing business values:

#### **1. Purpose-Aligned Sustainability Guide**

Develop a “Purpose-to-Practice” guideline that helps SMEs articulate their existing purpose and translate it into sustainable building blocks relevant to their specific industry and context.

*Implementation:* This would involve creating a simplified self-assessment tool that guides SMEs to define their core values and purpose, then maps these to operational design/structure across people, planet, and profit dimensions. Unlike existing sustainability frameworks, that impose generic principles of sustainability.

*Potential Impact:* Reduces fear and resistance because it starts with what SMEs

already care about, while validating existing efforts rather than introducing new concepts. This approach acknowledges that many SMEs are already engaging in sustainability-aligned practices without recognizing or naming it as such.

#### *Key Actors Involved*

- Business support organizations (chambers of commerce, sector associations)
- Sustainability consulting firms and experts
- Academic institutions specializing in business sustainability
- SME leaders as co-creators and testers
- Design and UX professionals for tool development

#### *Potential Funding Sources*

- Federal economic development agencies (ISED, FedDev Ontario)
- Provincial business ministries and economic development departments
- Corporate sponsors interested in supply chain sustainability
- Private foundations focused on business transformation
- Industry associations with sustainability mandates

#### **2. Community-Based Learning Networks**

Establish peer-based networks organized by industry sector and geographic region. These would facilitate learning and best practices by sustainability professionals

alongside SME leaders.

*Implementation:* These networks would focus on sharing practical experiences rather than theoretical knowledge, with participants discussing real-world implementation case studies, challenges, and solutions in a constructive and relatable manner. Rural-urban dynamics need to be considered, with options to include businesses in rural areas made available.

*Potential Impact:* Addresses the emotional barriers of fear and inadequacy by creating safe spaces for honest conversation. It also combats the isolation many SME leaders feel when overwhelmed by sustainability challenges by providing reliable peer support.

#### *Key Actors Involved*

- Local business associations and chambers of commerce
- Industry-specific trade associations
- Municipal economic development offices
- Regional sustainability networks and NGOs
- Academic institutions as knowledge partners
- Pioneer SMEs with sustainability experience

#### *Potential Funding Sources*

- Municipal economic development funds

- Provincial grants for business networks
- Membership fees from participating businesses
- Sponsor businesses (larger corporations in the region)
- Community foundations
- Federal rural development programs for rural networks

### Creating Clarity

For SMEs navigating barriers in threshold 2 - the overwhelming complexity of sustainability, we propose interventions that clarify and contextualize sustainable practices:

#### 3. Tiered Sustainability Adoption Frameworks

Develop simplified sustainability frameworks specifically designed to facilitate SME progression through different implementation stages.

*Implementation:* A tiered approach to sustainability adoption with entry-level, intermediate, and advanced roadmaps that inform how to grow SME organizational capacity. Each tier would focus on practical actions rather than comprehensive assessment, with clear guidance on what progress looks like.

*Potential Impact:* Addresses the paralysis caused by framework complexity and makes it easier to commence sustainability journeys, validating incremental prog-

ress.

#### Key Actors Involved

- Standards development organizations
- Industry associations with sector expertise
- Sustainability certification bodies
- Digital platform developers
- SME representatives for user testing and feedback
- Sustainability measurement specialists

#### Potential Funding Sources

- Federal innovation funding programs
- Large corporations interested in supplier development
- International development agencies
- Philanthropic organizations focused on sustainability standards
- Public-private partnerships between government and industry

#### 4. Integrated Decision Toolkit

Create decision-making blueprints that integrate sustainability considerations into existing business processes to reduce the hesitancy of adoption due to limited understanding or cost assumptions.

*Implementation:* Simple industry-agnostic checklists and processes that guide how sustainability should be embedded into standard business activities like procurement, product development, and recruitment in easy-to-understand language.

*Potential Impact:* Enables a more coordinated working culture to overcome siloed thinking and ways of working. While debunking deep held myths about the high cost of sustainability implementation.

#### Key Actors Involved

- Business management software providers
- Business consultants and advisors
- Operational research specialists
- Industry-specific experts for customization
- UX/UI designers for accessibility
- SME operational staff for testing

#### Potential Funding Sources

- Technology innovation grants
- Industry association research budgets
- Software companies as part of ESG initiatives
- Angel investors interested in sustainability tools
- Provincial business innovation funds

### Enabling Action

In barrier threshold 3, SMEs struggle to translate knowledge into action. We propose interventions that entrench support and empower operational action:

#### 5. Functional Optimization Matrix

Strengthen organizational functions by

providing targeted support to evaluate capacity-building progress and identify areas for further development.

*Implementation:* Streamlined and customized audit tools that evaluate sustainability performance, and propose adaptation plans to drive more efficiency and effectiveness across the organization.

*Potential Impact:* Drives more focus of resources to have maximum impact in the sustainability implementation; ensuring higher return on investment.

#### Key Actors Involved

- Management consultants with SME expertise
- Data analysis and visualization specialists
- Organizational development professionals
- Business coaches and advisors
- Software developers for digital tools
- SME managers for implementation testing

#### Potential Funding Sources

- Business productivity enhancement grants
- Professional service firms as pro-bono initiatives
- Innovation funds for business improvement tools
- Business schools' applied research

- budgets
- Provincial economic development initiatives

## 6. Shared Infrastructure

Invest in critical sustainability infrastructure that can be shared across communities and SME networks to increase availability and shared benefits.

*Implementation:* Value chain improvements like community-based renewable energy systems, shared logistics and transportation networks, material exchange platforms, and collective waste management systems that make sustainable operations more accessible to resource-constrained SMEs, such as exploring circular business models leveraging business ecosystems.

*Potential Impact:* Increases the reach of SMEs, particularly rural SMEs, to significant sustainable infrastructure that could step change their operations.

### Key Actors Involved

- Municipal and regional governments
- Economic development corporations
- Community investment cooperatives
- Utilities and service providers
- Engineering and design firms
- Industry clusters and business parks
- Local business improvement associations

### Potential Funding Sources

- Infrastructure Canada funding programs
- Green municipal funds
- Public-private partnerships
- Community bonds and local investment funds
- Provincial infrastructure grants
- Federal clean technology adoption funding
- Impact investors focused on circular economy

## Effective Policy and Regulatory Development

On an external level, actors with high influence are not equipped with appropriate SME landscape understanding to develop meaningful initiatives. We propose the following interventions to inform their approaches.

## 7. Purpose-Centered Policy Design

Shift regulatory perspectives from compliance-focused to encourage capacity-building of purpose-driven SME orientations.

*Implementation:* Introduce regulations that simplify requirements, lead to clearer sustainable outcomes and account for flexibility in the ways SMEs can implement their sustainability.

*Potential Impact:* Minimizes the influence of rigid systemic and regulatory structures to support SME sustainability transitions.

### Key Actors Involved

- Federal and provincial regulatory bodies
- Policy think-tanks and research institutions
- Sustainability governance experts
- Legal and compliance professionals
- SME advocacy organizations
- Industry associations representing SME interests
- Multi-stakeholder roundtables

### Potential Funding Sources

- Federal policy innovation funds
- Provincial regulatory modernization budgets
- Private foundations promoting public policy reform
- Corporate sponsorship from sustainability leaders
- Academic research grants for policy development

## 8. Feedback Looping

Establish structured mechanisms that connect targeted high-influence actors whose mandates inform business operations, policy decision-making, sustainability development programs, and resources with SME daily realities to ensure more practical support.

*Implementation:* Create segmented engagement approaches with immersive field experiences, structured roundtables, specific impact assessments, reverse mentorship programs, and digital feedback platforms tailored to each authority's mandate and incentives.

*Potential Impact:* Enables more effective policy design, program planning, and resource allocation that respects SME operational realities, resulting in more supportive regulatory frameworks and stronger relationships between businesses and aligned authorities.

### Key Actors Involved

- Economic Development authorities (federal, provincial, municipal)
- Emergency Management and Preparedness agencies
- Industry-specific regulatory bodies
- Regional planning organizations
- Business funding programs and economic policy departments
- SME representative associations and advocacy groups

### Potential Funding Sources

- Economic development program evaluation budgets
- Emergency preparedness planning funds
- Regulatory modernization initiatives

- Public-private partnerships for policy innovation
- Industry association stakeholder engagement resources
- Academic research partnerships studying policy effectiveness

### Building a Resilient Ecosystem

From an external standpoint, SMEs are usually exposed and influenced by macro trends and industry shifts. We propose the following interventions to adequately prepare and enable SMEs:

#### 9. Adaptative Operations Tools

Business modelling tools designed to Business modelling tools designed to equip SMEs with insights and scenarios to navigate evolving sustainability requirements, and expectations and disruptions.

