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BEYOND BOUNDARIES: STRATEGIC ENTREPRENEURSHIP AND DYNAMIC CAPABILITIES FOR SUSTAINABLE TRANSFORMATION EXCELLENCE IN U.S. FASHION RETAIL

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by

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To: Dean William G. Hardin

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This dissertation, written by Ilka Jordan-Whitaker and entitled Beyond Boundaries: Strategic Entrepreneurship and Dynamic Capabilities for Sustainable Transformation Excellence in U.S. Fashion Retail, has been approved in respect to style and intellectual content, is referred to you for judgment.

We have read this dissertation and recommend that it be approved.

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DEDICATION

This dissertation is dedicated to my family and friends, who have been my unwavering support system every step of the way.

To my husband, Dave, your constant encouragement, endless patience, and belief in my potential have been my greatest foundation. I could not have reached this point without you, and I am forever grateful.

To my son, Zachary, you are my daily inspiration and my motivation to push forward. May this work remind you that with perseverance, dedication, and faith in your dreams, anything is possible.

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ABSTRACT OF THE DISSERTATION

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Professor George Marakas, Major Professor

This dissertation examines the relationships between Entrepreneurial Orientation (EO), Adaptive Leadership (AL), Strategic Entrepreneurship (SE), and Dynamic Capabilities (DC) in driving Sustainable Transformation Excellence (STE) in U.S. fashion retail and related organizations. Grounded in Dynamic Capabilities and Strategic Entrepreneurship Theories, this study explores how organizations leverage entrepreneurial strategies and leadership adaptability to achieve sustainable transformation.

A quantitative research design was employed, using survey data from U.S. fashion retail organizations. Structural equation modeling (SEM) assessed direct relationships among EO, AL, SE, DC, and STE, highlighting how EO, AL, and SE contribute to transformation success through DC.

Findings reveal that EO enhances DC, which is key to achieving STE. AL and SE also have significant positive effects on DC, reinforcing the role of leadership adaptability and strategic renewal in transformation. Additionally, EO and SE directly

contribute to STE, confirming their role in sustaining a competitive advantage. Organizational size did not significantly impact the relationship between DC and STE, suggesting the applicability of these strategies across organizations of different sizes.

These findings provide valuable insights for fashion retail leaders, emphasizing the role of EO, AL, and SE in building dynamic capabilities that foster transformation agility. By leveraging entrepreneurial and adaptive strategies, organizations can navigate market complexities, foster innovation, and achieve sustainable transformation excellence.

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I. INTRODUCTION

Background

The U.S. fashion retail and related organizations, encompassing segments such as clothing, footwear, accessories, textiles, beauty, and personal care, faces rapid transformation driven by technological advancements, evolving consumer preferences, and increased competition (De Felice & Petrillo, 2013; Berg et al., 2017; Shahbabdeh, 2021, as cited by Testa & Karpova, 2021). These shifts create both opportunities and challenges for retail organizations striving to stay competitive. To meet these demands, organizations must transcend conventional business models, integrating entrepreneurial strategies that enable swift adaptation. Entrepreneurial thinking, characterized by creativity, calculated risk-taking, and strategic flexibility, fosters a culture of innovation that is essential for long-term sustainability and competitive advantage in a fast-paced market.

Problem Statement

Despite significant opportunities, over 70% of transformation initiatives in fashion retail fail to achieve their desired outcomes, revealing a disconnect between strategic intent and practical execution (McKinsey, 2022). This failure rate underscores the critical need for strategies that align with the industry's dynamic demands and support continuous adaptation and growth (El Yamami et al., 2016; Bucy et al., 2016; McKinsey, 2022). Organizational biases and traps—such as the familiarity, maturity, and propinquity traps identified by Ahuja and Lampert (2001)—frequently limit innovation and responsiveness, resulting in critical misalignment of strategies, conflicting

stakeholder goals, and overly complicated processes that further hinder successful transformation (Bhardwaj & Fairhurst, 2010; Fross, 2020).

To navigate these challenges, retail organizations need entrepreneurial strategies that promote adaptability and renewal, enabling them to respond effectively to market changes and build a resilient competitive edge. Addressing the root causes of transformation failures will support immediate improvements and empower organizations to sustain long-term success.

Purpose of the Study

This study investigates the relationships between four key concepts—Entrepreneurial Orientation (EO), Adaptive Leadership (AL), Strategic Entrepreneurship (SE), and Sustainable Transformation Excellence (STE)—within the context of U.S. fashion retail and related organizations. It aims to understand the mediating role of Dynamic Capabilities (DC) in these relationships. By examining these dynamics, the research seeks to provide valuable insights and actionable recommendations for industry practitioners to enhance immediate effectiveness in adoption and innovation, as well as long-term sustainability and performance.

The empirical findings of this study will support the development of the Sustainable Transformation Excellence Program™ (STEP). Envisioned as a comprehensive initiative, STEP combines a conceptual framework with practical resources. The STEP framework serves as the theoretical foundation, outlining the essential elements and relationships necessary for achieving Sustainable Transformation Excellence (STE) in the fashion retail and related organizations. Building on this framework, the program includes a guided playbook, masterclass series, learning

modules, and a speaking circuit—each designed to equip industry leaders with the tools and strategies needed to navigate and execute transformation initiatives successfully. This program bridges the gap between theory and real-world application, ensuring that the research both advances academic knowledge and provides actionable guidance for practitioners.

Literature Exploration

The literature review examined U.S. Fashion Retail and Related Organizations, including sectors such as clothing, footwear, accessories, textiles, beauty, and personal care products, and their transformation journeys. It highlighted triumphs and pitfalls, scrutinizing the theoretical foundations and practical applications of entrepreneurial strategy within transformation initiatives. The review emphasized the role of these strategies in promoting flexibility, innovation, and resilience in the rapidly evolving retail landscape.

Research Objectives

The primary aim of this study is to investigate how Entrepreneurial Orientation (EO), Strategic Entrepreneurship (SE), Adaptive Leadership (AL), and Dynamic Capabilities (DC) contribute to Sustainable Transformation Excellence (STE) in U.S. fashion retail and related organizations. The following research objectives guide the study:

1. Examine the Role of EO, AL, and SE in Driving Dynamic Capabilities (DC)
    - Objective: Investigate how EO, AL, and SE influence the development of Dynamic Capabilities (DC) within fashion retail organizations.

- Rationale: This objective provides insights into how entrepreneurial strategies and leadership approaches enable firms to build and strengthen their capacity to sense, seize, and transform opportunities.

2. Assess the Direct Impact of EO, AL, SE, and DC on STE:
   - Objective: Evaluate how EO, AL, SE, and DC directly impact Sustainable Transformation Excellence (STE) in fashion retail organizations.
   - Rationale: Understanding the direct relationships between these constructs will clarify their individual contributions to transformation success and provide actionable insights for industry leaders.
3. Determine the Role of Dynamic Capabilities (DC) in Shaping Transformation Outcomes:
   - Objective: Analyze how DC mediates the relationship between EO, AL, SE, and STE, demonstrating its role as a transformation enabler.
   - Rationale: This objective emphasizes how organizations must develop Dynamic Capabilities to effectively execute and sustain transformation initiatives.
4. Develop a Structured Framework (STEP) for Sustainable Transformation Excellence:
   - Objective: Construct an evidence-based framework (STEP) that integrates EO, AL, SE, and DC to guide organizations in achieving STE.
   - Rationale: The development of the STEP Framework offers a practical, structured approach that organizations can implement to navigate, adapt, and sustain transformation efforts effectively.

By addressing these research objectives, this study provides a comprehensive understanding of how Entrepreneurial Orientation (EO), Strategic Entrepreneurship (SE), Adaptive Leadership (AL), and Dynamic Capabilities (DC) contribute to Sustainable Transformation Excellence (STE). The development of the STEP Framework serves as both a theoretical contribution and a practical tool for organizations navigating transformation. Through this study, industry leaders can gain actionable insights into how to cultivate strategic agility, enhance leadership adaptability, and leverage dynamic capabilities to sustain transformation in a rapidly evolving business environment.

Research Hypotheses

This study hypothesizes that Entrepreneurial Orientation (EO), Adaptive Leadership (AL), and Strategic Entrepreneurship (SE) positively influence Dynamic Capabilities (DC), which, in turn, contribute to Sustainable Transformation Excellence (STE). Additionally, it examines the role of organization size as a potential moderator in these relationships. By focusing on the overall impact of these constructs, this study aims to identify the specific factors that are most influential in driving sustainable transformation in the fashion retail and related organizations.

Hypotheses Summary:

- **H1-H3**: EO, AL, and SE each have a positive impact on DC.
- **H4**: DC positively influences STE, reinforcing the role of dynamic capabilities in achieving transformation excellence.
- **H5**: Organizational size moderates the relationship between DC and STE, with varying impacts depending on the organization's size and resource availability.

By framing the hypotheses in terms of these high-level relationships, this study provides a comprehensive yet focused analysis of the dynamics within the STEP framework. This approach offers deeper insights into the critical drivers of sustainable transformation excellence without detailing individual dimensions of each construct, thus enhancing clarity and readability.

Scope and Delimitations

This study focuses on U.S. Fashion Retail and Related Organizations, specifically examining sectors such as clothing, footwear, accessories, textiles, beauty, and personal care products. The research investigates the influence of Entrepreneurial Orientation (EO), Adaptive Leadership (AL), Strategic Entrepreneurship (SE), and Dynamic Capabilities (DC) on Sustainable Transformation Excellence (STE).

Delimitations:

- **Geographical Scope**: The study is limited to organizations operating within the United States.
- **Industry Focus**: Only organizations within the fashion retail sector and its related segments were included.
- **Participant Criteria**: The study included responses from mid- to senior-level management personnel directly involved in organizational transformation efforts.
- **Temporal Scope**: Data collection spanned one to two days to capture current transformation efforts within these organizations.

This study does not account for external factors such as global economic conditions or the impact of external stakeholders, including suppliers and customers, on

transformation outcomes. While these factors are important, they fall outside the scope of this research.

Assumptions

This study is based on the following assumptions:

1. Participant Honesty: It is assumed that participants will provide honest and accurate responses to the survey questions, reflecting their true perceptions and experiences related to organizational transformation.
2. Relevance of Constructs: The constructs of Entrepreneurial Orientation (EO), Adaptive Leadership (AL), Strategic Entrepreneurship (SE), Dynamic Capabilities (DC), and Sustainable Transformation Excellence (STE) are assumed to be relevant and applicable to the context of the U.S. fashion retail and related organizations.
3. Survey Instrument Validity: The survey instrument used to collect data is assumed to be valid and reliable, effectively measuring the constructs it is designed to assess.
4. Generalizability: The findings from this study are assumed to be generalizable to similar organizations within the U.S. fashion retail and related organizations, although each organization's specific context may vary.

These assumptions are necessary for the research to proceed and for the findings to be interpreted meaningfully.

Significance of the Study

This research examines the dynamics of EO, AL, DC, and STE in the context of U.S. fashion and related retail organizations. It seeks to understand DC's mediating role

in these relationships and provides valuable insights and actionable recommendations for industry practitioners.

Importance to Practitioners

This study's findings offer practical guidance for fashion retail organizations striving to achieve sustainable transformation. By identifying the critical factors contributing to successful transformation initiatives, this research helps practitioners develop strategies that align with best practices and industry standards. The insights gained to support the effective implementation of transformation efforts, enhancing both immediate and long-term organizational performance.

Contribution to Theory

This research contributes to the theoretical frameworks of Entrepreneurial Orientation (EO), Adaptive Leadership (AL), Strategic Entrepreneurship (SE), and Dynamic Capabilities (DC) by integrating these concepts into the context of sustainable transformation. The study provides empirical evidence on the relationships between these constructs and Sustainable Transformation Excellence (STE), enriching existing literature and offering a more nuanced understanding of how these elements interact.

Broader Implications

While this study focuses on fashion retail and related organizations, its findings may be generalized to other industries undergoing similar transformation challenges. The research highlights best practices and innovative approaches applicable across various industries, contributing to broader discussions on organizational transformation and sustainability.

Definition of Terms

This section defines and explains the key concepts central to this study:

1. **Entrepreneurial Orientation (EO):** Refers to a firm's ability to navigate and leverage opportunities for competitive advantage, fostering a robust entrepreneurial culture within the organization (Molokwu et al., 2013; Lee & Chu, 2017).
2. **Dynamic Capabilities (DC):** The firm's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments (Teece et al., 1997).
3. **Adaptive Leadership (AL):** Refers to the ability of leaders to adjust their behaviors to meet the needs of their organizations, manage complex environments, and foster transformation (Nöthel et al., 2023).
4. **Strategic Entrepreneurship (SE):** Firm-level entrepreneurial actions that represent a firm's strategic initiatives to create and exploit market opportunities, improve internal processes, and redefine its competitive space (Kantur, 2016).
5. **Sustainable Transformation Excellence (STE):** Refers to an organization's ability to successfully implement comprehensive and strategic initiatives that innovate and adapt its business model, operational processes, products, and services in response to evolving market demands and technological advancements.
6. **STEP Framework:** This study developed a theoretical model that integrates EO, AL, SE, and DC to achieve STE in the retail industry.

7. **STEP Playbook:** A practical application of the STEP Framework, offering strategies and tools to implement sustainable transformation in the retail sector.

By integrating these key concepts, this study aims to offer a holistic view of how fashion retail organizations can achieve Sustainable Transformation Excellence. The insights this research provides will contribute to academic knowledge and offer practical recommendations for industry leaders and policymakers, ultimately supporting the broader goal of sustainable development in the retail sectors.

Future Research Directions

This study primarily addresses Sustainable Transformation Excellence (STE) within the context of U.S. fashion retail and related sectors. Future research could expand the STE model by integrating broader sustainability goals—environmental, social, and economic—providing a more comprehensive framework for achieving transformation excellence. Incorporating these sustainability dimensions would enhance the model's applicability across industries aiming to balance innovation, adaptability, and long-term sustainability. Such an expanded model could guide organizations in addressing pressing global challenges, fostering resilience, and contributing to sustainable development at scale.

Research Question

To what extent do specific factors drive sustainable transformation excellence in the U.S. fashion retail and related organizations?

The study aims to provide insights into how retail organizations can leverage entrepreneurial principles and strategies to drive sustainable transformation, fostering

long-term success and resilience in a dynamic and competitive industry environment by addressing this research question.

II. LITERATURE REVIEW

Introduction

The U.S. fashion retail and related organizations are undergoing significant transformations driven by changing consumer preferences, technological advancements, and market trends. The rapid evolution highlights the critical role of entrepreneurial strategies in navigating and leading successful organizational transformation. Previous studies have examined various aspects of the fashion industry. However, comprehensive research is needed to focus specifically on Fashion Retail and Related Organizations in the U.S., including sectors such as clothing, footwear, accessories, textiles, beauty, and personal care products. This review synthesizes key insights from seminal works on entrepreneurial strategy, governance, and innovation, proposing a cohesive framework that addresses the unique challenges of the retail sector.