*Implementation:* Interactive scenario models that consider early warning signals about emerging sustainability trends, regulations, and market shifts to help SMEs pre-empt, plan sufficiently and create transition support strategies.

*Potential Impact:* Strengthens resilience planning of SMEs by helping to anticipate changes and inspiring proactiveness.

##### Key Actors Involved

- Business forecasting specialists

- Systems modelling experts
- Software developers
- Risk management professionals
- Industry trend analysts
- UX designers for intuitive interfaces
- SME operators for real-world testing

##### Potential Funding Sources

- Innovation research grants
- Technology accelerator programs
- Software development partnerships
- Climate adaptation funding programs
- Business resilience investment funds
- Private equity focusing on business technology solutions

#### 10. Shared Resource Hubs

Leveraging existing business associations and chambers of commerce, to create platforms that reduce sustainability resource accessibility burdens-knowledge, information, data, reports, funding, professional support- on SME leaders and business ecosystems.

*Implementation:* Physical or virtual central sustainability hubs that make basic sustainability resources and specialized expertise, tools, and technologies completely accessible to individual SMEs and business groups.

*Potential Impact:* Reduces sustainability resource constraints and barriers-to-entry; encouraging adoption and potentially creating economies of scale when it comes to

sustainable alternatives.

##### Key Actors Involved

- Chambers of commerce and business associations
- Sustainability resource specialists
- Information management professionals
- Community economic development organizations
- Knowledge sharing platform developers
- Local sustainability experts and practitioners
- Content curators and translators

##### Potential Funding Sources

- Federal SME support programs
- Provincial business resource funding
- Local economic development budgets
- Multi-stakeholder consortium funding
- Philanthropic support for knowledge sharing
- Large corporate sponsors seeking supply chain sustainability
- Membership contributions from participating organizations

### Validation of Research Findings

To ensure our leverage points and proposed interventions reflected real-world business conditions, we returned to the SME leaders who participated in our research to validate our findings. Their feedback provided an invaluable lens, grounding our analysis and further illuminating the realities of navigating sustainability within small and medium-sized

enterprises.

The feedback reinforced several elements of our barriers analysis. Most prominently, business leaders highlighted the ongoing tension between sustainability intentions and financial feasibility. The “price tag of sustainability” was a repeated theme. Sustainable options often carried higher upfront costs, making them difficult to justify in already lean operating environments.

Leaders also emphasized the destabilizing effect of system-level policies beyond their control. Shifting international regulations, trade dynamics, evolving policy priorities, and diversity, equity, and inclusion pivots were described as unpredictable forces that can stall progress or undo efforts made toward sustainability. These external disruptions make it difficult to plan strategically or embed long-term change, even when internal motivation is strong.

Another frequently echoed insight was the absence of visible peer examples. SME leaders expressed a sense of isolation in their efforts, noting the difficulty of pioneering new approaches without clear, relatable models of success. Without tangible case studies or peers visibly “doing it well,” the road to sustainable transformation often feels unclear.

When it came to the intervention strategies proposed through our research, the business

leaders validated both their relevance and urgency. They emphasized the need for accessible, stage-relevant funding pathways, specifically those designed to support businesses during the transition toward more sustainable models. The availability of targeted support during this transition phase was viewed as essential to helping SMEs build the necessary internal capacity while maintaining operational viability.

Leaders were also enthusiastic about practical tools that connect sustainability efforts with business performance. They expressed interest in guidance that identifies cost-saving opportunities within sustainable practices, particularly where environmental and economic efficiency intersect. These kinds of strategies, they noted, would strengthen internal business cases and help overcome resistance within teams or boards of directors.

What this validation process revealed was a strong alignment between our research findings and the day-to-day challenges SME leaders face. The tensions they described, from cost burdens and policy unpredictability to isolation and the need for clearer pathways closely corresponded with the barrier thresholds identified in our analysis. Their feedback suggested that our proposed response patterns and intervention areas addressed real needs within their organizations, grounding our academic findings in practical business contexts.

The validation process served as an important reality check for our research team. Rather than presenting entirely new insights to these business leaders, our research appeared to articulate and organize experiences they were already navigating but perhaps hadn't fully conceptualized. This mutual recognition, where research meets reality, underscores the value of continued dialogue between researchers and practitioners as we collectively work toward more sustainable and resilient business futures. The journey ahead requires ongoing collaboration, as the landscape of sustainability implementation continues to evolve alongside business needs and societal expectations.

## Factors that Shape Meaningful Change

This research reveals a clear and urgent need to redesign the sustainability support system for SMEs, one that works with, not against, how they operate. While SMEs are motivated and purpose-driven, they face systemic constraints that make meaningful progress difficult. The opportunity is not to impose more complexity, but to provide targeted, practical support that builds capacity in ways that align with existing behaviours and business realities.

A few key interdependencies emerged across-

the ten interventions proposed:

- **Interventions must work in sync** with internal tools like planning frameworks and decision aids that are most effective when reinforced by external supports such as peer networks, shared infrastructure, and streamlined policy.
- **Purpose is the anchor** cutting across internal culture, external engagement, and strategic alignment. Interventions that reinforce purpose help SMEs stay grounded while navigating change.
- **Enabling conditions matter** trust-based relationships, accessible resources, and cross-sector alignment increase the likelihood of sustained adoption. Without these, even well-designed solutions risk falling flat.

The path forward is not about asking SMEs to do more. It's about amplifying what already works, investing in the infrastructure that surrounds them, and removing friction from the sustainability journey. This is not about adding complexity, it's about unlocking capacity.

Sustainability for SMEs is not a destination; it is an ongoing process of building and mobilizing capacity in service of a broader impact. When supported well, this process strengthens not only individual businesses but the resilience and adaptability of the entire ecosystem.

The transition is already underway. The next

step is to make it easier, clearer, and more coordinated, so that sustainable progress becomes not just possible, but inevitable.

While these recommendations are based on trends and resources identified within our research timeframe, we recognize opportunities exist to further investigate existing initiatives and deepen our understanding of implementation contexts.

These recommendations also unearth future research areas which we have detailed in our conclusion. They represent starting points for a renewed approach to supporting SMEs to become more sustainable, acknowledging the journey is a process of capacity-building that ultimately strengthens both business performance and broader social, environmental, and economic resilience.

# Closing Remarks

## Conclusion

This research set out to understand the gap between sustainability ambitions and practical implementation among Canadian SMEs. Through our literature review, engaging the system, and exploration of transition possibilities, we've extracted insights that challenge conventional understanding and offer new pathways forward.

Our findings reveal that the primary barrier to sustainability implementation isn't lack of motivation or resources alone. Most SME leaders we engaged with demonstrated strong purpose-driven values aligned with sustainability principles. Rather, the disconnect occurs at three critical thresholds: Stuck in Ambiguity, Buried in Complexity, and Struggling to Start.

The emotional dimensions of sustainability decision-making emerged as particularly significant. Fear of making costly mistakes, shame about not doing "enough", and feeling overwhelmed by complexity create a paralyzing effect that impedes even incremental progress. This emotional landscape is rarely addressed in sustainability frameworks but proves central to implementation challenges.

Our analysis using the Viable Systems Model revealed an imbalance in how SMEs distribute attention across business functions, with most resources allocated to Planning, Opti-

mization, and Coordination while Identity and Operations receive less focus. This distribution creates structural impediments to holistic sustainability integration as SME leaders find themselves in a never-ending cycle of re-evaluating strategies, translating it into actionable steps and trying to resolve operational conflicts, at the expense of essential long-term planning and action.

By reconceptualizing the quadruple bottom line framework, we identified purpose as the foundation rather than one of four equal pillars. Personal purpose often influences organizational purpose permeating all other dimensions, people, planet, profit, unconsciously anchoring values-driven efforts in sustainability, and building resilience towards implementation barriers.

This research shifts focus from identifying "failing" versus "succeeding" SMEs when it comes to sustainability, to recognizing it as a continuous journey where progress should be supported by leveraging existing organizational capacities. The diverse leaders we interviewed, from organic farmers prioritizing environmental stewardship to service providers focusing on fair pay and nurturing psychological safety, all contribute to sustainability in their own unique contexts.

Moving forward, effective support for SME sustainability transitions requires addressing the identified barrier thresholds through accessible education, simplified frameworks, ongoing support networks, and infrastructure improvements to encourage sustainability integration. By acknowledging progress and supporting SMEs in translating their vision of sustainability into operational reality, we can build a more resilient and sustainable economy that empowers our environment and society to flourish.