Industry Overview and Transformation Drivers

The U.S. fashion industry, a $2.5 trillion global sector, is experiencing significant shifts driven by technological advancements, globalization, and changing consumer preferences. These factors have created new industry trends, challenges, and opportunities. In 2022, the global apparel market's revenue reached 1.5 trillion U.S. dollars, with forecasts indicating growth to nearly 2 trillion by 2027. Within this expansive market, the United States had the largest apparel market worldwide in 2022 (Smith, 2024). This highlights the significant economic impact and potential for growth within the industry. As of 2017, U.S. consumers spent nearly $380 billion on apparel and

footwear, and the industry employed over 1.8 million people across various sectors, including design, manufacturing, and retail (Maloney, 2019).

Economic Contributions and Regional Focus

New York City is a global fashion hub, employing a significant portion of the industry's workforce and generating substantial economic activity. In 2017, the city's fashion industry employed 4.6% of the private-sector workforce, generating over $11.3 billion in wages and $3.2 billion in tax revenue. The city is home to major fashion events like New York Fashion Week, which has a significant economic impact and draws global attention (Maloney, 2019).

Understanding the Retail Industry and the Imperative for Change

The U.S. Fashion Retail and Related Organizations (e.g., clothing, footwear, accessories, textiles, beauty, and personal care products) is a pivotal sector with a significant global economic footprint and experiences annual growth of 5.5%, marking it as a cornerstone of the U.S. economy (Maloney, 2019). It employs approximately 1.8 million individuals and is the largest private-sector employer in the United States, offering job opportunities to about one in four Americans (FashionUnited, 2018, as cited by Testa & Karpova, 2021). By serving as the intermediary between producers and consumers, the retail sector plays a vital role in the economy by facilitating the distribution of goods and services through various channels, including traditional stores and online platforms. In 2022, the U.S. apparel market was valued at approximately 312 billion U.S. dollars, with leading retailers such as TJX and Macy’s each generating over 20 billion U.S. dollars in sales. Specialist store-based clothing retailing was valued at

over 300 billion U.S. dollars, while e-commerce contributed over 183 million U.S. dollars in revenue, indicating the growing importance of online retail (Smith, 2024).

The Drive for Adaptive High-Value Segments and Innovation in Retail

The U.S. fashion industry has transitioned from traditional manufacturing to focusing on high-value segments such as research and development (R&D), design, and marketing. This shift is supported by advancements in computer-aided design and other technologies that accelerate the development and production processes. The industry now relies heavily on skilled professionals who can drive innovation and respond to fast-changing market demands (Maloney, 2019). Retailers are compelled to seek cost-effective options and increased flexibility to remain competitive (Bhardwaj & Fairhurst, 2010). The emergence of e-commerce and online shopping has reshaped the industry, leading to new business models and altering consumer behavior. Retailers are thus motivated to adapt to evolving consumer expectations, tackle online retail competition, reduce operational costs, enhance agility, and address sustainability concerns (Wijethilake et al., 2023). Retail sales from women's clothing stores reached approximately 40.5 billion U.S. dollars in 2022, with the overall revenue of the women's apparel market in the U.S. at approximately 160 billion U.S. dollars. Monthly clothing store sales rose to approximately 21 billion dollars in February 2023, reflecting an increase of about 800 million dollars from the previous year, indicating a positive trend despite economic challenges (Smith, 2024). The COVID-19 pandemic further underscores the need for a more flexible and streamlined organizational structure to navigate shifting market conditions (Fross, 2020).

Application to Sustainable Transformation Excellence

Understanding these market dynamics and the significant economic role of the U.S. fashion retail and related organizations is crucial for achieving Sustainable Transformation Excellence (STE). The industry's growth, driven by consumer demand and technological advancements, emphasizes the need for innovative and adaptive strategies. Incorporating entrepreneurial orientation, adaptive leadership, strategic entrepreneurship, and dynamic capabilities into the transformation process can enhance resilience and sustainability. The trends highlighted by Smith (2024), such as the growth of e-commerce and the increasing importance of sustainability, align with the principles of STE, which focus on long-term value creation and adaptability in a rapidly changing environment. By leveraging these insights, industry leaders can develop strategies that address current challenges and position their organizations for sustainable success in the future.

Entrepreneurial Strategies: Flexibility, Innovation, and Organizational Biases and Traps

Strategic Flexibility and Innovation

In the rapidly evolving retail industry, decision-making under uncertainty represents a perennial challenge for leaders. The sector's inherent volatility necessitates a sophisticated blend of business acumen and artistic insight, a theme recurrently highlighted in the literature. Beyond conventional boundaries, organizations must leverage entrepreneurial strategies to achieve sustainable transformation excellence. Entrepreneurs are adept at integrating agility into their transformation initiatives, allowing them to swiftly adapt to market shifts, technological advancements, and

consumer demands. Their ability to think creatively, take calculated risks, and seize opportunities enables them to excel quickly in dynamic environments. This entrepreneurial mindset fosters a culture of innovation and strategic flexibility, essential for organizations aiming to achieve immediate and long-term sustainability and success.

Testa and Karpova (2021) emphasize the importance of diverse tools and approaches in bolstering decision-making capabilities and mitigating risks, underlining adaptability, speed, instinct, and creativity as critical factors. Complementarily, Gans, et al. (2019) advocate for a balanced approach between optimization and strategic choice, introducing the "Test Two Choose One" rule to underscore the significance of experimentation and strategic flexibility in navigating uncertainties.

The concept of strategic flexibility and innovation further supports this call for entrepreneurial spirit and strategic experimentation. Retail leaders are urged to explore multiple strategic avenues and rely on empirical evidence and market feedback to inform their choices, embodying the essence of strategic flexibility. However, translating these theoretical frameworks into actionable practices within the dynamic and fast-paced retail environment reveals a notable gap. The discrepancy between theory and practice, as pointed out by Fross (2020) and McKinsey (2022), suggests an under-documented area in the practical application of these strategies, particularly in the face of large-scale organizational changes.

The twin forces of technology and social media have profoundly impacted the fashion industry, leading to the rise of new business models and altering consumer behavior. Social media platforms like Instagram and Snapchat and the influence of bloggers and online personalities have transformed how fashion trends are disseminated

and adopted. This rapid pace of change necessitates agility and innovation in business strategies to remain competitive (Maloney, 2019). Entrepreneurs in the fashion industry must leverage these digital tools to think outside of traditional boundaries, rapidly adapt to market shifts, and drive innovation in their offerings. The increased use of social media and the role of influencers have introduced new players in addition to the still powerful and influential traditional fashion publications and their respective fashion editors. The power of social media and live broadcasts has significantly impacted Fashion Weeks worldwide, compelling event managers to re-evaluate their value proposition (Moatti & Abecassis-Moedas, 2022).

The fashion industry is also adapting to fast-changing consumer tastes by shifting from a 'push' model of production to a 'pull' model driven by real-time demand data. This change has led to reshoring and near-shoring manufacturing trends closer to the market to reduce turnaround times and increase flexibility. Advances in material science and manufacturing technology, such as automated sewing machines and 3D printing, further support this adaptation (Maloney, 2019). These developments underscore the importance of entrepreneurial strategies prioritizing strategic flexibility and innovation in response to emerging market demands.

Jobs in the fashion industry now require higher technical skills and education, reflecting the industry's evolution towards high-value, innovation-driven roles. This includes positions in design, marketing, and advanced manufacturing. These roles offer higher wages and require ongoing skill development to keep pace with technological advancements (Maloney, 2019). The concept of strategic flexibility and innovation further supports this call for entrepreneurial spirit and strategic experimentation. Retail

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However, translating these theoretical frameworks into actionable practices within the dynamic and fast-paced retail environment reveals a notable gap. The discrepancy between theory and practice, as pointed out by Fross (2020) and McKinsey (2022), suggests an under-documented area in the practical application of these strategies, particularly in the face of large-scale organizational changes.

Echoing the importance of strategic agility, Gans et al. (2019) and Ahuja & Lampert (2001) highlight the indispensable role of constant innovation and strategic flexibility in mastering industry challenges. The essence of successful transformation now transcends conventional management paradigms, demanding a harmonious integration of strategic governance with entrepreneurial dynamism. In an ever-evolving marketplace, entrepreneurial strategies emerge as pivotal for their capacity to swiftly adapt to new complexities. Traditional approaches, once reliable, now struggle to keep pace with rapid market changes.

Jamali et al. (2018) argue that entrepreneurial opportunities are forged through proactive, innovative leadership endeavors. They emphasize creating opportunities in technological entrepreneurship, mainly how leaders identify, discover, and generate entrepreneurial opportunities from technological advancements. This involves a dynamic process where leaders proactively enact opportunities through continuous engagement, reflection, and adaptation. The study outlines several critical entrepreneurial actions influencing opportunity creation. These include:

1. Leadership: Charismatic leadership that inspires creativity and confidence among followers, crucial under conditions of uncertainty.
2. Decision Making: Entrepreneurs often use iterative, inductive, and heuristic methods in decision-making processes to navigate the uncertain and evolving landscape of opportunity creation.
3. Strategy: This approach emphasizes the importance of flexibility and adaptability in strategic planning, steering clear of rigid traditional methods that might not be applicable in highly uncertain environments.
4. Human Resource Management: Recruiting flexible individuals with a high degree of human capital, often from social networks, as the specific skill sets needed may not be fully known at the outset.

Jamali et al. (2018) stress the need for leaders to be proactive and innovative, continually seeking out and exploiting new opportunities. This proactive leadership is essential in transforming ideas into tangible business opportunities, especially in technological entrepreneurship, where rapid change and high uncertainty are prevalent.

Jamali et al. (2018) provide a robust framework for understanding how entrepreneurial opportunities are created and exploited through proactive and innovative leadership. This aligns well with the strategic objectives of Sustainable Transformation Excellence (STE) in the fashion retail industry, where continuous innovation and proactive leadership are critical for maintaining competitive advantage and adapting to market changes. By integrating these insights, the study underscores the importance of dynamic leadership and strategic flexibility in driving successful enterprise-wide transformations.

Organizational Biases and Traps

Ahuja and Lampert (2001) extend this discussion by identifying organizational traps that hinder innovation, such as familiarity, maturity, and propinquity traps. These insights illuminate the barriers large firms encounter in leveraging existing strengths while exploring new opportunities for radical innovation. Overcoming these traps necessitates a deliberate effort to diversify technological exploration, promote risk-taking, and embrace openness to unfamiliar domains and collaborations, thereby driving radical innovation and technological leadership.

The Familiarity Trap refers to an organization's tendency to focus on solutions and strategies that are familiar or have been successful in the past (Ahuja & Lampert, 2001). This trap arises from the comfort and confidence derived from known territories, leading organizations to invest heavily in existing knowledge and capabilities rather than exploring new, uncharted areas. As a result, organizations may overlook or underinvest in emerging technologies or novel approaches that could be critical for future success. This bias towards the familiar can significantly reduce an organization's agility, making it slow to adapt to new market demands or disruptive innovations.

The Maturity Trap occurs when organizations concentrate their efforts on mature, well-established areas of business that are perceived as low-risk and high-return (Ahuja & Lampert, 2001). While this focus on mature domains can yield immediate benefits, it often comes at the expense of long-term adaptability. As industries evolve, mature areas may experience diminishing returns, and the organization may find itself ill-prepared to pivot to newer, high-growth opportunities. The maturity trap thus creates a false sense of

security, where reliance on mature areas prevents the organization from developing the flexibility needed to respond to emerging challenges.

The Propinquity Trap describes the organizational inclination to seek out and invest in opportunities that are closely related or adjacent to their current operations (Ahuja & Lampert, 2001). This proximity-based bias can limit the scope of innovation, as organizations tend to pursue incremental improvements within their existing frameworks rather than exploring radically different or disruptive innovations. While these closely related initiatives may seem safer or more manageable, they often fail to position the organization for significant breakthroughs or to respond effectively to disruptive changes in the industry.

Together, familiarity, maturity, and propinquity create a formidable barrier to adaptability (Ahuja & Lampert, 2001). They reinforce a narrow focus on the present and the past rather than encouraging a forward-looking perspective essential for long-term success. Overcoming these biases requires consciously cultivating a culture of exploration and experimentation within the organization. This involves recognizing the limitations imposed by these traps and actively seeking opportunities that challenge the status quo and push the boundaries of the organization's existing knowledge and capabilities.

In the context of strategic transformation, addressing these organizational traps is crucial for fostering adaptability and ensuring the organization can navigate the complexities of a rapidly changing environment. By breaking free from the constraints of familiarity, maturity, and propinquity, organizations can better position themselves to innovate, grow, and sustain competitive advantage in the face of ongoing change.

The integration of strategic flexibility, innovation, and a nuanced understanding of organizational biases is crucial for navigating the complexities and uncertainties of the retail sector. This synthesis aims to bridge the theoretical underpinnings with practical applications, highlighting the need for further empirical research to explore how these concepts are operationalized within U.S. retail firms. By examining the manifestation of organizational biases and proposing actionable strategies to mitigate them, this research seeks to contribute to successfully executing transformation initiatives, fostering innovation, and securing a sustainable competitive advantage in the retail landscape.

Strategic Entrepreneurship and Digital Transformation in Sustainable Transformation Excellence

Strategic Entrepreneurship (SE) and Digital Transformation (DT) play vital roles in enabling Sustainable Transformation Excellence (STE) by fostering adaptive capabilities and supporting rapid innovation. SE encompasses entrepreneurial actions aimed at creating and exploiting market opportunities, improving processes, and redefining competitive positioning (Kantur, 2016; Anderson et al., 2019). DT, meanwhile, drives business model innovations that enhance value creation, delivery, and capture, positively impacting performance metrics such as customer satisfaction, financial success, and market positioning. While this study focuses on immediate performance outcomes, the long-term sustainability impacts of DT on environmental, economic, social, and cultural dimensions also warrant consideration, as they contribute to an organization's broader transformation objectives (Savastano et al., 2022; Casciani et al., 2022).

Frameworks for Strategic Entrepreneurship: A Comparative Perspective

Both Kantur (2016) and Anderson et al. (2019) provide valuable insights into SE, though they approach the concept from different perspectives. Kantur (2016) offers a multidimensional framework, defining SE through four key dimensions:

1. **Sustained Regeneration**: Continuous introduction of new products, services, or markets.
2. **Organizational Rejuvenation**: Enhancing internal capabilities to improve competitive positioning.
3. **Strategic Renewal**: Redefining the firm's relationships with markets and industry competitors.
4. **Domain Redefinition**: Creating new competitive spaces unrecognized by competitors.

In contrast, Anderson et al. (2019) emphasize Strategic Entrepreneurial Behaviors (SEB) as firm-level entrepreneurial activities that exploit new product-market opportunities through innovation commercialization, advocating for a unidimensional construct to improve theoretical precision and measurement reliability. Integrating both perspectives offers a nuanced understanding of SE, capturing both the complexity and practicality of entrepreneurial strategies within firms.

Empirical Evidence Supporting Digital Transformation in Retail Transformation

Savastano et al. (2022) examined the relationship between DT and sustainable business performance, specifically within SMEs, during the COVID-19 pandemic. Using Structural Equation Modeling (SEM) with data from tourism sector executives, they highlight the critical role of digital business model maturity in driving both immediate

and long-term performance outcomes. Findings indicate that mature digital models enhance Dynamic Capabilities (DC), enabling firms to adapt effectively in turbulent environments. The emphasis on customer satisfaction, financial outcomes, and market positioning underscores DT's strategic importance for competitive advantage.