## Future Research Areas

### Operational Deep Dive

Future research could focus specifically on the operational manifestation of sustainability within SMEs. By examining how SMEs currently operate within each of the five core functions (identity, planning, optimization/audit, operations, and coordination), researchers could identify more precise leverage points for intervention and support. This approach would enrich our understanding by incorporating broader operational staff perspectives.

- **Cross-functional implementation studies:** Research that examines how sustainability initiatives flow across different organizational functions could reveal important insights about integration challenges and opportunities.
- **Team dynamics research:** Investigating how diverse teams collaborate on sustainability implementation could illuminate effective models for distributing responsibility across SME structures.
- **Multi-level perspective analysis:** Studies comparing leadership vision with floor-level execution could highlight communication gaps or successful translation practices in sustainability implementation.

### Transitional Design Interventions

Our research identified barriers and response patterns across different implementation thresholds. Future work could explore practical interventions to help SMEs navigate these thresholds more effectively. This research would move beyond theoretical analysis to develop and test accessible frameworks, educational tools, and support systems specifically designed for SMEs at different stages of sustainability implementation. Potential areas include:

- **Understanding threshold tools:** Designing simplified, jargon-free sustainability communication tools for SMEs at the initial understanding threshold.
- **Navigating complex systems:** Developing curated guidance systems that help SMEs navigate the complexity of sustainability frameworks at the Buried in Complexity threshold.
- **Implementation support networks:** Exploring peer-based support networks that reinforce sustainable processes and shared practices for SMEs struggling with the implementation threshold.
- **Regional adaptation research:** Exploring how these interventions might be tailored to address specific geographic contexts across urban and rural Canadian settings.

## Longitudinal Case Studies of Implementation

Building on our findings, longitudinal case studies could track SMEs as they implement sustainability initiatives over extended periods, documenting challenges, adaptations, and outcomes over time. Such research would provide valuable insights into the practical reality of sustainability transitions and help identify successful strategies that could be replicated.

- **Sector-specific implementation pathways:** Research focusing on how different industries navigate sustainability implementation could reveal important sector-specific insights.
- **Temporal evolution studies:** Investigating how sustainability implementation evolves over business cycles and in response to external events could improve our understanding of resilience factors.
- **Success markers research:** Studies identifying critical transition points or milestones in successful implementation journeys could help SMEs set realistic expectations and intermediary goals.

## Policy and Infrastructure Support Research

Future research could examine how policy changes and infrastructure development could better support SME sustainability transitions. This might include investigating what types of regulatory frameworks, incentive structures, or public-private partnerships would most effectively address the systemic barriers identified in our research.

- **Regulatory impact analysis:** Studies exploring how different policy approaches affect SMEs of varying sizes could inform more effective policy design.
- **Support ecosystem mapping:** Research documenting the complete landscape of support resources available to SMEs could identify gaps and redundancies in current systems.
- **Urban-rural infrastructure comparison:** Investigating how geographic location affects access to sustainability resources could highlight important areas for infrastructure development.

## Sustainability Measurement for SMEs

Given our finding that current sustainability frameworks often fail to meet SME needs, dedicated research into developing SME-specific measurement tools would be valuable. Such research could focus on creating practical, accessible metrics that balance rigor with usability in the SME context.

- **Simplified measurement frameworks:** Developing stripped-down versions of existing frameworks tailored to SME realities and resources.
- **Technology-enabled measurement:** Exploring how digital tools could reduce the administrative burden of sustainability reporting for resource-constrained SMEs.
- **Value-aligned metrics:** Creating measurement approaches that reflect the unique values and priorities of diverse SME communities across Canada.
- **Temporal tracking approaches:** Designing systems that capture progress over time in ways that acknowledge the developmental nature of sustainability implementation.

## Purpose-Driven Leadership Development

Our finding that purpose serves as a foundational element for sustainability implementation suggests valuable research opportunities in examining how purpose-driven leadership can be cultivated and sustained in SMEs. This research could explore educational approaches, mentorship models, or support networks that nurture purpose-driven leadership in the business community.

- **Leadership transition support:** Research on how sustainability commitments survive leadership transitions could strengthen long-term implementation.
- **Mindset translation research:** Studies examining how SME leaders effectively translate sustainability mindsets into operational practices could provide practical models for others.
- **Decision-making frameworks:** Developing tools that help leaders navigate complex sustainability decisions while balancing competing priorities could reduce implementation barriers.
- **Cross-cultural leadership approaches:** Research exploring how different cultural contexts influence leadership approaches to sustainability could enhance support for Canada's diverse business community.

## Cross-Sectoral Collaboration Models

Expanding on our findings about the importance of networked approaches, future research could examine effective models for cross-sectoral collaboration to support SME sustainability implementation.

- **Information-sharing ecosystems:** Investigating how knowledge flows between SMEs, large corporations, government agencies, and non-profits could identify opportunities to strengthen collaborative learning.
- **Mentorship program design:** Researching effective mentorship models that connect SMEs with sustainability champions could inform support program development.
- **Supply chain collaboration:** Examining how supply chain relationships can be leveraged to advance sustainability implementation across interconnected businesses.

## Diverse Representation in Sustainability Leadership

Future research could examine how diverse leadership perspectives influence sustainability implementation approaches and outcomes in SMEs.

- **Indigenous business models:** Exploring how Indigenous-owned SMEs integrate traditional knowledge with sustainability practices could provide valuable insights for the broader business community.
- **Gender and sustainability leadership:** Investigating how diverse leadership compositions affect sustainability implementation could identify important factors in successful transitions.
- **Newcomer business perspectives:** Research on how immigrant business owners approach sustainability challenges could enrich our understanding of cultural factors in implementation.

These future research directions would extend our work by moving from understanding barriers to developing practical solutions that help SMEs navigate their sustainability journeys more effectively. By focusing on actionable, context-appropriate interventions, such research could help close the gap between sustainability ambitions and practical implementation in the Canadian SME landscape.

## Personal Reflections

### Morgan's Reflections

As I reflect on this research journey, I'm both proud of our work and mindful of its contextual limitations. This experience provided valuable insights into SME operational realities while highlighting constraints in traditional academic approaches.

Two conceptual frameworks significantly impacted my thinking: Shwaikh's (2023) critique of resilience as an imposed expectation resonated deeply. Her argument that resilience discourse often "places the burden on [already struggling communities] for issues beyond their control" while "relieving external forces...from societal responsibilities" parallels our SME observations. Expecting SMEs to be "resilient" in sustainability implementation without addressing systemic barriers diminishes their experiences and shifts responsibility from systems to individuals.

Similarly, Walters and Takamura's (2015) framework for decolonizing the quadruple bottom line would have profoundly influenced our methodology had we encountered it earlier. Their integration of indigenous perspectives, centering community, spirituality, sustainability, and entrepreneurship, offers a more holistic approach than conventional frameworks, affirming that "culture is the wellspring of innovation and entrepreneurship."

I've realized that sustainability implementation extends beyond traditional academic research timelines, with linear progression sometimes misaligned with the holistic, iterative nature of sustainability work.

Moving forward, I see two complementary directions: increasing knowledge accessibility by bridging academic rhetoric and community implementation and including SME leaders as co-researchers rather than subjects. Both would benefit from a decolonized approach to the quadruple bottom line, integrating indigenous values as foundational principles.

I remain proud of our work highlighting the humans behind businesses, revealing inspiring, motivated people from whom I learned tremendously. By emphasizing personal and emotional aspects of sustainability implementation, we demonstrated the need for a systems approach to addressing entrenched barriers while making knowledge more accessible beyond academic contexts.

This research reinforces my belief that academic work on sustainability must embody its advocated principles, creating space for diverse voices, embracing non-linear thinking, and prioritizing care for all stakeholders involved.

## Yaw's Reflections

This research has been both grounding and expansive - rooted in real business experiences, yet full of complexity that stretched my thinking. What began as an exploration of sustainability and resilience in SMEs quickly evolved into something deeper: a reflection on what it truly takes to move from intention to action in systems that don't always make it that easy. It was a privilege to be trusted with the stories of the people we engaged. Their openness and vulnerability about their values and desire to create better futures turned this work into more than an academic exercise, it became a responsibility.

What struck me most was how profoundly personal the sustainability journey is, and how much psychological barriers shape that path. The business leaders we spoke to weren't responding to compliance, they were guided by care, purpose, and a desire to do what's right. The challenge isn't convincing people to care, it's designing conditions that make it possible for them to act on what they already believe. This shifted how I see the smallest signals of sustainability. A recycling bin in a café, a mention of fair wages, a local supplier choice, these quiet decisions, often overlooked, now feel significant. Sustainability is not a checklist, but a series of deliberate, values-driven actions taken in imperfect conditions. That

kind of dedication is rarely acknowledged in traditional business discourse.

Working with Morgan was a gift. Our perspectives couldn't have been more different, mine shaped by the for-profit sector, hers by the non-profit world, but those differences enriched the process. Her lens challenged me to look beyond business logic and embrace other forms of rigour rooted in empathy, lived experience, and social context. That creative tension strengthened our thinking and pushed us to honour the complexity of what we were seeing.

One of the most meaningful shifts for me was understanding that resilience isn't about bouncing back, it's about having the capacity to keep moving forward, even when the system doesn't cooperate. Many of the leaders we spoke to have weathered decades of disruption, continuing not just to survive, but to protect and nurture their purpose. Yet today's world is more uncertain than ever, and traditional ideas of resilience are no longer enough. This work helped me see just how intertwined human motivations, organizational behaviours, and system structures really are, and how meaningful change requires designing with that complexity in mind, whether you're a policymaker, institution, or individual like me.

I leave this research with deeper curiosity and a renewed belief in people, their drive to lead with purpose, adapt under pressure, and keep showing up even when the path isn't clear. Change doesn't live in policy or intention alone, it lives in the everyday systems that make action easier or harder. When we focus on designing for people, supporting what they already want to do, we stop asking whether change is possible and start asking what's possible next.

# References

- Abdul Basit, S., Gharleghi, B., Batool, K., Hassan, S. S., Jahanshahi, A. A., & Kliem, M. E. (2024). Review of enablers and barriers of sustainable business practices in SMEs. *Journal of Economy and Technology*, 2, 79–94. <https://doi.org/10.1016/J.JECT.2024.03.005>
- Arnold, R., Burke, B., James, C., Martin, D., & Thomas, B. (1991). Educating for change. *Between The Lines*.
- Bansal, P., & DesJardine, M. (2014). Business sustainability: It is about time. *Strategic Organization*, 12(1), 70–78. <https://doi.org/10.1177/1476127013520265>
- Bath, M., & Ghantous, D. (2024, September 11–14). Exploring positionality workbook. Presented at the Anticipation Conference 2024, Lancaster University, UK. OCAD University Open Research Repository. <https://openresearch.ocadu.ca/id/eprint/4630>
- Benyus, J. M. (2002). Biomimicry: innovation inspired by nature. *Perennial*.
- Bhamra, R., Dani, S., & Burnard, K. (2011). Resilience: The concept, a literature review and future directions. In *International Journal of Production Research* (Vol. 49, Issue 18, pp. 5375–5393). <https://doi.org/10.1080/00207543.2011.563826>
- Bititci, U., Garengo, P., Dörfler, V., & Nudurupati, S. (2012). Performance Measurement: Challenges for Tomorrow. *International Journal of Management Reviews*, 14(3), 305–327. <https://doi.org/10.1111/j.1468-2370.2011.00318.x>
- Brandenburg, M., & Rebs, T. (2015). Sustainable supply chain management: a modeling perspective. *Annals of Operations Research*, 229(1), 213–252. <https://doi.org/10.1007/s10479-015-1853-1>
- Bryson, J. M. (2004). What to do when Stakeholders matter. *Public Management Review*, 6(1), 21–53. <https://doi.org/10.1080/14719030410001675722>
- Burritt, R. L., & Schaltegger, S. (2010). Sustainability accounting and reporting: fad or trend? *Accounting, Auditing & Accountability Journal*, 23(7), 829–846. <https://doi.org/10.1108/09513571011080144>
- Chen, X., Cui, Z., Fan, M., Vitousek, P., Zhao, M., Ma, W., Wang, Z., Zhang, W., Yan, X., Yang, J., Deng, X., Gao, Q., Zhang, Q., Guo, S., Ren, J., Li, S., Ye, Y., Wang, Z., Huang, J., ... Zhang, F. (2014). Producing more grain with lower environmental costs. *Nature*, 514(7523), 486–489. <https://doi.org/10.1038/nature13609>
- Cho, C. H., Bohr, K., Choi, T. J., Partridge, K., Shah, J. M., & Swierszcz, A. (2020). Advancing Sustainability Reporting in Canada: 2019 Report on Progress. *Accounting Perspectives*, 19(3), 181–204. <https://doi.org/10.1111/1911-3838.12232>
- de Jong, T., & Ferguson-Hessler, M. G. M. (1996). Types and Qualities of Knowledge.
- Elkington, J. (1998). Accounting For The Triple Bottom Line. *Measuring Business Excellence*, 2(3), 18–22. <https://doi.org/10.1108/eb025539>
- Epstein, M. J., & Buhovac, A. R. (2010). Solving the sustainability implementation challenge. *Organizational Dynamics*, 39(4), 306–315. <https://doi.org/10.1016/j.orgdyn.2010.07.003>
- Espinosa, A., Walker, J., & Martinez-Lozada, A. (2023). The Viable System Model. *Journal of Systems Thinking*, 3. <https://doi.org/10.54120/jost.000004>
- Fonda Walters, & John Takamura. (2015). The Decolonized Quadruple Bottom Line: A Framework for Developing Indigenous Innovation. *Wicazo Sa Review*, 30(2), 77. <https://doi.org/10.5749/wicazo-sareview.30.2.0077>
- Government of Canada. (2024, July 5). SME Research and Statistics. Government of Canada. <https://is-ed-isde.canada.ca/site/sme-research-statistics/en>
- Gray, R. (2010). A reevaluation of social, environmental and sustainability accounting. *Sustainability Accounting, Management and Policy Journal*, 1(1), 11–32. <https://doi.org/10.1108/20408021011059205>
- Hansen, E. G., & Schaltegger, S. (2016). The Sustainability Balanced Scorecard: A Systematic Review of Architectures. *Journal of Business Ethics*, 133(2), 193–221. <https://doi.org/10.1007/s10551-014-2340-3>
- Henri, J.-F., Boiral, O., & Roy, M.-J. (2016). Strategic cost management and performance: The case of environmental costs. *The British Accounting Review*, 48(2), 269–282. <https://doi.org/10.1016/j.bar.2015.01.001>