Integrating Strategic Entrepreneurship and Digital Transformation for Enhanced Dynamic Capabilities

Both SE and DT contribute significantly to Dynamic Capabilities (DC)—a firm's ability to sense, seize, and reconfigure resources in response to market changes. SE fosters a culture of continuous renewal and competitive agility, enabling firms to adjust strategies and processes to evolving demands (Kantur, 2016). Simultaneously, DT enables streamlined operations through tools such as predictive analytics, AI, and digital twinning, enhancing the ability to sense and seize new opportunities (Casciani et al., 2022; Savastano et al., 2022).

Measurement and Practical Implications for Retail Transformation

The immediate and long-term impacts of these strategies align well with Dervitsiotis's (2003) dual management mode, which integrates stability with adaptability to achieve sustainable performance. This study measures STE through immediate effectiveness and long-term performance, adopting indicators based on Dervitsiotis (2003) and Savastano et al. (2022). Immediate effectiveness (STEI) includes items like achieving short-term transformation goals, while long-term sustainability (STEL) reflects sustained improvements and anticipated benefits.

By aligning SE and DT within the STE framework, this study leverages established constructs to guide practical applications in retail. Retailers adopting these

integrated approaches can enhance adaptability and resilience, better positioning themselves to navigate market shifts, meet consumer demands, and achieve sustained transformation excellence.

Dynamic Capabilities

Dynamic Capabilities (DC) represent a critical theoretical construct in strategic management, particularly in achieving and sustaining competitive advantage in rapidly changing environments. According to Teece, Pisano, and Shuen (1997), dynamic capabilities are defined as a firm's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments.

This broad definition encompasses several critical components:

1. Sensing Capabilities: The ability to identify and assess environmental opportunities and threats. This involves processes for gathering and interpreting information from various sources to detect changes and potential opportunities.
2. Seizing Capabilities: The ability to mobilize resources to capture value from opportunities. This includes developing new products, services, or processes in response to identified opportunities.
3. Reconfiguring Capabilities: The ability to continuously align and realign the organization's structure, resources, and processes to adapt to new conditions. This involves reconfiguring existing assets and capabilities to meet evolving market demands.

To further illustrate the evolution of the concept, Table 1 provides definitions of dynamic capabilities from various seminal works:

Definitions of Dynamic Capabilities

Article Title	DC Definition	Citation
Dynamic Capabilities and Strategic Management	The firm's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments.	Teece, Pisano, & Shuen (1997)
Understanding Dynamic Capabilities	High-level routines or collections of routines that enable a firm to extend, modify, or create ordinary capabilities.	Winter (2003)
Dynamic Capabilities: What Are They?	Processes that use resources to integrate, reconfigure, gain, and release resources to match and even create market change. The organizational and strategic routines by which firms achieve new resource configurations as markets emerge, collide, split, evolve, and die.	Eisenhardt & Martin (2000)
Deliberate Learning and the Evolution of Dynamic Capabilities	A dynamic capability is a learned and stable pattern of collective activity through which the organization systematically generates and modifies its operating routines in pursuit of improved effectiveness.	Zollo & Winter (2002)
Branching and Anchoring: Complementary Asset Configurations in Conditions of Knightian Uncertainty	Complementary asset configurations in conditions of Knightian uncertainty, enabling firms to manage uncertainty through mechanisms of branching and anchoring.	Lampert et al. (2020)

Table 1: Definitions of Dynamic Capabilities

Zollo and Winter (2002) further argue that the evolution of dynamic capabilities is closely tied to organizational learning mechanisms. They identify three primary learning mechanisms that shape dynamic capabilities:

- Experience Accumulation: A semi-automatic process where routines and practices evolve based on repeated execution and feedback from outcomes.

- Knowledge Articulation: Involves making implicit knowledge explicit through collective discussions, debriefing sessions, and performance evaluations. This process helps clarify causal linkages between actions and outcomes.
- Knowledge Codification: The most deliberate form of learning, where articulated knowledge is documented in manuals, blueprints, and decision support systems, facilitating knowledge transfer and enhancing understanding.

Lampert et al. (2020) extend the understanding of dynamic capabilities by introducing the concepts of branching and anchoring as strategies to manage Knightian uncertainty—conditions where neither outcomes nor probabilities are knowable. Branching refers to the firm's ability to explore new opportunities and adapt flexibly to uncertainty, closely related to sensing and seizing capabilities. Anchoring involves committing to certain strategic assets that provide stability, aligning with the reconfiguring capability. This framework highlights the importance of balancing flexibility and stability in managing dynamic capabilities, offering a nuanced view of how firms can thrive in uncertain environments by leveraging complementary asset configurations.

Winter (2003) emphasizes that dynamic capabilities involve long-term commitments to specialized resources, which can be costly to maintain but are essential for sustained competitive advantage. He contrasts dynamic capabilities with ad hoc problem-solving, noting that while the latter may be less costly, it lacks the systematic and patterned approach inherent in dynamic capabilities.

Eisenhardt and Martin (2000) contribute to the practical aspects of dynamic capabilities, suggesting that they consist of identifiable and specific routines that firms can learn and implement. They argue that effective dynamic capabilities are characterized by simple, experiential, and iterative processes that enable firms to adapt to changing environments.

Integration of Digital Transformation in Driving Dynamic Capabilities and Sustainability

Incorporating digital transformation is crucial in understanding how dynamic capabilities drive sustainable transformation excellence. Casciani, Chkanikova, and Pal (2022) highlight those digital technologies such as 3D modeling, virtual and augmented reality (VR and AR), 2D/3D scanning, and digital twinning (DT) offer significant opportunities for dematerializing the traditional fashion supply chain. These technologies enable innovation in product and service offerings and optimize operational processes, leading to shorter lead times and enhanced efficiency.

Digital transformation drives multi-centered business model innovations affecting value creation, delivery, and capture (Casciani, Chkanikova, & Pal, 2022). Companies can streamline activities and improve sustainability practices through digital technologies, which also affect all four dimensions of sustainability—environmental, economic, social, and cultural. As a complex cultural system, the fashion industry benefits from these advancements by achieving immediate effectiveness and long-term sustainability.

Empirical evidence from companies actively using digital technologies illustrates how digitalization transforms fashion industry processes, products, and services (Casciani

et al., 2022). These insights are critical for integrating digital transformation into the study of dynamic capabilities and sustainable transformation excellence.

Integrating dynamic capabilities into the research framework offers a comprehensive approach to strategic flexibility, including sensing, seizing, and reconfiguring capabilities. This approach ensures retail leaders can navigate and thrive in dynamic environments by effectively managing and leveraging strategic flexibility in their decision-making processes. By examining how retail leaders develop and utilize these dynamic capabilities, the proposed study seeks to contribute a nuanced understanding of strategic flexibility and its practical application in retail, enhancing the current literature and providing valuable insights for industry practitioners.

Strategic Adaptation of Entrepreneurial Governance in Transformation

Entrepreneurial governance in retail must support strategic flexibility to facilitate transformation. Carroll (2017) emphasizes the critical need for governance structures responsive to the evolving market landscape and capable of fostering innovation through what he terms the "entrepreneurial governance framework." This framework integrates key elements such as knowledge, innovation, opportunity, implementation, and risk management, underscoring the importance of flexibility and adaptability in governance. According to Carroll, effective governance must evolve to address the complexities and challenges inherent in modern public administration, promoting a culture that balances responsible risk-taking with ethical decision-making.

This perspective aligns closely with the objectives of this study, which explores how the integration of Entrepreneurial Orientation (EO), Adaptive Leadership (AL), Strategic Entrepreneurship (SE), and Dynamic Capabilities (DC) can foster Sustainable

Transformation Excellence (STE) in the fashion retail sector. As Carroll (2017) argues for governance structures that can adapt to changing environments and drive innovation, this study investigates how these constructs contribute to developing governance practices that enable organizations to sense, seize, and transform opportunities effectively.

Key Dimensions of Entrepreneurial Governance

Carroll's (2017) framework includes five key dimensions:

1. Knowledge: The foundation for entrepreneurship, encompassing learning, experience, and the ability to distinguish between success and failure. Firms must prioritize understanding the external environment in retail, including market trends, consumer behavior, and competitive dynamics. This knowledge allows firms to make informed decisions and identify growth opportunities. For example, retailers like Amazon leverage advanced data analytics to understand customer preferences, driving competitive advantage.
2. Innovation: Generating and implementing new ideas, processes, and mechanisms that drive change. Retail firms must foster a culture of innovation where employees are encouraged to experiment and develop new products, services, and business models. Innovation is crucial for adapting to changing consumer demands and technological advancements. Companies like Nike continuously innovate through new product lines and technological advancements in their supply chain, maintaining market leadership.
3. Opportunity: Recognizing and exploiting opportunities as they arise. Retail organizations must be adept at identifying new market opportunities and acting

swiftly to capitalize on them, such as entering new market segments or forming strategic partnerships. An example is Walmart's strategic move into e-commerce through acquiring Jet.com, recognizing and exploiting new market opportunities.

4. Implementation: The action-oriented stage where knowledge, innovation, and opportunities are realized. Effective implementation involves meticulous planning and execution of strategic initiatives, ensuring continuous feedback to monitor progress and make necessary adjustments. Zara's fast-fashion model, which relies on rapidly implementing new fashion trends, exemplifies the importance of swift implementation in maintaining a competitive edge.
5. Risk Management: Addressing and managing risk throughout all stages of the entrepreneurial process. Retail firms must have robust risk management practices to mitigate potential downsides and ensure ethical decision-making. Target's investment in cybersecurity measures following a significant data breach illustrates the importance of effective risk management in maintaining consumer trust and protecting the brand.

Implications for Retail Transformation

Carroll's (2017) entrepreneurial governance framework offers valuable insights that align with and reinforce the theoretical foundations of this study, highlighting the importance of innovative, adaptable governance structures in achieving sustainable transformation excellence. The framework emphasizes the integration of ethical decision-making, risk management, and creativity as essential to achieving transformational success. Ethical decision-making ensures that governance practices align with societal

expectations, which is critical for building consumer trust and brand loyalty—key components of sustainable transformation.

However, the direct applicability of Carroll's (2017) primarily public sector-oriented framework to the private retail industry has been questioned, noting a lack of empirical evidence on its effectiveness in this new context. This gap signifies an opportunity for further research to tailor and test models specifically designed for the unique challenges and opportunities of the retail sector.

The balance between risk-taking and maintaining consumer trust is a delicate equilibrium in the retail industry. While high-profile failures are recognized as part of the entrepreneurial process, they can significantly impact brand reputation and consumer loyalty. Carroll's (2017) framework suggests structured implementation and stakeholder engagement to mitigate these risks, highlighting the need for a nuanced understanding of entrepreneurial governance encompassing successes and failures.

Moreover, decentralized decision-making enhances agility and responsiveness in governance. By allowing decision-making authority at various levels of the organization, retail firms can quickly adapt to changing market conditions and consumer preferences. This dimension aligns with Carroll's (2017) emphasis on flexible governance structures and supports entrepreneurial activities within the organization. Additionally, performance measurement provides feedback and control mechanisms that ensure accountability and continuous improvement, complementing Carroll's framework by adding a practical tool for monitoring and enhancing governance excellence.

Future Research Directions

Given the limitations of applying Carroll's framework directly to the private retail sector, future research should focus on adapting and empirically testing these governance models within this context. This research could contribute to a more tailored approach to entrepreneurial governance, addressing retail organizations' unique challenges in their transformation efforts.

Further, Kirzner (2009) discusses the concept of entrepreneurial alertness to opportunities others have overlooked, which is a pivotal aspect of fostering innovation and creativity in the industry. This approach suggests a keen sensitivity to market dynamics and the ability to leverage new growth avenues, which is particularly relevant as the retail industry grapples with technological advancements and shifts toward sustainability.

Performance measurement provides feedback and control mechanisms that ensure accountability and continuous improvement. By regularly evaluating the outcomes of entrepreneurial activities, retail organizations can refine their strategies and better align with their transformation goals. This dimension complements Carroll's (2017) framework by adding a practical tool for monitoring and enhancing governance excellence.

However, the direct applicability of Carroll's (2017) primarily public sector-oriented framework to the private retail industry is questioned, noting a lack of empirical evidence on its effectiveness in this new context. This gap signifies an opportunity for further research to tailor and test models specifically designed for the unique challenges and opportunities of the retail sector.

The authors also address the balance between risk-taking and maintaining consumer trust, a delicate equilibrium in the retail industry. High-profile failures, while recognized as part of the entrepreneurial process, can significantly impact brand reputation and consumer loyalty. Carroll's (2017) framework suggests structured implementation and stakeholder engagement to mitigate these risks, highlighting the need for a nuanced understanding of entrepreneurial governance encompassing successes and failures.

The call for empirical studies to validate the effectiveness of dynamic capabilities in the retail industry underscores a broader need for research that adapts and applies these frameworks to the sector's specific context. This includes exploring how entrepreneurial strategies enable sustainable growth and competitiveness in a rapidly evolving market.

Sustainable Business Excellence

Organizations must adopt strategies that promote sustainable transformation excellence to navigate changes successfully. Insights from Dervitsiotis (2003) and Savastano et al. (2022) highlight their contributions to understanding sustainable business excellence and digital transformation. Furthermore, it aligns these insights with the current study on sustainable transformation excellence in fashion retail and related organizations.

Kostas N. Dervitsiotis (2003) provides a comprehensive framework for understanding sustainable business excellence (SBE) in the context of organizational change. Dervitsiotis emphasizes the importance of developing dual management modes that combine conventional business excellence (CBE) during stable periods with resilience and adaptability during turbulent times. The study introduces the concept of

complex adaptive systems, viewing organizations as living systems that evolve in response to environmental changes. Key components include:

1. Strategic Inflection Point: Identifying critical junctures where significant environmental changes necessitate new strategies.
2. Dual Management Mode: Integrating CBE and SBE to manage stability and turbulence.
3. Complex Adaptive Systems: Understanding organizations as systems that adapt and evolve through self-organization, emergence, and attractors.

Dervitsiotis (2003) highlights the limitations of traditional business models and underscores the necessity for organizations to develop dynamic capabilities that enable them to thrive in both stable and volatile environments.

Literature Gap and Research Justification

The literature on strategic flexibility and decision-making in retail has expanded our understanding of the theoretical importance of these concepts, especially in environments marked by rapid technological advances and evolving consumer expectations. Nonetheless, a discernible gap exists in applying and empirically testing these strategies within the fast-paced retail environment, where decisions often have immediate and tangible impacts on competitive positioning. This research addresses this gap by examining how retail leaders apply strategic flexibility in their decision-making processes and how governance structures can support or hinder such dynamism. Through this inquiry, the proposed study seeks to contribute a nuanced understanding of strategic flexibility and its practical application, enhancing the current literature and providing valuable insights for industry practitioners.