- Henri, J.-F., & Journeault, M. (2010). Eco-control: The influence of management control systems on environmental and economic performance. *Accounting, Organizations and Society*, 35(1), 63–80. <https://doi.org/10.1016/j.aos.2009.02.001>
- Holling, C. S. (1973). Resilience and Stability of Ecological Systems. *Annual Review of Ecology and Systematics*, 4(1), 1–23. <https://doi.org/10.1146/annurev.es.04.110173.000245>
- Huxley, R., Owen, A., & Chatterton, P. (2019). The role of regime-level processes in closing the gap between sustainable city visions and action. *Environmental Innovation and Societal Transitions*, 33, 115–126. <https://doi.org/10.1016/j.eist.2019.04.001>
- Innovation, S. and E. D. C. (2022). Key Small Business Statistics. Government of Canada, Cat. No. Iu186-1E-PDF. [https://ised-isde.canada.ca/site/sme-research-statistics/sites/default/files/attachments/2022/2022\\_key\\_small\\_business\\_statistics\\_en\\_0.pdf](https://ised-isde.canada.ca/site/sme-research-statistics/sites/default/files/attachments/2022/2022_key_small_business_statistics_en_0.pdf)
- Intergovernmental Panel on Climate Change (IPCC). (2023). Weather and Climate Extreme Events in a Changing Climate. *Climate Change 2021 – The Physical Science Basis*, 1513–1766. <https://doi.org/10.1017/9781009157896.013>
- International Social Security Association. (2014). Megatrends and Social Security: Climate change and natural resource scarcity. [www.issa.int](http://www.issa.int)
- Lew, A. A., Ng, P. T., Ni, C. (Nickel), & Wu, T. (Emily). (2016). Community sustainability and resilience: similarities, differences and indicators. *Tourism Geographies*, 18(1), 18–27. <https://doi.org/10.1080/14616688.2015.1122664>
- Liang, F., & Cao, L. (2021). Linking employee resilience with organizational resilience: The roles of coping mechanism and managerial resilience. *Psychology Research and Behavior Management*, 14, 1063–1075. <https://doi.org/10.2147/PRBM.S318632>
- Lindgreen, A., Swaen, V., & Johnston, W. J. (2009). Corporate social responsibility: An empirical investigation of U.S. organizations. *Journal of Business Ethics*, 85(SUPPL. 2), 303–323. <https://doi.org/10.1007/s10551-008-9738-8>
- Lopez-Torres, G. C. (2023). The impact of SMEs' sustainability on competitiveness. *Measuring Business Excellence*, 27(1), 107–120. <https://doi.org/10.1108/MBE-12-2021-0144>
- Martins, A., Branco, M. C., Melo, P. N., & Machado, C. (2022). Sustainability in Small and Medium-Sized Enterprises: A Systematic Literature Review and Future Research Agenda. *Sustainability*, 14(11), 6493. <https://doi.org/10.3390/su14116493>
- Mathias, J.-D., Anderies, J., Crépin, A.-S., Dambrun, M., Lindahl, T., & Norberg, J. (2024). Emergence of social-psychological barriers to social-ecological resilience: from causes to solutions. *Ecology and Society*, 29(2), art6. <https://doi.org/10.5751/ES-15052-290206>
- McAra, M., Teal, G., Riddell, J., Flowers, P., Coia, N., & McDaid, L. (2022). Integrating and producing evidence through participatory design. *CoDesign*, 19(2), 110–127. <https://doi.org/10.1080/15710882.2022.2096906>
- Mura, M., Longo, M., Micheli, P., & Bolzani, D. (2018). The Evolution of Sustainability Measurement Research. *International Journal of Management Reviews*, 20(3), 661–695. <https://doi.org/10.1111/ijmr.12179>
- Naradda Gamage, S. K., Ekanayake, E., Abeyrathne, G., Prasanna, R., Jayasundara, J., & Rajapakshe, P. (2020). A Review of Global Challenges and Survival Strategies of Small and Medium Enterprises (SMEs). *Economies*, 8(4), 79. <https://doi.org/10.3390/economies8040079>
- National Research Council. (2013). How Climate Events Can Lead to Social and Political Stressors. In *Climate and Social Stress: Implications for Security*. National Academies Press. <https://doi.org/10.17226/14682>
- O'Dwyer, B., & Unerman, J. (2016). Fostering rigour in accounting for social sustainability. *Accounting, Organizations and Society*, 49, 32–40. <https://doi.org/10.1016/j.aos.2015.11.003>
- Passetti, E., & Tenucci, A. (2016). Eco-efficiency measurement and the influence of organisational factors: evidence from large Italian companies. *Journal of Cleaner Production*, 122, 228–239. <https://doi.org/10.1016/j.jclepro.2016.02.035>
- Purwandani, J. A., & Michaud, G. (2021). What are the drivers and barriers for green business practice adoption for SMEs? *Environment Systems and Decisions*, 41, 577–593. <https://doi.org/10.1007/s10669-021-09821-3>
- Richard, P. J., Devinney, T. M., Yip, G. S., & Johnson, G. (2009). Measuring Organizational Performance: Towards Methodological Best Practice. *Journal of Management*, 35(3), 718–804. <https://doi.org/10.1177/0149206308330560>
- Roca, L. C., & Searcy, C. (2012). An analysis of indicators disclosed in corporate sustainability reports. *Journal of Cleaner Production*, 20(1), 103–118. <https://doi.org/10.1016/j.jclepro.2011.08.002>
- Sawaf, A., & Gabrielle, R. (2014). *Sacred Commerce* (Z. Restorick & I. Otto, Eds.; 2nd ed.).
- Searcy, C. (2012). Corporate Sustainability Performance Measurement Systems: A Review and Research Agenda. *Journal of Business Ethics*, 107(3), 239–253. <https://doi.org/10.1007/s10551-011-1038-z>
- Sezen-Gültekin, G., Argon, T., & Abant, B. (2020). Examination of the Relationship between Organizational Resilience and Organizational Sustainability at Higher Education Institution\* conditions of the Creative Commons Attribution license (CC BY-NC-ND). In *International Journal of Curriculum and Instruction* (Vol. 12).
- Shwaikh, M. (2023). Beyond Expectations of Resilience: Towards a Language of Care. *Global Studies Quarterly*, 3(2). <https://doi.org/10.1093/isagsq/ksad030>
- Siebrecht, N. (2020). Sustainable agriculture and its implementation gap - Overcoming obstacles to implementation. *Sustainability (Switzerland)*, 12(9). <https://doi.org/10.3390/su12093853>
- Silva, M., & Figueiredo, M. (2017). Sustainability as Practice: Reflections on the Creation of an Institutional Logic. *Sustainability*, 9(10), 1839. <https://doi.org/10.3390/su9101839>
- Sroufe, R. (2016). Operationalizing Sustainability. <https://www.researchgate.net/publication/303805533>
- Sutcliffe, K. M., Vogus, T. J., Cameron, J. K. S. E., Dutton, R. E., Sutcliffe, K. M., & Vogus, T. J. (2003). Organizing for Resilience. *Positive Organizational Scholarship: Foundations of a New Discipline*. <https://www.researchgate.net/publication/235792901>
- Turnheim, B., & Nykvist, B. (2019). Opening up the feasibility of sustainability transitions pathways (STPs): Representations, potentials, and conditions. *Research Policy*, 48(3), 775–788. <https://doi.org/10.1016/j.respol.2018.12.002>
- United Nations. (1987). Report of the World Commission on Environment and Development - Brundtland Report (1987).
- United Nations. (2015). The Millennium Development Goals Report 2015.
- United Nations Environment Programme. (2021). Planetary Action.
- van Marrewijk, M. (2003). Concepts and Definitions of CSR and Corporate Sustainability: Between Agency and Communion. *Journal of Business Ethics*, 44(2), 95–105. <https://doi.org/10.1023/A:1023331212247>
- Vergerio, G., & Knotten, V. (2024). Ensuring Ambitious Goals: Barriers and good practices in the planning and building process. <https://ntnuopen.ntnu.no/ntnu-xmlui/bitstream/handle/11250/3126748/ZEN%2bReport%2bno%2b54.pdf?sequence=1&isAllowed=y>
- Vogus, T. J., & Sutcliffe, K. M. (2007). Organizational Resilience: Towards a Theory and Research Agenda.
- Weber, M. M. (2023). The Relationship between Resilience and Sustainability in the Organizational Context—A Systematic Review. In *Sustainability (Switzerland)* (Vol. 15, Issue 22). Multidisciplinary Digital Publishing Institute (MDPI). <https://doi.org/10.3390/su152215970>
- Wishart, M. (2018). Business resilience in an SME context: A literature review.
- Wood, D. J. (2010). Measuring Corporate Social Performance: A Review. *International Journal of Management*

ment Reviews, 12(1), 50–84. <https://doi.org/10.1111/j.1468-2370.2009.00274.x>

Zamora, E. A. (2016). Value Chain Analysis: A Brief Review. *Asian Journal of Innovation and Policy*, 5(2), 116–128. <https://doi.org/10.7545/ajip.2016.5.2.116>

Zubair, A. (2020). Resilient by Design: Enabling Agility and Resilience in Ontario's Small and Medium Enterprises.