Incorporating Dynamic Capabilities into this study's framework enhances our understanding of how strategic flexibility and decision-making can be effectively managed and leveraged within the retail sector. Dynamic Capabilities, as conceptualized by Teece, Pisano, and Shuen (1997), offer a theoretical lens through which firms can sense, seize, and reconfigure resources to maintain competitiveness. However, practical applications of this framework in the high-stakes, dynamic retail environment remain underexplored. By integrating Strategic Entrepreneurship (SE) and Digital Transformation (DT) within a Dynamic Capabilities framework, this study will provide both theoretical and practical advancements in achieving sustainable transformation excellence, bridging the gap between strategic flexibility theory and real-world retail practices.

III. RESEARCH MODEL

Introduction

The research model has been meticulously designed to investigate the mechanisms through which Entrepreneurial Orientation (EO), Adaptive Leadership (AL), and Strategic Entrepreneurship (SE) influence transformation outcomes mediated by Dynamic Capabilities (DC) to achieve Sustainable Transformation Excellence (STE) in U.S. fashion retail and related sectors. This comprehensive framework aligns with the fashion retail industry's complex, multifaceted nature, addressing theoretical gaps and practical challenges. The model is structured to yield theoretically profound, practically actionable, and highly relevant insights, enabling organizations to achieve balanced and agile transformation strategies for immediate and long-term success.

Research Model Overview:

The proposed research model integrates the constructs of EO, AL, SE, and DC to examine their collective impact on STE. Specifically, the model investigates how EO, AL, and SE contribute to enhancing an organization's DC: Sensing, Seizing, and Transforming capabilities, which, in turn, drive immediate and long-term sustainable transformation excellence.

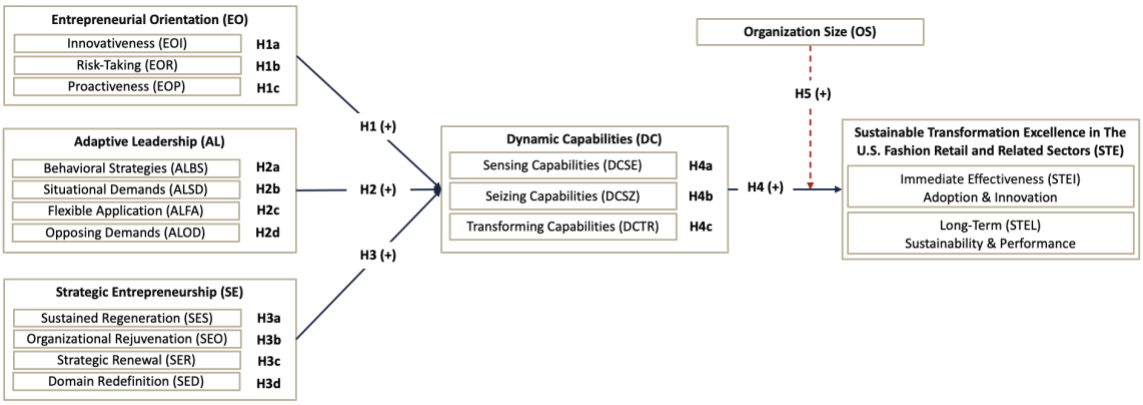

Figure 1: Initial STEP Model

Alignment with Dissertation Objectives:

The U.S. fashion industry is experiencing rapid technological advancements, evolving consumer preferences, and heightened competition, which require organizations to adapt swiftly while ensuring long-term sustainability. The primary objective of this dissertation is to understand how organizations can leverage entrepreneurial and leadership strategies to drive successful transformations in this dynamic environment. The updated research model effectively addresses these objectives by examining the strategic roles of EO, AL, SE, and DC in achieving transformation excellence.

Research Model Design:

1. Component Selection:

- Entrepreneurial Orientation (EO): EO, comprising Innovativeness (EOI), Risk-Taking (EOR), and Proactiveness (EOP), fosters a culture of innovation and strategic flexibility, which is essential for capitalizing on market changes.
- Adaptive Leadership (AL): AL includes Behavioral Strategies (ALBS), Situational Demands (ALSD), Flexible Application (ALFA), and Opposing Demands (ALOD). This component reflects the need for leaders to adapt their strategies based on situational dynamics, which is critical for navigating the complexities of the fashion retail sector.
- Strategic Entrepreneurship (SE) includes Sustained Regeneration (SES), Organizational Rejuvenation (SEO), Strategic Renewal (SER), and Domain Redefinition (SED), which are strategic initiatives that transform organizations in response to evolving market demands.
- Dynamic Capabilities (DC) as Mediators: The mediation role of Sensing (DCSE), Seizing (DCSZ), and Transforming (DCTR) Capabilities is central to the model. These capabilities translate entrepreneurial and adaptive strategies into practical outcomes, facilitating immediate effectiveness and long-term sustainability. This mediation helps explain how EO, AL, and SE contribute to transformation successes by enhancing dynamic capabilities**.**
- Sustainable Transformation Excellence (STE): STE is bifurcated into Immediate Effectiveness (STEI), which focuses on Adoption and innovation, and Long-Term Sustainability and Performance (STEL). This distinction captures both

short-term gains and long-term impacts of transformation initiatives, aligning with the industry's need for quick adaptation and enduring success.

- **Moderating Role of Organization Size (OS):** The model considers Organization Size (OS) as a moderating factor, acknowledging that scale influences the effectiveness of dynamic capabilities and transformation outcomes. This reflects the challenges and resources available to organizations of different sizes within the retail sector.

Hypotheses

This dissertation examines the intricate relationships between Entrepreneurial Orientation (EO), Adaptive Leadership (AL), Strategic Entrepreneurship (SE), and Dynamic Capabilities (DC) and their collective impact on Sustainable Transformation Excellence (STE) within the U.S. fashion retail and related industries. The research model is designed to align with the study's overall objectives, providing a robust framework to analyze how EO, AL, and SE influence transformation outcomes via the mediating role of DC while accounting for the moderating effect of organizational size.

The hypotheses (H1–H5) delineate the expected relationships between the key constructs, incorporating direct, mediated, and moderated pathways. Through this model, the dissertation offers a comprehensive and nuanced understanding of how EO, AL, and SE contribute to immediate and long-term transformation success, mediated by an organization's ability to sense, seize, and transform opportunities (DC). By hypothesizing these relationships, the research advances a detailed analysis of the key drivers behind sustainable transformation excellence, particularly within the dynamic and competitive landscape of the fashion retail sector.

Grounded in established theoretical frameworks and informed by the constructs defined earlier, the following hypotheses are proposed to guide the analysis:

H1: Entrepreneurial Orientation (EO) positively influences Dynamic Capabilities (DC).

- **H1a**: Innovativeness (EOI) positively influences Dynamic Capabilities (DC).
- **H1b**: Risk-Taking (EOR) positively influences Dynamic Capabilities (DC).
- **H1c**: Proactiveness (EOP) positively influences Dynamic Capabilities (DC).

These hypotheses are grounded in the understanding that firms with entrepreneurial orientations are more likely to sense, seize, and transform opportunities, thereby enhancing their dynamic capabilities (Molokwu et al., 2013; Lumpkin & Dess, 2005).

H2: Adaptive Leadership (AL) positively influences Dynamic Capabilities (DC).

- **H2a**: Behavioral Strategies (ALBS) positively influence Dynamic Capabilities (DC).
- **H2b**: Situational Demands (ALSD) positively influence Dynamic Capabilities (DC).
- **H2c**: Flexible Application (ALFA) positively influences Dynamic Capabilities (DC).
- **H2d**: Opposing Demands (ALOD) positively influences Dynamic Capabilities (DC).

Adaptive leaders help organizations by continuously adjusting strategies to meet environmental challenges, enabling firms to integrate and reconfigure their resources to build dynamic capabilities (Nöthel et al., 2023).

H3: Strategic Entrepreneurship (SE) positively influences Dynamic Capabilities (DC).

- **H3a**: Sustained Regeneration (SES) positively influences Dynamic Capabilities (DC).
- **H3b**: Organizational Rejuvenation (SEO) positively influences Dynamic Capabilities (DC).
- **H3c**: SE Strategic Renewal (SER) positively influences Dynamic Capabilities (DC).
- **H3d**: SE Domain Redefinition (SED) positively influences Dynamic Capabilities (DC).

These sub-hypotheses reflect that firms practicing strategic entrepreneurship continuously innovate and adapt to capture market opportunities, thereby enhancing their dynamic capabilities (Kantur, 2016).

H4: Dynamic Capabilities (DC) positively influence Sustainable Transformation Excellence (STE).

- **H4a**: Sensing Capabilities (DCSE) positively influences Sustainable Transformation Excellence (STE).
- **H4b**: Seizing Capabilities (DCSZ) positively influences Sustainable Transformation Excellence (STE).
- **H4c**: Transforming Capabilities (DCTR) positively influence Sustainable Transformation Excellence (STE).

Dynamic Capabilities (DC) facilitate the firm's ability to adapt and implement sustainable transformation practices, thus driving immediate and long-term organizational effectiveness (Kump et al., 2019; Teece, Pisano, & Shuen, 1997).

H5: Organization Size moderates the positive relationship between Dynamic Capabilities (DC) and Sustainable Transformation Excellence (STE), such that the relationship is stronger in larger organizations.

Larger organizations often possess more resources and capabilities, allowing them to develop stronger dynamic capabilities that facilitate sustainable transformation outcomes better (Savastano et al., 2022).

IV. METHODOLOGY

Research Design

This quantitative, quasi-experimental, cross-sectional research design utilized a structured survey to measure factors contributing to perceptions of transformation excellence among employees in U.S. retail organizations. The survey included closed-ended questions and demographic inquiries to capture participants' roles and organizational contexts, as informed by a comprehensive literature review.

Measurement Models

Measurement models in this study are primarily reflective, where latent constructs are indicated by observable items. Reflective models were chosen to align with the theoretical definitions of constructs under investigation, such as Entrepreneurial Orientation (EO) and Dynamic Capabilities (DC).

In reflective measurement models, the latent construct influences the observed indicators. Key characteristics include a causal direction from construct to indicators,

high correlation among indicators, and indicator interchangeability, as each reflects the same underlying construct. Reflective models assume that error terms are uncorrelated, as variations in each indicator arise solely from the latent construct and measurement error.

Evaluation of reflective models involves examining internal consistency through reliability measures (e.g., Cronbach's alpha) and confirmatory factor analysis (CFA). These methods ensure that the indicators collectively represent the construct as intended, validating the model for subsequent structural analyses.

Informed Pilot Testing

An informed pilot study was conducted to ensure the clarity, relevance, and reliability of the survey instrument. Feedback from an expert panel of nine DBA candidates at Florida International University (Cohort 5.6 and 5.7) were invited via email to participate in the pilot study to inform final refinements, enhancing the survey's capacity to capture essential data for the main study.

Instrument: Before Pilot: The survey instrument was divided into several sections, each designed to measure different constructs related to the study. The sections included:

SURVEY SECTIONS	VARIABLES		SURVEY ITEMS	MEASUREMENT SCALES ADOPTION
1	Information Letter	Information Letter	1	
	CAPTCHA	Human verification	1	
2	Boundary Qualifiers	Questions to qualify respondents based on specific criteria	2	
3	Organizational Context	Organizational Context Items to gather contextual information about the organization	3	
4	Independent Constructs	Entrepreneurial Orientation (EO)	25	(Molokwu et al., 2013)
		Strategic Entrepreneurship (SE)	22	(Kantur, 2016)
		Entrepreneurial Governance (EG)	26	Carroll (2017)
	Dependent Construct	Sustainable Transformation Excellence (STE)	13	
5	Control Variables	Demographic Information	5	
6	Verification Code	Thank You & Completion Verification Code	1	
		TOTAL	99	

Figure 2: Survey Instrument Pre-Pilot

The total number of survey items was 99, utilizing seven-point Likert-type scales ranging from strongly disagree to strongly agree.

Feedback Criteria: Participants were asked to review and evaluate the survey instrument based on the following criteria:

1. Clarity and understandability
2. Relevance to organizational contributors
3. Accuracy in measuring the intended variable
4. Avoidance of double-barreled questions
5. Neutrality to prevent leading questions
6. Avoidance of loaded questions
7. Clarity to prevent confusion
8. Unambiguity to ensure single interpretation
9. Ease of understanding and answering

Results and Refinements: Feedback from the pilot participants indicated several areas for improvement, which were subsequently incorporated into the refined survey instrument:

- Clarity Enhancements: Several questions were rephrased to improve clarity and ensure they were easily understandable by respondents.
- Relevance Adjustments: Items were adjusted to better target the specific experiences and roles of fashion retail managers and above.
- Variable Measurement: Questions were refined to ensure they accurately measured the constructs of EO, SE, EG, and STE.

- Complexity Reduction: Efforts were made to simplify questions and avoid double-barreled or loaded language.

Survey Instrument: After the Pilot

Refined Survey Sections and Variables:

SURVEY SECTIONS	VARIABLES		SURVEY ITEMS	MEASUREMENT SCALES ADOPTION
1	Information Letter	Information Letter	1	
	CAPTCHA	Human verification	1	
2	Boundary Qualifiers	Questions to qualify respondents based on specific criteria	2	
3	Organizational Context	Organizational Context Items to gather contextual information about the organization	3	
4	Independent Constructs	Entrepreneurial Orientation (EO)	19	(Molokwu et al., 2013)
		Strategic Entrepreneurship (SE)	17	(Kantur, 2016)
		Entrepreneurial Governance (EG)	23	Carroll (2017)
	Dependent Construct	Sustainable Transformation Excellence (STE)	10	
5	Control Variables	Demographic Information	5	
6	Verification Code	Thank You & Completion Verification Code	1	
		TOTAL	82	

Figure 3: Refined Survey Instrument

The total number of refined survey items was 82, utilizing five-point Likert-type scales ranging from 'strongly disagree' to 'strongly agree.'

The informed pilot study was critical in refining the survey instrument for the main research on Sustainable Transformation Excellence in the U.S. fashion retail industry. The valuable feedback from expert panel members helped enhance the survey's clarity, relevance, and reliability, ensuring it effectively captures the necessary data to test the research hypotheses. The refined survey instrument is better equipped to provide insights into the factors contributing to successful enterprise transformation in the fashion retail sector.

Instrument Development and Validation

1. **Instrument Development**

A structured questionnaire was developed to measure the key variables identified in the research proposal, focusing on enterprise transformation within the U.S. retail

industry. The questionnaire was designed based on a comprehensive literature review and consists of three main sections: exclusion criteria, enterprise transformation constructs, and demographic information.

Exclusion Criteria

The first section of the survey includes exclusion questions designed to screen out respondents who do not meet the criteria for inclusion in the study, such as individuals not employed in the retail industry or whose organizations are not based in the U.S. These questions ensure that the data is collected from the appropriate sample population, thereby reducing the risk of bias and enhancing the validity and reliability of the study. By carefully selecting respondents, the survey results are more likely to be representative of the target population.

Measurement of Constructs

The second section of the questionnaire comprises 51 statements aimed at assessing five key areas of transformation: Entrepreneurial Orientation, Adaptive Leadership, Strategic Entrepreneurship, Dynamic Capabilities, and Sustainable Transformation Excellence. Each statement is measured on a seven-point Likert scale, ranging from strongly disagree to strongly agree.