# Appendices

## Appendix A - Barriers

Barrier	Characteristics	Barriers Identified by SME's & Experts
Fear and Doubt in Decision-Making	<ul style="list-style-type: none"> <li>• Fear of the unknown</li> <li>• Investing without knowing if you will get ROI (if people will stay on, get better at job, deliver better value, pumping money into fixed costs that may become liabilities, etc)</li> <li>• Lack of confidence in taking steps forward</li> <li>• Shame and fear of getting it wrong – Leaders feel overwhelmed by the complexity of sustainability and the pressure to get it right.</li> <li>• Avoidance and silence – Sustainability remains a sensitive topic, with some leaders choosing to avoid conversations altogether to escape feelings of judgment or failure.</li> <li>• Overwhelmed by complexity – The vast scope of sustainability and resilience work feels impossible to address fully, adding to the paralysis.</li> <li>• Feeling judged and inadequate – Leaders often feel they are not doing enough or don't know where to start, leading to a sense of failure.</li> <li>• Lack of clear guidance – Existing frameworks are often designed for large companies, leaving SMEs without practical, actionable steps.</li> <li>• Fear of making the wrong choice – With so many potential paths and options, leaders feel paralyzed, afraid that taking the wrong step will lead to failure.</li> </ul>	<ol style="list-style-type: none"> <li>1. The risk of investing in people</li> <li>2. Fear of showing vulnerability as a leader</li> <li>3. Freeze</li> <li>4. The uncertainty of investing in fixed costs</li> </ol>
Rigid Structures That Stifle the Possibility of Change	<ul style="list-style-type: none"> <li>• Perception of sustainability as a 'luxury' – Sustainability is often seen as an extra rather than a core business priority.</li> <li>• "Not in my backyard" (NIMBY) mentality – Local communities and stakeholders resist changes tied to sustainability if they perceive the impact as disruptive or inconvenient.</li> <li>• Regulations/Government/Policy misalignment with business operations – Sustainability advice from experts or policymakers may not reflect the operational constraints of SMEs.</li> <li>• Rigid systems that stifle change – Established business practices are deeply ingrained, making it difficult for leaders to adopt new, sustainable approaches.</li> <li>• Disconnected from SME realities – External stakeholders providing guidance often lack an understanding of the day-to-day challenges of small businesses.</li> <li>• Complex, impractical and inconsistent regulations – Leaders face difficulty navigating varying and sometimes contradictory regulations across regions and industries.</li> <li>• Regulations not tailored to SMEs – Regulations are often designed with large corporations in mind, making compliance difficult for resource-limited SMEs.</li> <li>• Inapplicable global standards for locals – Emerging regulations, such as those in Europe, require deeper supply chain transparency and action, adding strain on SMEs.</li> <li>• Superficial compliance – Businesses often scramble to meet new regulations instead of embedding sustainable practices from the outset.</li> <li>• Entrenched capitalist mindset – Many leaders operate with a profit-first, control-driven mentality rooted in outdated business education models from the 1990s.</li> <li>• Inadequate sustainability education in MBA programs – Business leaders often emerge from MBA programs without practical knowledge or training in sustainability.</li> <li>• Focus on short-term gains over long-term resilience – The dominant business mindset prioritizes quarterly earnings and cost-cutting over sustainable growth.</li> <li>• Stuck in traditional business models: Business goals and operations not designed to deliver/contribute to sustainability goals.</li> </ul>	<ol style="list-style-type: none"> <li>1. Regulations</li> <li>2. Regulatory constraints</li> <li>3. Traditional business values hindering new/evolving business practices</li> <li>4. Leadership Mindset</li> <li>5. People in positions of power working with impractical and irrelevant information (external in business)</li> <li>6. Entrenched cultural biases</li> </ol>

<p>Difficulty Navigating Support Systems</p>	<ul style="list-style-type: none"> <li>• Lack of sustainable infrastructure – Limited availability of sustainable supply chains, production facilities, and logistical support.</li> <li>• High cost of sustainable options – Sustainable materials, products, and services are often more expensive than conventional alternatives, limiting SME adoption.</li> <li>• Limited sourcing options – Difficulty finding reliable suppliers of sustainable materials or products.</li> <li>• Underfunded SME support organizations – Industry and government support programs for SMEs are often underfunded and poorly resourced.</li> <li>• Inaccessible language and terminology – Sustainability frameworks and guidelines are often written in complex language, making them difficult to understand and apply.</li> <li>• Lack of peer-to-peer support system – Disconnection among SMEs prevents knowledge sharing and collective action on sustainability.</li> <li>• Lack of customer education – Customers may not understand the value or benefits of sustainable products and practices.</li> <li>• Insufficient education &amp; training for leaders – Few practical learning opportunities focused on SME-specific sustainability challenges.</li> <li>• Complexity of sustainability information – Reports and frameworks are often too dense and technical for practical use by SMEs.</li> <li>• Conflicting information – Misinformation and competing narratives make it difficult for SMEs to identify credible and actionable information.</li> <li>• Mismatch between funding and SME priorities – Available funding may target specific industries or outcomes that don't match SME sustainability goals.</li> <li>• Low awareness of funding opportunities – SMEs often are not aware of available funding options or how to access them.</li> <li>• Complex funding application processes – Lengthy and technical grant and loan applications deter SMEs from seeking funding.</li> <li>• “Don't know what they don't know” – SMEs are unaware of gaps in their understanding of sustainability and how to effectively integrate in business</li> <li>• Tunnel vision – Leaders often focus narrowly on financial performance, missing out on broader sustainability opportunities.</li> <li>• Contextual understanding – SMEs often struggle to translate global sustainability goals into actionable steps within their specific industry and market.</li> <li>• Cost barriers to accessing resources – Paid resources, such as certifications, integration frameworks, or consultancy services, may be out of reach for SMEs with limited budgets.</li> <li>• Limited exposure to sustainability tools and resources – SMEs struggle to find practical frameworks, assessment tools, and action plans.</li> </ul>	<ol style="list-style-type: none"> <li>1. Limitation of sustainable alternatives</li> <li>2. Difficulty in navigating access to resources</li> <li>3. Information Accessibility</li> <li>4. Accessing context-appropriate funding</li> <li>5. Knowledge Gap</li> <li>6. Resource Accessibility</li> </ol>
<p>Lost in the Complexity of Sustainability</p>	<ul style="list-style-type: none"> <li>• Operational misalignment with business priorities – Sustainability goals often feel disconnected from day-to-day business operations</li> <li>• Difficulty communicating progress – Even when progress is made, it's challenging to quantify and communicate it effectively to stakeholders.</li> <li>• Unclear measures of success – SMEs struggle with undefined standards of operational success in sustainability.</li> <li>• Progress tracking challenges – Difficult to establish clear indicators to measure improvement in sustainability efforts such as unavailability of data, expertise, clear KPIs, etc.</li> <li>• Uncertainty about relevant data – SMEs are unsure what data to collect and use to measure sustainability performance.</li> <li>• Challenges applying data – Even when data is available, SMEs struggle to interpret and apply it effectively in to measure progress.</li> <li>• Too many frameworks – The abundance of sustainability frameworks and guidelines creates confusion, overwhelm and inaction.</li> <li>• Unclear starting point – SMEs often don't know where and how to start sustainability integration initiatives.</li> <li>• Cost of switching to sustainability – The initial cost of implementing sustainable alternatives when that is not the norm in business and/or industry</li> <li>• Fragmented guidance – Different frameworks and guidelines often provide conflicting advice.</li> <li>• Frameworks not tailored to SMEs – Most sustainability frameworks are designed for large corporations, not smaller businesses.</li> <li>• Overwhelming complexity – Sustainability covers so many dimensions that it becomes paralyzing for SMEs to develop a clear strategic action roadmap.</li> <li>• Limited sustainability expertise – SMEs lack internal sustainability knowledge and skills and struggle to develop and execute strategies even when expertise is available.</li> <li>• Operational barriers – Existing business models and processes aren't set up to integrate sustainability.</li> <li>• Short-term survival focus – SMEs are so focused on staying afloat that it impacts their capacity to work towards long-term sustainability goals</li> <li>• Unclear sustainability reporting expectations – Reporting requirements and stakeholder expectations around sustainability are vague, inconsistent and unclear what value they provide to business owners.</li> <li>• Limited societal knowledge – Broader societal understanding of sustainability is narrow, making it harder for people, and even SMEs, to acknowledge the value it can provide</li> <li>• Unclear data requirements – SMEs often have to develop their own sustainability metrics from scratch without clear guidance, making it more difficult to assess broad progress</li> </ul>	<ol style="list-style-type: none"> <li>1. Tangible Sustainability</li> <li>2. The complexity of sustainability</li> <li>3. Data availability</li> <li>4. Lack of Capacity to Deliver Sustainable Value</li> <li>5. Difficulty navigating sustainability</li> </ol>

<p>Fragmented Working Culture</p>	<ul style="list-style-type: none"> <li>• Cultural inertia – Organizational culture resists change and sees sustainability as an “add-on” rather than a core business function.</li> <li>• Rigid organizational structures – Existing hierarchies and processes struggle to accommodate adaptations that will enable sustainability innovation.</li> <li>• Process flow inefficiencies – Unclear or linear workflows make it challenging for sustainability efforts to thrive or create value for SMEs</li> <li>• Unclear governance metrics – Sustainability governance matrices often create confusion due to inconsistencies and lack of clarity on how to manage action</li> <li>• Broken feedback loops – Feedback on sustainability initiatives from different levels of the organization isn’t integrated into governance and decision-making.</li> <li>• Disconnect between vision and execution – Lack of clarity and alignment between leadership’s sustainability goals and the plan to implement them in the organization.</li> <li>• Limitations with stakeholder involvement – Failure to invite critical stakeholder and community perspectives into sustainability conversations to make it more relevant and shift entrenched perspectives.</li> <li>• Missing proof points – Challenges with demonstrating clear evidence of how sustainability initiatives create value in business.</li> <li>• Poor engagement - Inability to communicate the impact of sustainability efforts and demonstrate benefits it brings</li> <li>• Fragmented ecosystems – SMEs networks are disconnected which make it hard to access resources and share best practices.</li> <li>• Siloed thinking – Different teams, including leadership, operate from different definitions of what sustainability is and how to implement it</li> <li>• Siloed ways of working - People tasked with leading sustainability efforts struggle to effectively open up communication channels, onboard and translate sustainability into different operational processes and actions</li> <li>• Need for a holistic approach – Sustainability requires integrated thinking, but most SMEs are used to linear, transactional models.</li> <li>• Lack of employee motivation – Employees feel personally disconnected to the company’s sustainability mission and goals because they often come across as performative.</li> <li>• Extractive behaviour – Businesses operating from a mindset of extracting resources from the environment</li> <li>• Lack of psychological safety – Distrust and discomfort in expressing diverse perspectives which stifles innovation and collaboration.</li> <li>• Transactional working conditions – Focusing solely on tasks and outcomes without deliberately leveraging different human capacities in the team leads to a decline in wellbeing, motivation, and creativity.</li> <li>• Failure to empower employees - Individual efforts to drive sustainable change are rarely acknowledged or celebrated, leading to a lack of agency</li> <li>• Failure to build collective responsibility - SME leaders often micromanage and struggle to delegate, leading to a feeling of reduced ownership and efforts seen as leadership’s responsibility.</li> <li>• Difficulty in establishing connection and shared purpose - Harder to build company culture in light of disruptions to working norms (e.g. remote work, Covid, etc).</li> </ul>	<ol style="list-style-type: none"> <li>1. Leadership Management</li> <li>2. Communication/Loops/Trickle Down</li> <li>3. Connecting the Dots/Siloed Thinking</li> <li>4. Purpose motivation</li> <li>5. Fostering trust and connection in culture</li> </ol>
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<p>Short-term Pressures</p>	<ul style="list-style-type: none"> <li>• Time constraints – Daily operational pressures limit available time to focus on long-term strategy.</li> <li>• Perceived irrelevance – Feeling like long-term planning isn’t necessary or valuable compared to short-term needs.</li> <li>• Survival mindset – Long-term planning feels unrealistic and unattainable with the constant focus on trying to stay afloat in the short-term.</li> <li>• Profit-first mentality – Financial returns take precedence over sustainability and resilience.</li> <li>• Failure to see the bigger picture – Lack of strategic vision for how sustainability fits into long-term business success.</li> <li>• High cost of supplies – Inflation and rising costs post COVID have impacted the costs of supplies</li> <li>• Cost of sustainable alternatives - when there is a low demand for sustainable options, sourcing them becomes costly and challenging.</li> <li>• Cash flow struggles – Limited working capital forces people to use cheaper, low-quality options, making it even harder to invest in sustainability.</li> <li>• Proving ROI – Difficulty in demonstrating the long-term value of sustainability investments to stakeholders.</li> <li>• Banking struggles – Accessing financial support for SMEs is difficult and bureaucratic.</li> <li>• Inconsistency – Unable to maintain consistent sustainability practices due to fluctuations in leadership that have different goals and resource allocations.</li> <li>• Burnout – Business owners trying to keep up with an ever-growing priority list leaves them feeling depleted and behind.</li> <li>• Mental fatigue – Feeling mentally and emotionally drained from managing constant business pressures.</li> <li>• Lack of work-life balance – Difficulty disconnecting from business demands, even when they are delegating tasks.</li> <li>• Accumulation of small tasks – Endless paperwork, minor issues, operational tasks and details pile up, leaving SME leaders feeling “bogged down” and unable to focus on strategic goals.</li> <li>• Disconnected and performative – Government-led certification processes don’t address or add value to real business challenges.</li> <li>• Difficulty in acquiring sustainability certification – Navigating certification requirements and understanding the process is complex and challenging.</li> <li>• Sustainability certification investment– High financial and time costs make certification unattainable for small businesses.</li> <li>• Lack of roadmaps for sustainability certificate requirements – Businesses struggle to find starting points for meeting certification standards, with existing resources.</li> <li>• Unclear sustainability progress measures – Current sustainability certifications do not provide next steps to improve sustainability practices</li> <li>• Investment in industry or certification networks - Being intentional about choosing which industry or certification community to tap into.</li> </ul>	<ol style="list-style-type: none"> <li>1. Lack of capacity to plan for the long-term</li> <li>2. Long-term Planning</li> <li>3. Operational challenges interfering with value delivery</li> <li>4. Constantly struggling to stay on top of everything</li> <li>5. The effort involved in [acquiring] certifications</li> </ol>
<p>Surviving Varying Everyday Demands</p>	<ul style="list-style-type: none"> <li>• Funding difficulties –When business owners understand what needs to be done to sustain and invest in growth, but find it challenging to act due to limited cash flow</li> <li>• Cost justification – Hard to justify the real and perceived cost of sustainable practices when struggling to cover basic expenses.</li> <li>• Internal resource limitations – Due to financial limitations in bringing in professional help, business owners lean on personal connections for support.</li> <li>• Emotional toll – Stressing over financial instability leads to personal strain and burnout.</li> <li>• Profit pressure – Feeling the constant need to generate profit to avoid collapse.</li> <li>• Skills gap – Lack of internal capacity and expertise on sustainability and how to apply it to business operations.</li> <li>• Education gap – Sustainability isn’t being adequately taught in schools or business programs to prepare business leaders for the challenges they are being faced with.</li> <li>• Limited time in growth and upskilling – Wearing many business hats takes immense time and effort, making it hard for business leaders to self-direct their learning and training in sustainability to educate themselves.</li> <li>• Lack of industry-specific expertise – Shortage of experts who understand how sustainability can be applied to different industries.</li> <li>• Infrastructure gaps – Unavailability of sustainable infrastructure (e.g., charging stations, renewable energy sources) creates further obstacles to adoption.</li> <li>• Burden of taxes – The weight of being tax compliant as an SME often feels disproportionate to business revenue.</li> <li>• Unclear financial guidance – Uncertainty about how to navigate the tax system and difficulty in understanding available tax benefits or incentives for SMEs and/or even, sustainability adoption.</li> </ul>	<ol style="list-style-type: none"> <li>1. Struggling to stay/keep the business afloat</li> <li>2. Lack of capital to optimize</li> <li>3. Scarcity of expertise</li> <li>4. Lack of Access to Support Infrastructure</li> <li>5. The burden of taxes</li> </ol>

## Appendix B - Response Patterns

Response Patterns	Characteristics	Identified SME Behaviours
Designing authentic, actionable and adaptive business structures	<ul style="list-style-type: none"> <li>• Flexible and adaptable</li> <li>• Authentic cultural identity</li> <li>• Shared trust</li> <li>• Feedback loops</li> <li>• Clear actionable vision</li> </ul>	<ol style="list-style-type: none"> <li>1. Codifying operations while maintaining identity</li> <li>2. Willingness to embrace flexible growth</li> <li>3. flexible organizational dynamics</li> <li>4. Co-creating a culture that brings the best in people</li> <li>5. focus on a clear business vision</li> <li>6. Making vision actionable</li> <li>7. Building shared trust in everyday operations</li> </ol>
Taking responsibility to nurture stability and psychological safety	<ul style="list-style-type: none"> <li>• Sense of responsibility</li> <li>• Fairness</li> <li>• Leading with care and kindness</li> <li>• Fostering learning and growth</li> <li>• Psychologically safety (inclusion, learner, contributor, challenger safety)</li> <li>• Balance and harmony (supporting employees to work within their capacity)</li> <li>• Providing security and stability</li> </ul>	<ol style="list-style-type: none"> <li>1. Sense of Responsibility</li> <li>2. Continuously supporting teams to learn and grow</li> <li>3. Fair pay practices</li> <li>4. Encouraging teams to lead with agency</li> <li>5. Doing right by the team</li> <li>6. Creating working conditions where people can feel psychologically safe (seen, valued, heard, included, rewarded, trusted, respected, learning, taking risks)</li> <li>7. Respecting a healthy balance</li> </ol>
Moving beyond ego to create space for growth	<ul style="list-style-type: none"> <li>• Vulnerability</li> <li>• Ability to reflect on your contributions</li> <li>• Trusting your gut</li> <li>• Willingness to learn and grow</li> <li>• Leaning into the unconventional</li> <li>• Asking for help</li> </ul>	<ol style="list-style-type: none"> <li>1. Limitation of sustainable alternatives</li> <li>2. Difficulty in navigating access to resources</li> <li>3. Information Accessibility</li> <li>4. Accessing context-appropriate funding</li> <li>5. Knowledge Gap</li> <li>6. Resource Accessibility</li> </ol>
Rooting leadership in a conviction that everyone thrives together	<ul style="list-style-type: none"> <li>• Navigating with hope</li> <li>• Passion to make impact</li> <li>• Designing the future, you want</li> <li>• Leading with intention</li> <li>• Shared prosperity (internally)</li> <li>• Strong belief system</li> </ul>	<ol style="list-style-type: none"> <li>1. Enabling future equitable ownership models</li> <li>2. Upholding Beliefs</li> <li>3. Moving out of reactive business practices to proactively building capacity towards what you want</li> <li>4. Navigating with hope</li> <li>5. Passion for change</li> </ol>
Nurturing collective prosperity	<ul style="list-style-type: none"> <li>• Building and supporting community</li> <li>• Nurturing reciprocal relationships (business + community)</li> <li>• Creating shared value</li> <li>• Providing value to community</li> </ul>	<ol style="list-style-type: none"> <li>1. Being there for community</li> <li>2. Building reciprocal relationships within business networks</li> <li>3. Creating shared value with community</li> </ol>