Each item within these constructs was assigned an original code corresponding to its respective construct and dimension (e.g., ALBS1 for Adaptive Leadership - Behavioral Strategies, ALSD1 for Adaptive Leadership - Situational Demands). Following Confirmatory Factor Analysis (CFA) and reliability testing, items that did not load significantly or demonstrated low reliability will be eliminated from the final instrument. To maintain traceability and consistency throughout the analysis and

reporting phases, the original item codes will be retained in the final survey, even though participants will not see these codes in the Qualtrics platform. This method ensures that each item can be easily referenced and discussed in relation to the original survey development process. An appendix will document any changes made to the survey instrument, providing a comprehensive overview of the instrument's evolution.

Demographic Information

The final section of the survey gathers demographic information through seven questions covering age, gender, job title, management level, department, and retail type. These questions help to contextualize the survey responses and allow for an analysis of how demographic characteristics may influence perspectives on enterprise transformation. The information is collected anonymously and securely, ensuring the privacy of respondents while providing valuable insights into the effectiveness of enterprise transformation efforts across different demographic groups.

2. Instrument Validation

To ensure the proposed research model's robustness and applicability, a comprehensive instrument validation process was undertaken, including multiple rounds of sample pilot testing and subsequent data analysis. This process was crucial for refining the survey instrument and confirming that it reliably measures the constructs of interest: Entrepreneurial Orientation (EO), Strategic Entrepreneurship (SE), Adaptive Leadership (AL), Dynamic Capabilities (DC), and Sustainable Transformation Excellence (STE).

Sample Pilot Testing

The instrument validation began with a series of sample pilot tests across three iterations of the research model (v1, v2, and v3) to identify the most effective framework

for understanding the relationships between the key constructs within U.S. fashion retail and related organizations. Each iteration tested different combinations of mediating and moderating variables, such as Entrepreneurial Governance (EG), Dynamic Capabilities (DC), and Organizational Size (OS).

- Model v1: Exploring Entrepreneurial Governance: This iteration focused on the relationship between EO, SE, and STE, with EG as the mediating factor and OS as the moderating factor.
- Model v2: Integrating Dynamic Capabilities: The second iteration incorporated Dynamic Capabilities (DC) as the mediating factor, replacing EG while maintaining OS as the moderator. This model emphasized the organization's ability to sense, seize, and transform in response to changing environments.
- Model v3: Incorporating Adaptive Leadership: The final iteration added Adaptive Leadership (AL) to the model alongside EO, SE, and DC, with OS continuing as the moderator. This comprehensive approach addressed the need for leadership flexibility in navigating complex challenges during transformation.

Construct Validity and Reliability Analysis

Following each pilot test, Confirmatory Factor Analysis (CFA) was conducted to assess the construct validity of the measurement model. CFA allowed for the evaluation of the factor structure and ensured that each item loaded significantly onto its intended construct. Items that did not meet the required thresholds were eliminated from the final instrument to enhance its validity and reliability.

- Content and Face Validity: The survey items were developed based on a comprehensive literature review and feedback from industry experts to ensure they covered all relevant aspects of the constructs. Face validity was further confirmed through pilot testing, ensuring the items appeared appropriate and relevant to the study's objectives.
- Internal Consistency: Reliability was assessed using Cronbach's alpha to ensure internal consistency within each construct. Only items that demonstrated strong reliability were retained.
- Construct Validity: Exploratory Factor Analysis (EFA) was initially used to explore the underlying factor structure. Subsequently, CFA was employed to confirm the hypothesized structure of the constructs in the final instrument.
- Convergent and Discriminant Validity: Convergent and discriminant validity were assessed to ensure that the constructs measured by the instrument were both related as expected and distinct from one another.

Documentation and Traceability

The original item codes were retained in the final survey to maintain traceability and consistency throughout the analysis and reporting phases. Although participants did not see these codes in the Qualtrics platform, this approach ensured that each item could be easily referenced and discussed in relation to the original survey development process. An appendix in the final dissertation will document any changes made to the survey instrument, providing a comprehensive overview of the instrument's evolution.

Conclusion

The instrument validation process, through rigorous pilot testing, factor analysis, and reliability testing, ensured that the final survey instrument was both valid and reliable for measuring the key constructs of Entrepreneurial Orientation, Strategic Entrepreneurship, Adaptive Leadership, Dynamic Capabilities, and Sustainable Transformation Excellence. The final model (v3) best supports the development of the STEP framework and provides a robust tool for guiding industry leaders through successful transformation initiatives in the competitive fashion retail environment.

Sample Strategy and Sampling Procedures

Determining the Relevant Audience:

The target population for this study includes Fashion Retail and Related Organizations in the U.S., encompassing sectors such as clothing, footwear, accessories, textiles, beauty, and personal care products. The survey will be answered by individuals who have insights into the entrepreneurial orientation, adaptive leadership, strategic entrepreneurship, dynamic capabilities, and overall performance of their organization regarding sustainable transformation. This typically includes:

1. Executive Leadership: CEOs, COOs, CFOs, Chief Transformation Officers, Chief Technology Officers, Chief Information Officers. These individuals provide strategic perspectives on transformation initiatives.
2. Department Heads: Heads of Operations, Marketing, Sales, Sustainability, E-commerce, Customer Service. They offer insights into departmental-level changes and their impacts on overall transformation.

3. Middle Management: Store Managers, E-commerce Managers, Customer Service Managers. These employees provide valuable operational insights into how transformation initiatives are implemented on the ground and their practical impacts.
4. Innovation Teams: IT Managers, R&D Teams, Innovation Managers. They contribute perspectives on technological and innovative aspects of transformation initiatives.
5. Human Resources (HR): HR Managers involved in training, change management, and employee adaptation to new processes. They offer insights into the human capital aspect of transformation.
6. Consultants: Consultants specializing in transformation and strategy within the fashion retail industry. They can provide insights based on their work with various clients and their understanding of industry-wide practices.

Survey Focus:

Respondents should have a thorough understanding of:

- The organization's innovative practices.
- Risk-taking behaviors and strategies.
- Proactive measures and strategic initiatives.
- Leadership strategies and adaptability.
- Sensing, seizing, and transforming capabilities.
- The impact of organization size on transformation.
- Immediate and long-term effectiveness and performance related to sustainable transformation.

The survey will gather comprehensive and insightful data on the key factors contributing to Sustainable Transformation Excellence in the fashion and related retail sectors by targeting these respondents.

Types of Retail Organizations:

Based on our research and model, respondents are from the following types of organizations: Boutiques, Catalog Retailers, Consulting Firms, Crafting and Hobby Retailers, Department Stores, Discount Retailers, Fashion Industry Associations, Fast Fashion Retailers, Luxury Retailers, Mass Merchandisers, Off-Price Retailers, Online-Only Retailers, Outlet Stores, Pop-up Stores, Specialty Retailers, Warehouse Clubs, and Others.

These organizations have been involved in or strongly focus on transformation initiatives, which provides relevant insights into the survey.

Corporate and Retail Store Employees:

Corporate Office Employees provide strategic and broad organizational insights, which are crucial for understanding the planning, implementation, and monitoring of transformation initiatives. Retail Store Employees offer operational and frontline perspectives, providing a comprehensive view of how transformation initiatives impact daily operations, customer interactions, and overall store performance.

By including corporate office and retail store employees, the study captures a holistic understanding of transformation initiatives, encompassing strategic and operational aspects. This approach ensures a well-rounded understanding of how these initiatives are conceived, implemented, and experienced at different organizational levels.

Data analysis

The data analysis process involved several structured steps, beginning with data preparation and followed by a series of statistical tests, conducted using both SPSS and R to ensure a thorough analysis. The key steps and specific analyses performed are outlined below.

Step 1: Data Preparation

Data Collection and Initial Processing:

Data was collected via a structured online survey administered through Qualtrics. The raw dataset was exported to Microsoft Excel for initial cleaning, with a copy preserved to maintain the integrity of the original data.

Data Cleaning and Formatting:

- Handling Missing Data: Incomplete responses were identified and removed.
- System Fields: Unnecessary system-generated fields (e.g., metadata, timestamps) were excluded.
- Response Scale Transformation: Text-based responses (e.g., “Strongly Disagree” to “Strongly Agree”) were converted into a 7-point Likert scale (1 = Strongly Disagree, 7 = Strongly Agree).

Importing Data into SPSS:

The cleaned dataset was then imported into SPSS, where all variable names and data types were properly defined for further analysis.

Step 2: Descriptive Statistics

Descriptive statistics were calculated to summarize the dataset's characteristics, including:

- Means, standard deviations, skewness, and kurtosis: To assess data distribution.
- Frequency distributions: For categorical variables.
- Missing values analysis: To verify dataset completeness.

Step 3: Data Transformation and Composite Variable Creation

Composite variables were created for multi-item scales by averaging relevant item scores, ensuring that each construct was accurately represented in the analysis. SPSS was used for:

- Reliability analysis: Assessing the internal consistency of multi-item scales via Cronbach's alpha.
- Composite variable creation: Calculate the mean score for each construct.

Step 4: Exploratory Factor Analysis (EFA)

Exploratory Factor Analysis (EFA) was conducted in SPSS to examine the constructs' underlying factor structure:

- Principal component analysis (PCA) or Maximum Likelihood Extraction: To determine the factor structure.
- Kaiser-Meyer-Olkin (KMO) test and Bartlett's test of sphericity: To assess factor analysis appropriateness.
- Varimax Rotation: Applied to interpret factor loadings.

Step 5: Confirmatory Factor Analysis (CFA)

Confirmatory Factor Analysis (CFA) was performed using the lavaan package in R to test construct validity and assess the measurement model's fit. Maximum Likelihood Estimation (MLE) was used in this analysis.

Step 6: Structural Equation Modeling (SEM)

Structural Equation Modeling (SEM) was applied to test hypothesized relationships between constructs. Using the lavaan package in R, SEM estimated direct and indirect effects, evaluating relationships among independent, mediating, moderating, and dependent variables.

Step 7: Model Fit Assessment

The model fit was evaluated using several fit indices:

- Chi-square test
- Comparative Fit Index (CFI)
- Tucker-Lewis Index (TLI)
- Root Mean Square Error of Approximation (RMSEA)
- Standardized Root Mean Square Residual (SRMR)

These indices provided a comprehensive assessment of how well the proposed model aligned with the observed data.

Ethical Considerations

The study adhered to ethical guidelines, including obtaining informed consent and ensuring participant anonymity. IRB approval was secured before data collection.

Expected Contributions

This research anticipates making several significant contributions through the quantitative analysis of empirical data. Primarily, the study aims to clarify how dynamic capabilities enable retailers to navigate transformational challenges effectively. This research will culminate in developing the Sustainable Transformation Excellence Program™ (STEP). The STEP playbook will offer a comprehensive, data-driven framework that integrates entrepreneurial strategies into transformation initiatives, equipping retailers with evidence-based tools to overcome conventional barriers and capitalize on market opportunities.

For Executives:	• Equip executives with strategic insights from the STEP framework to foster agility and adaptability during organizational changes. • Present evidence-based leadership models that nurture an entrepreneurial culture, enhancing organizational resilience and supporting long-term sustainability.
For Practitioners:	• Provide practitioners with data-backed strategies from the STEP playbook, specifically tailored to meet the unique challenges of the retail sector. • Encourage the integration of sustainability and ethics into entrepreneurial practices, supported by empirical evidence from the STEP framework.
For Policymakers:	• Inform policy development with insights derived from the STEP framework on the role of entrepreneurial innovation in retail transformation. • Support sustainable retail policies with quantitative evidence from the STEP framework, highlighting best practices for transformation initiatives.
For Academia:	• Contribute to academic discourse with a detailed analysis of entrepreneurial strategies' effectiveness in retail transformation, as structured within the STEP framework. • Provide empirical support to validate and extend theories of entrepreneurial strategy and governance within organizational change contexts, reinforcing the STEP framework's academic significance.

Table 2: Expected Organizational Contributions

Overall Theoretical Contribution:	• Deepen understanding of how Dynamic Capabilities mediate the relationship between entrepreneurial orientation and strategies for sustainable transformation, as structured within the STEP framework. • Offer interdisciplinary insights that connect entrepreneurship, governance, sustainability, and broader economic, technological, and social dynamics, providing a comprehensive perspective within the STEP framework.
Overall Practical Application:	• Deliver a practical guide through the STEP playbook, offering benchmarks for transformation initiatives that emphasize both innovation and sustainability.

	• Offer actionable insights from the STEP playbook for structuring governance and leadership to facilitate successful transformations across the industry.

Table 3: Expected Theoretical Contributions & Practical Application

V. RESULTS

Demographic Analysis of Respondents

This section provides a detailed demographic analysis of the study's respondents, which is essential for contextualizing the findings and understanding their broader relevance to U.S. fashion retail and related organizations. The sample comprises respondents from various industry segments, including clothing, footwear, accessories, textiles, beauty, and personal care products.

Sample Size

This study involved 102 respondents, providing a robust foundation for analyzing the key relationships between entrepreneurial orientation, adaptive leadership, strategic entrepreneurship, dynamic capabilities, and sustainable transformation excellence. The demographic analysis of the study's 102 respondents provides crucial insights into the sample composition, highlighting the diversity in industry experience, age, gender, organizational level, work location, retail type, organization size, geographic distribution, and department affiliation. Understanding these demographic characteristics is essential for interpreting the study's findings and assessing their generalizability across the fashion retail industry.

Industry Tenure

The respondents' industry experience highlights a strong foundation in expertise and diverse perspectives. A significant portion, 39.2% (n = 40), have 1-4 years of experience, while 31.4% (n = 32) have worked in the industry for over ten years.

Additionally, 24.5% (n = 25) reported 4-10 years of experience, and only 4.9% (n = 5) have less than one year. This distribution captures a balanced mix of both seasoned professionals and newer entrants, enhancing the study's ability to gather insights across various career stages. This range of tenure provides a valuable lens for examining leadership and transformation, as respondents bring a blend of established knowledge and fresh perspectives to the strategic initiatives under analysis.

Industry Tenure		
	N	%
1-4 years	40	39.2%
10+ years	32	31.4%
4-10 years	25	24.5%
Less than 1 year	5	4.9%

Table 4: Industry Tenure of Respondents

Age Range

The age distribution of respondents is varied, with the majority falling within the 25–34 years (34.3%, n = 35) and 35–44 years (32.4%, n = 33) age brackets. Younger participants aged 18–24 years constituted 18.6% (n = 19) of the sample, while older participants aged 45–54 years, 55–64 years, and 65–74 years made up 6.9% (n = 7), 5.9% (n = 6), and 2.0% (n = 2) of the sample, respectively. This indicates a strong representation of younger to middle-aged professionals in the study.

Age Range		
	N	%
25 - 34	35	34.3%
35 - 44	33	32.4%
18 - 24	19	18.6%
45 - 54	7	6.9%
55 - 64	6	5.9%
65 - 74	2	2.0%

Table 5: Age Range of Respondents

Gender Distribution

The sample shows a balanced gender distribution, with a slight majority of respondents identifying as female (52.0%, n = 53), followed closely by male respondents (45.1%, n = 46), and a small percentage identifying as non-binary or third gender (2.9%, n = 3). This diversity provides a broad perspective for examining potential gender-related differences in perceptions and experiences within the retail industry. The female majority aligns with the common gender composition in retail settings, adding valuable context to the study's exploration of how gender may influence leadership, innovation, and transformation within the industry.

Gender		
	N	%
Female	53	52.0%
Male	46	45.1%
Non-binary / third gender	3	2.9%

Table 6: Gender of Respondents

Organizational Level

The respondents represent a diverse range of organizational roles, with the largest groups being Supervisory/Team Leaders (30.4%, n = 31) and Middle Management (28.4%, n = 29). Other key categories include Administrative/Operations Staff (22.5%, n = 23), Sales Assistants/Associates (6.9%, n = 7), Consultants/Contractors (5.9%, n = 6), and smaller groups in C-level Executive (2.9%, n = 3) and Senior Management positions (2.9%, n = 3). This range of roles highlights the study's ability to capture a wide spectrum of perspectives, from operational to strategic decision-makers. Such variety is essential for examining how different hierarchical levels perceive and contribute to

transformative processes, offering a comprehensive view of organizational dynamics across the leadership spectrum.

Organizational Level		
	N	%
Supervisory / Team Leader	31	30.4%
Middle Management	29	28.4%
Administrative / Operations Staff	23	22.5%
Sales Assistant / Associate	7	6.9%
Consultant / Contractor	6	5.9%
C-level Executive	3	2.9%
Senior Management	3	2.9%

Table 7: Organizational Level of Respondents

Work Location

Most respondents (70.6%, n = 72) are employed in retail stores, aligning with the retail-centric focus of the study. However, the sample also captures individuals working in diverse settings, including Corporate Offices (4.9%, n = 5), Customer Service Centers (5.9%, n = 6), Design Studios (2.9%, n = 3), Warehouses (2.9%, n = 3), and Remote/Virtual environments (8.8%, n = 9). This range in work environments enhances the study's depth, enabling a nuanced analysis of how different settings may shape employees' experiences and perceptions of transformation. For instance, frontline retail staff may face unique challenges compared to those in corporate roles, where strategic decisions are formulated.

Work Location		
	N	%
Retail Store	72	70.6%
Remote/Virtual	9	8.8%
Customer Service Center	6	5.9%
Corporate Office	5	4.9%
Design Studio	3	2.9%
Warehouse	3	2.9%
Distribution Center	1	1.0%
Manufacturing Facility	1	1.0%

Other (Specify Below)	1	1.0%
Showroom	1	1.0%

Table 8: Work Location of Respondents

Retail Type

The sample includes a broad range of retail types, with the largest representation from Mass Merchandisers (29.4%, n = 30) and Big-Box Retailers (14.7%, n = 15), both significant sectors within the industry. Additionally, the sample captures perspectives from Specialty Retailers (11.8%, n = 12), Boutiques (9.8%, n = 10), Discount Retailers (9.8%, n = 10), Department Stores (6.9%, n = 7), and Fast Fashion Retailers (4.9%, n = 5), among others. This variety enables a comprehensive understanding of the unique challenges and opportunities faced across different retail formats, enriching the study's insights into how transformation strategies may be impacted by the retail type.

Retail Type		
	N	%
Mass Merchandiser	30	29.4%
Big-Box Retailer	15	14.7%
Specialty Retailer	12	11.8%
Boutiques	10	9.8%
Discount Retailer	10	9.8%
Department Store	7	6.9%
Fast Fashion Retailer	5	4.9%
Online Only Retailer	4	3.9%
Outlet Store	3	2.9%
Luxury Retailer	3	2.9%
Convenience Store/Pharmacy	2	2.0%
Fashion Industry Association	1	1.0%

Table 9: Retail Type of Respondents

Organization Size

The respondents work across a spectrum of organizational sizes, with a majority (52.0%, n = 53) from large organizations, 26.5% (n = 27) from medium-sized organizations, and 21.6% (n = 22) from small organizations. This range in organization

size is instrumental in exploring how size influences resource availability, decision-making processes, and the capacity for transformation. Larger organizations may have more extensive resources but often face challenges with agility, while smaller firms may be more adaptable yet limited by resource constraints. Understanding these dynamics is key to interpreting how organizational size may moderate the relationship between dynamic capabilities and transformation success.

Organizational Size		
	N	%
Large	53	52.0%
Medium	27	26.5%
Small	22	21.6%

Table 10: Organization Size of Respondents

Geographic Distribution (State)

The respondents are geographically diverse, with the highest representation from California (12.7%), followed closely by Florida and New York (9.8% each). This geographic spread is valuable for understanding regional differences within the retail industry, such as variations in consumer behavior, regulatory environments, and labor markets. The study mitigates the risk of regional bias by including respondents from multiple states, enhancing the applicability of findings across the U.S. retail sector. States with additional notable representation include Arkansas (7.8%) and Texas (6.9%).

State		
	N	%
New York	10	9.8%
Florida	10	9.8%
California	13	12.7%
Arkansas	8	7.8%
Texas	7	6.9%
Illinois	5	4.9%
Michigan	4	3.9%
Minnesota	4	3.9%

North Carolina	3	2.9%
Oregon	3	2.9%
Massachusetts	3	2.9%
West Virginia	3	2.9%
Wisconsin	3	2.9%
Arizona	2	2.0%
Connecticut	2	2.0%
Georgia	2	2.0%
Ohio	2	2.0%
Indiana	2	2.0%
Pennsylvania	2	2.0%
Washington	2	2.0%
Idaho	1	1.0%
Iowa	1	1.0%
Kansas	1	1.0%
Maryland	1	1.0%
Delaware	1	1.0%
Alabama	1	1.0%
Mississippi	1	1.0%
Missouri	1	1.0%
Nevada	1	1.0%
New Jersey	1	1.0%
Rhode Island	1	1.0%
Virginia	1	1.0%

Table 11: Geographic Distribution (State)

Department Distribution

The sample primarily comprises respondents from Customer Service (25.5%) and Store Operations (22.5%), underscoring the front-line focus typical in retail organizations. Buying/Sales also has substantial representation (19.6%), followed by Merchandising (12.7%) and Product Development/Design (3.9%). This cross-functional mix is essential for capturing a well-rounded view of how various departments collaborate and contribute during transformation initiatives. By including perspectives from both customer-facing and operational roles, the study can more accurately assess the factors that drive Sustainable Transformation Excellence across different functions.

Department		
	N	%
Customer Service	26	25.5%
Store Operations	23	22.5%
Buying/Sales	20	19.6%
Merchandising	13	12.7%
E-Commerce	5	4.9%
Product Development/Design	4	3.9%
Logistics/Transportation	2	2.0%
Finance/Accounting	1	1.0%
Human Resources	1	1.0%
Marketing	1	1.0%
Planning/Allocation	1	1.0%
Production	1	1.0%
Quality Assurance	1	1.0%
Sourcing	1	1.0%
Space Planning	1	1.0%
Transformation/Governance	1	1.0%

Table 12: Department of Respondents

Missing Data and Limitations

Notably, no missing data was reported in the demographic information collected, providing a complete dataset for analysis. However, it is important to recognize that the sample primarily comprises respondents from larger organizations and mass merchandisers. While this distribution aligns with the prevalent structure of the U.S. fashion retail sector, it may limit the applicability of the findings to smaller, niche retailers or those in distinct geographic or market contexts.

In summary, the demographic profile of the respondents demonstrates a well-rounded and diverse sample, with substantial representation across various industry tenures, age groups, genders, organizational levels, work locations, retail types, organization sizes, and geographic regions. This diversity enhances the study's robustness and broadens the generalizability of the results across different segments of the retail industry. Furthermore, the variety of experiences and perspectives within the

sample provides valuable insights into how Entrepreneurial Orientation, Adaptive Leadership, and Strategic Entrepreneurship contribute to sustainable transformation outcomes in the fashion retail industry.

Descriptive Statistics of Key Variables

Introduction

Descriptive statistics provide a summary of the data used in this study, highlighting key features such as central tendencies, variability, and the distribution of responses across the main constructs: Entrepreneurial Orientation (EO), Adaptive Leadership (AL), Strategic Entrepreneurship (SE), Dynamic Capabilities (DC), and Sustainable Transformation Excellence (STE). These statistics help provide a clear understanding of how respondents rate various aspects of their organizations and ensure that the data is appropriate for subsequent inferential analyses.

Entrepreneurial Orientation (EO)

Entrepreneurial Orientation (EO) is assessed through three dimensions: Innovativeness (EOI), Risk-Taking (EOR), and Proactiveness (EOP). The following descriptive statistics provide insights into how respondents perceive their organizations' entrepreneurial behaviors across these dimensions:

- Sample Size: A total of 102 valid responses were recorded for all EO items, ensuring a robust dataset for further analysis.
- Mean Scores: The mean scores for EO items ranged from 4.75 (EOR4) to 5.82 (EOI2), suggesting that respondents perceive their organizations as moderately engaged in entrepreneurial behaviors, with Innovativeness (EOI)

receiving the highest ratings (EOI1: 5.80, EOI2: 5.82). This indicates that respondents see their organizations as particularly focused on innovation.

- Standard Deviations: Standard deviations varied from 1.044 (EOI1) to 1.650 (EOR4), reflecting more consistent responses regarding Innovativeness (EOI) and greater variability in perceptions of Risk-Taking (EOR) and Proactiveness (EOP). This suggests diverse views on risk-taking behaviors within organizations.
- Skewness and Kurtosis: Negative skewness values across all EO items (ranging from -1.262 to -0.689) indicate that respondents generally rated their organizations positively on entrepreneurial behaviors. The higher skewness for EOI2 (-1.262) highlights particularly favorable ratings for Innovativeness. Kurtosis values, notably for EOI1 and EOI2, suggest a peaked distribution, with many respondents consistently rating Innovativeness highly.
- Range: Responses across all EO items spanned the full scale (1 to 7), showing that respondents utilized the entire scale when evaluating their organizations' entrepreneurial orientation.

Item	N	Min	Max	Mean	Std. Deviation	Skewness	Std. Error (Skewness)	Kurtosis	Std. Error (Kurtosis)
EOI1	102	2	7	5.80	1.044	-1.087	0.239	2.149	0.474
EOI2	102	2	7	5.82	1.094	-1.262	0.239	2.532	0.474
EOR3	102	2	7	5.43	1.270	-0.804	0.239	0.159	0.474
EOR4	102	1	7	4.75	1.650	-0.772	0.239	-0.230	0.474
EOP1	102	1	7	4.84	1.398	-0.689	0.239	0.288	0.474
EOP3	102	2	7	5.42	1.382	-0.752	0.239	-0.125	0.474
Valid N (listwise)	102								

Table 13: Descriptive Statistics for Entrepreneurial Orientation (EO) Items

Adaptive Leadership (AL)

Originally measured through four dimensions—Behavioral Strategies (ALBS), Situational Demands (ALSD), Flexible Application (ALFA), and Opposing Demands (ALOD)—statistical analysis confirmed that Adaptive Leadership (AL) operates as a one-factor construct. This finding indicates that these dimensions collectively capture a single underlying aspect of leadership adaptability. The descriptive statistics provide insights into respondents' perceptions of their organization's adaptability as a unified construct.

- Sample Size: A complete set of responses was collected from 102 participants, ensuring a reliable dataset for analysis.
- Mean Scores: The mean scores for AL items range from 4.48 (ALSD2) to 5.35 (ALFA1), suggesting that respondents generally perceive their organizations as practicing adaptive leadership. They particularly favor Flexible Application (ALFA), which had the highest mean score (5.35).
- Standard Deviations: Standard deviations varied from 1.360 (ALBS4) to 1.733 (ALSD2), indicating moderate variability, with greater diversity in responses around situational adaptability (ALSD). This suggests some differing opinions on how consistently adaptive leadership is applied within specific organizational contexts.
- Skewness and Kurtosis: All items have negative skewness values (ranging from -0.679 to -0.440), indicating a tendency for respondents to rate adaptive leadership behaviors positively. The highest skewness for ALFA1 (-1.026) reflects favorable perceptions of flexible application.

Kurtosis values, particularly for ALBS4 (1.876), indicate a peaked distribution, meaning a strong consensus among respondents on specific adaptive leadership dimensions.

- Range: The full-scale range (1 to 7) was used, indicating diverse perspectives on leadership adaptability across organizations.

Descriptive Statistics for Adaptive Leadership (AL) Items

Item	N	Min	Max	Mean	Std. Deviation	Skewness	Std. Error (Skewness)	Kurtosis	Std. Error (Kurtosis)
ALBS1	102	1	7	4.90	1.686	-0.690	0.239	-0.548	0.474
ALBS2	102	1	7	4.79	1.691	-0.585	0.239	-0.621	0.474
ALBS3	102	1	7	4.81	1.553	-0.654	0.239	-0.068	0.474
ALBS4	102	1	7	5.28	1.360	-1.232	0.239	1.876	0.474
ALBS5	102	1	7	4.89	1.670	-0.645	0.239	-0.334	0.474
ALSD1	102	1	7	4.91	1.443	-0.590	0.239	-0.046	0.474
ALSD2	102	1	7	4.80	1.617	-0.678	0.239	-0.201	0.474
ALSD4	102	1	7	5.00	1.529	-0.679	0.239	-0.051	0.474
ALSD5	102	1	7	5.08	1.514	-0.625	0.239	-0.106	0.474
ALFA1	102	1	7	5.35	1.405	-1.026	0.239	1.094	0.474
ALFA3	102	1	7	5.07	1.537	-0.735	0.239	0.083	0.474
ALOD1	102	1	7	5.12	1.511	-0.941	0.239	0.594	0.474
ALOD2	102	1	7	5.02	1.421	-0.648	0.239	0.531	0.474
Valid N (listwise)	102								

Table 14: Descriptive Statistics for Adaptive Leadership (AL) Items

Strategic Entrepreneurship (SE)

Strategic Entrepreneurship (SE) encompasses four dimensions: Sustained Regeneration (SES), Strategic Renewal (SER), Organizational Rejuvenation (SEO), and Domain Redefinition (SED). The descriptive statistics below provide insights into respondents' perceptions of their organization's strategic entrepreneurial activities.

- Sample Size: All SE items received responses from 102 participants, ensuring a complete dataset for analysis.

- Mean Scores: Mean scores range from 3.93 (SED2) to 5.95 (SES1), suggesting that Sustained Regeneration (SES) is perceived as the most prominent form of strategic entrepreneurship within organizations. At the same time, Domain Redefinition (SED) is viewed as less prevalent.
- Standard Deviations: Standard deviations vary from 1.075 (SES1) to 1.814 (SEO5), with Organizational Rejuvenation (SEO) items exhibiting the highest variability. This suggests more diverse views among respondents regarding their organization's efforts in rejuvenation.
- Skewness and Kurtosis: Skewness values are mostly negative, indicating that respondents generally rated SE dimensions favorably. The kurtosis for SES1 (7.958) is notably high, indicating that responses for this item are highly concentrated, with a significant number of respondents rating it similarly.
- Range: Responses spanned the full scale (1 to 7), reflecting diverse perceptions of strategic entrepreneurship activities across organizations.