Relentlessly pursuing new paths to progress	<ul style="list-style-type: none"> <li>• Curiosity to improve</li> <li>• Commitment to deliver value</li> <li>• Meaningful engagement to enhance performance</li> <li>• Preparing for the future</li> <li>• Going against the grain</li> <li>• Confidence in contribution to impact</li> </ul>	<ol style="list-style-type: none"> <li>1. Approaching problems with curiosity</li> <li>2. Being committed to delivering value</li> <li>3. Faith that actions will make a difference</li> <li>4. Being continually curious</li> <li>5. Going against conventional business norms</li> <li>6. Fostering integrity and meaningful engagement in business</li> <li>7. Being adaptable today to be ready for the future</li> <li>8. Enhancing business structures to improve operational performance</li> </ol>
Navigating shifting demands that influence operations	<ul style="list-style-type: none"> <li>• Making the best of situations</li> <li>• Keeping the business up and running</li> <li>• Feeling boxed in or trapped by current systems</li> <li>• Perceived lack of control</li> <li>• Resource constraints</li> <li>• Tendency towards reactivity</li> </ul>	<ol style="list-style-type: none"> <li>1. Accessing government grants</li> <li>2. Making the best of current situations</li> <li>3. Keeping things moving</li> </ol>
Anchoring business practices in values to create [positive] impact	<ul style="list-style-type: none"> <li>• Continually evaluating internal progress towards impact</li> <li>• Aligning growth with values</li> <li>• Being transparent</li> <li>• Business leading with purpose (the ripple effect)</li> <li>• Appreciation for diverse perspectives</li> </ul>	<ol style="list-style-type: none"> <li>1. Structuring processes to reflect values</li> <li>2. Thoughtful team building</li> <li>3. Being transparent about where the business stands</li> <li>4. Sustaining business in line with values</li> <li>5. Doing Business with Purpose to create a ripple effect</li> <li>6. Internal evaluation to measure progress</li> </ol>
Approaching uncertainty with pragmatism	<ul style="list-style-type: none"> <li>• Risk awareness</li> <li>• Comfort to take steps into the unknown</li> <li>• Pushing through fear</li> <li>• Learning to trust the process</li> <li>• Pragmatic about business reality</li> </ul>	<ol style="list-style-type: none"> <li>1. Being pragmatic about growth</li> <li>2. Learning to trust the process</li> </ol>

## Appendix B - Proposed Interventions

Proposed Interventions	Indications of Change
<p>Purpose-Aligned Sustainability Guide</p> <p>A “Purpose-to-Practice” guideline that helps SMEs articulate their existing purpose and translate it into sustainable building blocks relevant to their specific industry and context.</p>	<p><i>Trend:</i> Bill in Canada aiming to make environmental and social purpose a legal part of corporate purpose.</p> <p><i>Solution:</i> Using purpose to anchor leadership engagement and clarify sustainability direction.</p>
<p>Community-Based Learning Networks</p> <p>Peer-based networks organized by industry sector and geographic region that facilitate learning and best practices sharing between sustainability professionals and SME leaders.</p>	<p><i>Trend:</i> Tattoo artists and SMEs using guest spots and informal networks to exchange environmentally friendly practices.</p> <p><i>Solution:</i> Voluntary communities of sustainability leaders advocating peer-to-peer for change.</p>
<p>Tiered Sustainability Adoption Frameworks</p> <p>Simplified sustainability frameworks specifically designed to facilitate SME progression through different implementation stages of sustainability practices.</p>	<p><i>Trend:</i> Five-stage sustainability maturity model including pre-compliance to purpose alignment.</p> <p>Growing adoption of International Sustainability Standards Board frameworks</p> <p>European Union’s CSRD (Corporate Sustainability Reporting Directive) legislation requiring companies to disclose their environmental and social impacts, and how their ESG actions affect their business, using the European Sustainability Reporting Standards (ESRS).</p> <p><i>Solution:</i> Prioritization of actionable items within compliance to avoid overwhelm (e.g. top 3 sustainability items).</p>
<p>Integrated Decision Toolkit</p> <p>Decision-making blueprints that integrate sustainability considerations into existing business processes to reduce hesitancy of adoption due to limited understanding or cost assumptions.</p>	<p><i>Trend:</i> Netherlands manufacturing firms reacting to new reporting obligations tied to exports and costs.</p> <p>Rise of environmental accounting models</p> <p><i>Solution:</i> Toolkits enabling prioritization and integration of sustainability into existing workflows.</p> <p>Decision tools for carbon accounting</p>

<p>Functional Optimization Matrix</p> <p>Targeted support to evaluate capacity-building progress and identify areas for further development within organizational functions.</p>	<p><i>Trend:</i> Need for automation and business process optimization to improve sustainability traceability.</p> <p><i>Solution:</i> Embedding systems to manage rather than manually handle tasks, building capacity for traceability.</p>
<p>Shared Infrastructure</p> <p>Investment in critical sustainability infrastructure that can be shared across communities and SME networks to increase availability and deliver shared benefits.</p>	<p><i>Trend:</i> Collective SME models sharing logistics, delivery, and resources to serve local communities.</p> <p><i>Solution:</i> SME cooperatives sharing access to sustainability consultants to lower costs and increase reach.</p>
<p>Purpose-Centered Policy Design</p> <p>A shift in regulatory perspectives from compliance-focused approaches to encouraging capacity-building of purpose-driven SME orientations.</p>	<p><i>Trend:</i> New supply chain law in Germany, pushed by the Green Party with possible spillover effect across EU</p> <p><i>Solution:</i> Embedding sustainability into law and compliance frameworks that center values and purpose.</p>
<p>Feedback Looping</p> <p>Formal mechanisms to ensure high-influence actors (regulators, financial institutions) gain a deeper and richer understanding of SME operational realities.</p>	<p><i>Trend:</i> Push from public clients for proof of progress, influencing upstream supply chains.</p> <p>Increased investor ESG scrutiny</p> <p><i>Solution:</i> Call for policy to keep pace and include SMEs in regulatory design and measurement frameworks.</p>
<p>Adaptative Operations Tools</p> <p>Business modelling tools designed to equip SMEs with insights and scenarios to navigate evolving sustainability requirements, expectations and disruptions.</p>	<p><i>Trend:</i> Singapore’s effort to align business transactions and reporting with sustainability standards.</p> <p>Growing sustainability pressure from large buyers</p> <p>Introduction of sustainability modeling and forecasts</p> <p><i>Solution:</i> Encouraging SMEs to visualize impact using low-cost metrics, calculators and decision tools.</p> <p>Scenario planning tools</p> <p>Traceable carbon offset frameworks</p>

<p>Shared Resource Hubs</p> <p>Leveraging existing business associations and chambers of commerce, create specialized sustainability resources that create platforms that reduce the resource accessibility burden--knowledge, information, data, reports, funding, professional support-- on SME leaders and business ecosystems.</p>	<p><i>Trend:</i> Call for regional sustainability hubs and community centers to house relevant resources.</p> <ul style="list-style-type: none"> <li>Increased acceptance of Rainforest Alliance certifications</li> <li>Demand for Sustainability Toolkits for municipalities</li> </ul> <p><i>Solution:</i> Suggestion to create low-cost access to tools, templates, and sector-specific guidance via platforms.</p> <ul style="list-style-type: none"> <li>Carbon calculators for SMEs</li> <li>Centralized sustainability portals</li> </ul>
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