Descriptive Statistics for Strategic Entrepreneurship (SE) Items

Item	N	Min	Max	Mean	Std. Deviation	Skewness	Std. Error (Skewness)	Kurtosis	Std. Error (Kurtosis)
SES1	102	1	7	5.95	1.075	-2.241	0.239	7.958	0.474
SES5	102	1	7	5.80	1.161	-1.467	0.239	3.034	0.474
SER2	102	2	7	5.57	1.130	-0.677	0.239	0.317	0.474
SER3	102	1	7	5.19	1.533	-0.875	0.239	0.064	0.474
SEO1	102	1	7	4.77	1.560	-0.621	0.239	-0.322	0.474
SEO2	102	1	7	4.75	1.609	-0.695	0.239	-0.183	0.474
SEO3	102	1	7	5.10	1.632	-0.816	0.239	-0.004	0.474
SEO5	102	1	7	4.91	1.814	-0.821	0.239	-0.385	0.474
SED1	102	1	7	3.89	1.729	0.041	0.239	-0.786	0.474
SED2	102	1	7	3.93	1.781	-0.098	0.239	-0.966	0.474
SED3	102	1	7	4.18	1.743	-0.288	0.239	-0.893	0.474
SED4	102	1	7	4.50	1.658	-0.492	0.239	-0.435	0.474
Valid N (listwise)	102								

Table 15: Descriptive Statistics for Strategic Entrepreneurship (SE) Items

Dynamic Capabilities (DC)

The Dynamic Capabilities (DC) construct consists of three dimensions: Sensing Capabilities (DCSE), Seizing Capabilities (DCSZ), and Transforming Capabilities (DCTR). The descriptive statistics below provide an overview of how respondents evaluate their organization's adaptability and transformation capacity.

- Sample Size: All DC items received responses from 102 participants, ensuring a complete dataset for analysis.
- Mean Scores: The mean scores range from 5.02 (DCSE1) to 5.90 (DCSE5), suggesting that respondents have a positive perception of their organization's dynamic capabilities, particularly in Sensing Capabilities (DCSE).
- Standard Deviations: Standard deviations range from 1.079 to 1.414, indicating moderate variability across items. This suggests generally consistent views among respondents regarding their organizations' ability to sense, seize, and transform opportunities, with slightly more variability for Sensing Capabilities (DCSE1).
- Skewness and Kurtosis: Negative skewness values across all items indicate that respondents generally rate their organizations highly on dynamic capabilities. Kurtosis values, particularly for DCSE5 (2.647), suggest a peaked distribution, with most respondents providing high ratings for this item.
- Range: Responses across all DC items span the full scale (1 to 7), showing diverse opinions on dynamic capabilities within organizations.

Descriptive Statistics for Dynamic Capabilities (DC) Items

Item	N	Min	Max	Mean	Std. Deviation	Skewness	Std. Error (Skewness)	Kurtosis	Std. Error (Kurtosis)
DCSE1	102	1	7	5.02	1.414	-0.764	0.239	0.510	0.474
DCSE2	102	2	7	5.64	1.133	-1.036	0.239	1.674	0.474
DCSE3	102	1	7	5.59	1.155	-1.105	0.239	2.145	0.474
DCSE4	102	1	7	5.53	1.325	-1.002	0.239	0.766	0.474
DCSE5	102	1	7	5.90	1.104	-1.200	0.239	2.647	0.474
DCSZ2	102	2	7	5.56	1.140	-1.192	0.239	1.681	0.474
DCSZ3	102	1	7	5.39	1.387	-1.055	0.239	1.160	0.474
DCSZ4	102	2	7	5.51	1.079	-0.847	0.239	1.198	0.474
DCTR3	102	2	7	5.24	1.153	-0.712	0.239	0.500	0.474
DCTR4	102	2	7	5.71	1.223	-0.971	0.239	0.425	0.474
Valid N (listwise)	102								

Table 16: Descriptive Statistics for Dynamic Capabilities (DC) Items

Sustainable Transformation Excellence (STE)

The Sustainable Transformation Excellence (STE) construct includes two dimensions, Immediate Effectiveness (STEI) and Long-Term Effectiveness (STEL), capturing respondents' perceptions of their organization's success in transformation outcomes.

- Sample Size: A complete set of responses was collected from 102 participants for all STE items, providing a robust dataset for analysis.
- Mean Scores: The mean scores range from 4.74 (STEI4) to 5.44 (STEL2), suggesting generally positive perceptions of both immediate and long-term transformation effectiveness, with a slight emphasis on long-term outcomes.
- Standard Deviations: Standard deviations range from 1.317 to 1.515, indicating moderate variability in respondents' evaluations of transformation performance. Slightly higher variability for STEI4 suggests differing views on certain immediate transformation outcomes.

- Skewness and Kurtosis: Negative skewness values indicate that respondents generally rate transformation effectiveness favorably. Higher kurtosis values for Long-Term Effectiveness items (STEL2 and STEL3) suggest a peaked distribution, with many respondents clustering around high ratings.
- Range: Responses spanned the full scale (1 to 7), reflecting diverse perspectives on transformation effectiveness across organizations.

Descriptive Statistics for Sustainable Transformation Excellence (STE) Items

Item	N	Min	Max	Mean	Std. Deviation	Skewness	Std. Error (Skewness)	Kurtosis	Std. Error (Kurtosis)
STEI1	102	1	7	5.20	1.357	-0.946	0.239	0.755	0.474
STEI2	102	1	7	5.16	1.481	-0.835	0.239	0.264	0.474
STEI3	102	1	7	5.03	1.410	-0.744	0.239	0.372	0.474
STEI4	102	1	7	4.74	1.515	-0.706	0.239	-0.045	0.474
STEI5	102	1	7	5.08	1.377	-0.748	0.239	0.437	0.474
STEL1	102	1	7	5.12	1.423	-0.737	0.239	0.381	0.474
STEL2	102	1	7	5.44	1.317	-1.104	0.239	1.461	0.474
STEL3	102	1	7	5.39	1.365	-1.102	0.239	1.102	0.474
Valid N (listwise)	102								

Table 17: Descriptive Statistics for Sustainable Transformation Excellence (STE) Items

Chi-Square Tests

Overview of Chi-Square Analysis

The Chi-Square tests aimed to examine the distribution of responses across items measuring the key constructs of Entrepreneurial Orientation (EO), Adaptive Leadership (AL), Strategic Entrepreneurship (SE), Dynamic Capabilities (DC), and Sustainable Transformation Excellence (STE). These tests evaluated whether the observed frequencies of responses significantly deviated from an expected equal distribution, thereby revealing any distinct preferences or patterns in responses across these constructs.

Each test was conducted for individual items, with results detailing the Chi-Square statistic, degrees of freedom, and associated p-value for each item.

The analyses were performed using R statistical software, providing an efficient method for calculating and interpreting the response distributions across items within each construct. By using R, this study ensured accuracy in the statistical testing process, supporting the reliability of the findings for each construct's dimensions.

EO - Entrepreneurial Orientation Items

A series of One-Sample Chi-Square tests were conducted to evaluate the distribution of responses for the items measuring the three dimensions of Entrepreneurial Orientation (EO): Innovativeness (EOI), Risk-Taking (EOR), and Proactiveness (EOP). The results are summarized in Table 18. Each EO item's Chi-Square statistic and corresponding degrees of freedom (df) were calculated, with asymptotic significance values (Asymp. Sig.) below 0.001 for all items, indicating significant deviations from equal probability distributions.

These findings suggest that the distribution of responses across EO items differed significantly from what would be expected under an assumption of equal response probability. This deviation implies that participants displayed distinct preferences or tendencies across Likert scale points, highlighting particular orientations toward innovativeness, risk-taking, and proactiveness.

Chi-Square Test Results for Entrepreneurial Orientation (EO) Items

Item Code	Chi-Square Statistic (χ^2)	Degrees of Freedom (df)	p-value	Significance Level
EOI1	79.765	5	< 0.001	Significant
EOI2	47.706	4	< 0.001	Significant
EOR3	47.529	5	< 0.001	Significant

EOR4	39.51	6	< 0.001	Significant
EOP1	58.451	6	< 0.001	Significant
EOP3	34.588	5	< 0.001	Significant

Table 18: Chi-Square Test Results for Entrepreneurial Orientation (EO) Items

AL - Adaptive Leadership Items

One-sample chi-square tests were conducted for each item within the one-factor construct of Adaptive Leadership (AL). Although the initial analysis included sub-dimensions (Behavioral Strategies, Situational Demands, Flexible Application, and Opposing Demands), the CFA confirmed AL as a unified, single-factor construct. Chi-square values for AL items ranged from 26.196 to 78.353, with p-values primarily below 0.001, indicating significant deviations from an equal distribution across all items. One item, ALSD3, yielded a p-value of 0.005, which remains significant at the 0.05 level.

As shown in Table X, these results demonstrate that responses to AL items were not distributed equally, suggesting that participants displayed clear preferences or tendencies in their perceptions of adaptive leadership behaviors. This significant deviation underscores the importance of AL as a cohesive construct, reflecting a unified adaptability within leadership behaviors rather than distinct sub-dimensions.

Chi-Square Test Results for Adaptive Leadership (AL) Items

Item Code	Chi-Square Statistic (χ^2)	Degrees of Freedom (df)	p-value	Significance Level
ALBS1	36.078	6	< 0.001	Significant
ALBS2	26.882	6	< 0.001	Significant
ALBS3	35.804	6	< 0.001	Significant
ALBS4	78.353	6	< 0.001	Significant
ALBS5	26.196	6	< 0.001	Significant
ALSD1	42.941	6	< 0.001	Significant
ALSD2	43.765	6	< 0.001	Significant
ALSD4	37.725	6	< 0.001	Significant

ALSD5	41.294	6	< 0.001	Significant
ALFA1	67.098	6	< 0.001	Significant
ALFA3	48.98	6	< 0.001	Significant
ALOD1	48.706	6	< 0.001	Significant
ALOD2	51.725	6	< 0.001	Significant

Table 19: Chi-Square Test Results for Adaptive Leadership (AL) Items

SE - Strategic Entrepreneurship Items

For Strategic Entrepreneurship (SE), One-Sample Chi-Square tests assessed the distribution of responses across the four dimensions: Sustained Regeneration (SES), Strategic Renewal (SER), Strategic Entrepreneurship Orientation (SEO), and Strategic Entrepreneurship Domain (SED). Table X displays the Chi-Square results, with values ranging from 15.078 to 58.706 and p-values below 0.05, indicating significant deviations from equal distribution for most SE items. Two items, SED1 and SED2, while still significant ($p = 0.012$ and $p = 0.020$, respectively), displayed slightly lower Chi-Square values compared to other items.

These results suggest that participants demonstrated distinct preferences or behaviors when evaluating SE items, reflecting measurable differences in how organizations engage with strategic entrepreneurship practices. The findings highlight those responses to SE constructs, while varying in intensity, consistently deviate from equal distribution, signifying nuanced attitudes towards sustained regeneration, renewal, orientation, and domain redefinition.

Chi-Square Test Results for Strategic Entrepreneurship (SE) Items

Item Code	Chi-Square Statistic (χ^2)	Degrees of Freedom (df)	p-value	Significance Level
SES1	77.902	4	< 0.001	Significant
SES5	110.608	6	< 0.001	Significant
SER2	58.706	5	< 0.001	Significant

SER3	51.725	6	< 0.001	Significant
SEO1	35.804	6	< 0.001	Significant
SEO2	43.765	6	< 0.001	Significant
SEO3	37.176	6	< 0.001	Significant
SEO5	35.667	6	< 0.001	Significant
SED1	16.314	6	0.012	Significant
SED2	15.078	6	0.02	Significant
SED3	17.961	6	0.006	Significant
SED4	30.176	6	< 0.001	Significant

Table 20: Chi-Square Test Results for Strategic Entrepreneurship (SE) Items

DC - Dynamic Capabilities Items

One-sample chi-square tests were also conducted to assess the distribution of responses across items measuring the three dimensions of Dynamic Capabilities (DC): Sensing Capabilities (DCSE), Seizing Capabilities (DCSZ), and Transforming Capabilities (DCTR). Table X illustrates the Chi-Square results, which range from 58.706 to 92.078, with all p-values below 0.001. These significant deviations from equal probability suggest that responses to DC items were not random, indicating distinct participant behaviors or perceptions related to dynamic capabilities.

These results emphasize clear tendencies among respondents concerning their organization's ability to sense, seize, and transform opportunities, which are essential capabilities for organizational adaptability and long-term resilience.

Chi-Square Test Results for Dynamic Capabilities (DC) Items

Item Code	Chi-Square Statistic (χ^2)	Degrees of Freedom (df)	p-value	Significance Level
DCSE1	63.667	6	< 0.001	Significant
DCSE2	70.235	5	< 0.001	Significant
DCSE3	92.078	6	< 0.001	Significant
DCSZ2	82.824	5	< 0.001	Significant
DCSZ3	66	6	< 0.001	Significant
DCSZ4	72.471	5	< 0.001	Significant

DCTR3	58.706	5	< 0.001	Significant
DCTR4	60.941	5	< 0.001	Significant

Table 21: Chi-Square Test Results for Dynamic Capabilities (DC) Items

STE - Sustainable Transformation Excellence Items

Finally, One-Sample Chi-Square tests evaluated the distribution of responses across items measuring Sustainable Transformation Excellence (STE), specifically Immediate Effectiveness (STEI) and Long-Term Effectiveness (STEL). As shown in Table X, the Chi-Square values for STE items range from 49.118 to 77.529, with p-values consistently below 0.001, indicating significant deviations from equal distribution.

These results imply that respondents exhibited distinct patterns in their perceptions of sustainable transformation effectiveness in terms of immediate outcomes and long-term strategic impacts. The significant responses across both dimensions of STE suggest strong preferences or behaviors regarding immediate and sustained transformation effectiveness.

Chi-Square Test Results for Sustainable Transformation Excellence (STE) Items

Item Code	Chi-Square Statistic (χ^2)	Degrees of Freedom (df)	p-value	Significance Level
STEI1	49.118	4	< 0.001	Significant
STEI2	77.529	6	< 0.001	Significant
STEI3	34.123	5	< 0.001	Significant
STEI4	36.078	6	< 0.001	Significant
STEL1	44.231	6	< 0.001	Significant
STEL2	67.098	6	< 0.001	Significant
STEL3	51.725	6	< 0.001	Significant
STEL5	28.593	5	< 0.001	Significant

Table 22: Chi-Square Test Results for Sustainable Transformation Excellence (STE) Items

Spearman's Rank-Order Correlation Analysis

Introduction and Purpose of the Test

This analysis was conducted to assess the relationships between Entrepreneurial Orientation (EO), Adaptive Leadership (AL), Strategic Entrepreneurship (SE), and Sustainable Transformation Excellence (STE). Since the data exhibited non-normality, Spearman's Rank-Order Correlation was chosen as a nonparametric alternative to Pearson's correlation, as it does not assume normality in the data distribution.

Spearman's correlation measures the strength and direction of association between two ranked variables, which is particularly useful for examining the monotonic relationship between constructs in this study. The goal of this analysis was to investigate the strength of the relationships between these key constructs, providing insight into the interdependence of entrepreneurial orientation, leadership adaptability, strategic entrepreneurship, and organizational transformation.

Results of the Correlation Analysis

The results of the Spearman's Rank-Order Correlation are summarized in Table 23 below.

Spearman's Rank-Order Correlation Analysis Results

Constructs	EO	AL	SE	STE
EO	1.000	.617**	.743**	.498**
AL	.617**	1.000	.682**	.770**
SE	.743**	.682**	1.000	.662**
STE	.498**	.770**	.662**	1.000

Table 23: Spearman's Rank-Order Correlation Analysis Results

- $p < .001$ for all correlations.
- $N = 102$ for all correlations.
- **.** Correlation is significant at the 0.01 level (2-tailed).

Key Findings:

1. EO and AL: The correlation coefficient of .617 indicates a strong positive relationship between Entrepreneurial Orientation (EO) and Adaptive Leadership (AL). This suggests that organizations with high levels of entrepreneurial orientation are more likely to display strong adaptive leadership behaviors.
2. EO and SE: With a correlation coefficient of .743, there is a very strong positive relationship between EO and Strategic Entrepreneurship (SE). This highlights the important interplay between an entrepreneurial mindset and the ability to pursue strategic renewal and rejuvenation within organizations.
3. EO and STE: A moderate positive relationship exists between EO and Sustainable Transformation Excellence (STE), with a coefficient of .498. While EO significantly influences STE, the relationship is not as strong as those between EO and AL/SE.
4. AL and SE: The correlation between AL and SE (.682) is strong and significant, suggesting that organizations that exhibit adaptive leadership are more likely to engage in strategic entrepreneurship activities such as renewal and innovation.
5. AL and STE: The strongest correlation observed is between AL and STE, with a coefficient of .770, indicating that adaptive leadership plays a key role in driving sustainable transformation excellence in organizations.

6. SE and STE: The correlation between SE and STE (.662) is also strong, signifying that strategic entrepreneurship efforts directly contribute to an organization's ability to achieve long-term transformation success.

Interpretation of Results

The results indicate that EO, AL, SE, and STE are all positively correlated, with most relationships exhibiting strong or very strong associations. The significant correlations align with theoretical expectations that entrepreneurial behavior and adaptive leadership contribute to an organization's dynamic capabilities and transformation outcomes.

While statistically significant, the relationship between EO and STE is moderate in strength. This suggests that while an entrepreneurial mindset may foster transformation efforts, other factors—such as leadership adaptability and strategic entrepreneurship—may be more critical in driving sustainable transformation.

The strongest relationship between AL and STE (.770) highlights the importance of adaptive leadership in achieving both immediate and long-term transformation outcomes. Leaders who are flexible and responsive to situational demands are more effective in steering their organizations through complex transformation initiatives.

Implications for Practice

The findings provide valuable insights into how organizations can leverage the relationships between entrepreneurial orientation, adaptive leadership, and strategic entrepreneurship to achieve sustainable transformation. Key implications include:

1. Fostering Entrepreneurial Culture: Organizations should focus on building a culture that encourages innovation, proactiveness, and risk-taking, as these

elements are strongly related to both leadership adaptability and strategic entrepreneurship efforts.

2. Strengthening Leadership Development Programs: The strong correlation between AL and STE suggests that leadership development programs that emphasize adaptive behaviors and flexible strategies are likely to improve transformation outcomes.
3. Enhancing Strategic Entrepreneurship Initiatives: Since SE is strongly linked to both EO and STE, organizations should focus on sustaining strategic entrepreneurship through renewal and rejuvenation practices, ensuring long-term transformation success.

Limitations of the Analysis

While Spearman's rank-order correlation provides meaningful insights into the relationships between the study's constructs, several limitations exist:

- Non-Causal Nature: The correlation does not imply causation. Further analysis, such as regression or structural equation modeling, would be required to establish directional relationships.
- Non-Normality of Data: The decision to use nonparametric testing was based on the data's non-normality. While Spearman's correlation is appropriate under these conditions, it limits the generalizability of findings to normally distributed populations.

Reliability and Confirmatory Factor Analysis

Entrepreneurial Orientation (EO)

Evaluation of Reliability

A reliability analysis was performed for the Entrepreneurial Orientation (EO) construct, which consists of six items measuring the dimensions of Innovativeness (EOI), Risk-Taking (EOR), and Proactiveness (EOP). The analysis yielded a Cronbach's Alpha of 0.832, indicating a high level of internal consistency. Inter-item correlations ranged from 0.234 to 0.680, demonstrating moderate to strong relationships between the items. These results support the internal validity of the EO construct.

Case Processing Summary

Cases	N	%
Valid	102	100%
Excluded	0	0%
Total	102	100%

Table 24: Case Processing Summary of Entrepreneurial Orientation (EO)

Reliability Statistics

Measure	Value
Cronbach's Alpha	0.832
Cronbach's Alpha Based on Standardized Items	0.839
Number of Items	6

Table 25: Reliability Statistics of Entrepreneurial Orientation (EO)

Inter-Item Correlation Matrix

	EOI1	EOI2	EOR3	EOR4	EOP1	EOP3
EOI1	1.000	0.680	0.557	0.466	0.338	0.360
EOI2	0.680	1.000	0.547	0.338	0.234	0.377
EOR3	0.557	0.547	1.000	0.467	0.468	0.471
EOR4	0.466	0.338	0.467	1.000	0.533	0.524
EOP1	0.338	0.234	0.468	0.533	1.000	0.603
EOP3	0.360	0.377	0.471	0.524	0.603	1.000

Table 26: Inter-Item Correlation Matrix of Entrepreneurial Orientation (EO

The inter-item correlations suggest that the items measure the same underlying construct, with moderate to strong relationships between the items, indicating that the EO construct is being measured effectively.

Summary Item Statistics

Statistic	Value
Mean	5.346
Minimum	4.755
Maximum	5.824
Range	1.069
Maximum/Minimum	1.225
Variance	1.748
Inter-Item Covariances	0.790
Inter-Item Correlations	0.464

Table 27: Summary Item Statistics of Entrepreneurial Orientation (EO)

The variability in the item means and variances indicates that the construct adequately captures differences among respondents, supporting its discriminant validity.

Item-Total Statistics

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
EOI1	26.27	26.439	0.621	0.806
EOI2	26.25	26.845	0.543	0.817
EOR3	26.65	24.310	0.660	0.794
EOR4	27.32	21.845	0.624	0.806
EOP1	27.24	24.083	0.594	0.807
EOP3	26.66	23.733	0.635	0.798

Table 28: Item-Total Statistics of Entrepreneurial Orientation (EO)

Each item shows corrected item-total correlations greater than 0.5, suggesting that all items make a meaningful contribution to the EO construct.

Recommendations

The current Cronbach's Alpha of 0.832 exceeds the commonly accepted threshold of 0.70, and removing any item would not significantly improve internal consistency. Therefore, all six items are retained for further analysis.

Write-Up

The reliability analysis demonstrated that the Entrepreneurial Orientation (EO) construct exhibits strong internal consistency with a Cronbach's Alpha of 0.832. The inter-item correlations, ranging from 0.234 to 0.680, confirmed moderate to strong relationships between the items, supporting internal validity. No deletions were recommended as all corrected item-total correlations exceeded 0.5, and thus, all six items are retained for subsequent analysis.

Confirmatory Factor Analysis (CFA)

A Confirmatory Factor Analysis (CFA) was conducted using the Maximum Likelihood Estimation (MLR) method to evaluate the three-factor structure of the Entrepreneurial Orientation (EO) construct, represented by Innovativeness (EOI), Risk-Taking (EOR), and Proactiveness (EOP). The fit indices suggest an overall good model fit, as summarized below:

Model Fit

Fit Index	Value	Threshold for Good Fit
Chi-square (χ^2)	11.027	$p > 0.05$ (non-significant)
Degrees of Freedom (df)	6	
p-value	0.088	Non-significant
Comparative Fit Index (CFI)	0.979	> 0.90
Tucker-Lewis Index (TLI)	0.947	> 0.90
Root Mean Square Error of Approximation (RMSEA)	0.091	< 0.08
90% Confidence Interval for RMSEA	[0.000, 0.174]	
Standardized Root Mean Square Residual (SRMR)	0.042	< 0.08

Table 29: Model Fit of Entrepreneurial Orientation (EO)

Although the RMSEA value slightly exceeded the preferred threshold of 0.08, it is still within an acceptable range for models of moderate complexity. The strong values of CFI and SRMR further confirm that the model fits the data well.

Factor Loadings

All factor loadings for the observed variables were significant and exceeded the recommended threshold of 0.70, indicating strong relationships between the items and their respective dimensions.

Latent Factor	Observed Variable	Factor Loading	Standard Error	z-value	p-value
Innovativeness (EOI)	EOI1	1.000 (fixed)	-	-	-
	EOI2	0.917	0.173	5.288	< 0.001
Risk-Taking (EOR)	EOR3	1.000 (fixed)	-	-	-
	EOR4	1.224	0.200	6.108	< 0.001
Proactiveness (EOP)	EOP1	1.000 (fixed)	-	-	-
	EOP3	0.984	0.170	5.775	< 0.001

Table 30: Factor Loadings of Entrepreneurial Orientation (EO)

Variances

All variances for the observed variables and latent factors were statistically significant, indicating that the EO dimensions account for a substantial proportion of variance.

Observed Variable/Factor	Variance Estimate	Standard Error	z-value	p-value
EOI1	0.240	0.101	2.386	0.017
EOI2	0.479	0.155	3.096	0.002
EOR3	0.807	0.170	4.740	< 0.001
EOR4	1.510	0.328	4.599	< 0.001
EOP1	0.763	0.348	2.191	0.028
EOP3	0.756	0.215	3.510	< 0.001
EOI (Latent Factor)	0.839	0.219	3.829	< 0.001
EOR (Latent Factor)	0.791	0.223	3.542	< 0.001
EOP (Latent Factor)	1.174	0.328	3.577	< 0.001

Table 31: Variances of Entrepreneurial Orientation (EO)

Covariances Between Latent Variables

The covariances between the latent variables indicated significant positive relationships, reflecting the interconnectedness of the EO dimensions. The strongest covariance was between Risk-Taking (EOR) and Proactiveness (EOP) (0.932), followed by Innovativeness (EOI) and Risk-Taking (EOR) (0.853). These results suggest that while the dimensions of Entrepreneurial Orientation (EO) are related, they remain distinct constructs capturing different facets of entrepreneurial behavior.

Latent Variable 1	Latent Variable 2	Covariance Estimate	Standard Error	z-value	p-value
Innovativeness (EOI)	Risk-Taking (EOR)	0.853	0.180	3.862	< 0.001
Innovativeness (EOI)	Proactiveness (EOP)	0.509	0.166	3.052	0.002
Risk-Taking (EOR)	Proactiveness (EOP)	0.932	0.197	4.558	< 0.001

Table 32: Covariances Between Latent Variables of Entrepreneurial Orientation (EO)

Interpretation

The results of the Confirmatory Factor Analysis (CFA) provide strong support for the three-factor structure of Entrepreneurial Orientation (EO), consisting of Innovativeness (EOI), Risk-Taking (EOR), and Proactiveness (EOP). The model fit indices (CFI, TLI, and SRMR) indicate a good overall fit. While the RMSEA was slightly higher than the ideal threshold (0.091 vs. < 0.08), the robust fit of the model based on other indices, particularly CFI (0.979) and SRMR (0.042), suggests that the model is acceptable for further analysis.

The factor loadings were all statistically significant and exceeded the recommended threshold of 0.70, confirming that the observed variables reliably represent their respective EO dimensions. The significant covariances between the latent variables

also confirm that the dimensions of EO, while distinct, are highly interrelated. This interconnectedness aligns with the theoretical understanding of EO as a multifaceted construct that incorporates different aspects of entrepreneurial behavior, such as innovativeness, risk-taking, and proactiveness.

Adaptive Leadership (AL)

Evaluation of Reliability

A reliability analysis was performed for the Adaptive Leadership (AL) construct, which initially comprised 15 items across four dimensions: Behavioral Strategies (ALBS), Situational Demands (ALSD), Flexible Application (ALFA), and Opposing Demands (ALOD). The analysis was based on 102 valid cases, as indicated in the case processing summary, with no excluded cases.

Cronbach's Alpha

The overall Cronbach's Alpha for the 15-item AL scale was 0.964, indicating excellent internal consistency. A Cronbach's Alpha above 0.9 is considered outstanding, demonstrating that the items within this construct are highly correlated and reliable for measuring the AL construct.

Case Processing Summary

Cases	N	%
Valid	102	100%
Excluded	0	0%
Total	102	100%

Table 33: Case Processing Summary of Adaptive Leadership (AL)

Reliability Statistics

Measure	Value
Cronbach's Alpha	0.964
Number of Items	15

Table 34: Reliability Statistics of Adaptive Leadership (AL)

Inter-Item Correlation Matrix

The Inter-Item Correlation Matrix demonstrated that the correlations between items ranged from 0.438 to 0.807, suggesting moderate to strong relationships among the items. This range of correlations supports the construct's validity, as it indicates that the items measure related, but not redundant, aspects of Adaptive Leadership.

	ALBS1	ALBS2	ALBS3	ALBS4	ALBS5	ALSD1	ALSD2	ALSD3	ALSD4	ALSD5	ALFA1	ALFA2	ALFA3	ALOD1	ALOD2
ALBS1	1.000	0.795	0.708	0.768	0.545	0.652	0.585	0.633	0.653	0.581	0.600	0.620	0.599	0.673	0.596
ALBS2	0.795	1.000	0.664	0.738	0.564	0.683	0.761	0.637	0.670	0.575	0.510	0.564	0.611	0.606	0.570
ALBS3	0.708	0.664	1.000	0.738	0.542	0.695	0.668	0.555	0.622	0.555	0.503	0.556	0.718	0.668	0.603
ALBS4	0.768	0.738	0.738	1.000	0.559	0.695	0.683	0.543	0.710	0.552	0.621	0.659	0.668	0.759	0.673
ALBS5	0.545	0.564	0.542	0.559	1.000	0.669	0.586	0.532	0.597	0.552	0.611	0.438	0.601	0.676	0.639
ALSD1	0.652	0.683	0.695	0.695	0.669	1.000	0.761	0.633	0.718	0.656	0.695	0.619	0.753	0.759	0.695
ALSD2	0.585	0.761	0.668	0.683	0.586	0.761	1.000	0.638	0.729	0.638	0.694	0.637	0.715	0.662	0.622
ALSD3	0.633	0.637	0.555	0.543	0.532	0.633	0.638	1.000	0.718	0.746	0.597	0.745	0.727	0.704	0.549
ALSD4	0.653	0.670	0.622	0.710	0.597	0.718	0.729	0.718	1.000	0.689	0.775	0.637	0.781	0.690	0.634
ALSD5	0.581	0.575	0.555	0.552	0.552	0.656	0.638	0.746	0.689	1.000	0.634	0.733	0.598	0.641	0.584
ALFA1	0.600	0.510	0.503	0.621	0.552	0.695	0.694	0.597	0.775	0.634	1.000	0.693	0.681	0.755	0.671
ALFA2	0.620	0.564	0.556	0.659	0.611	0.619	0.637	0.745	0.637	0.733	0.693	1.000	0.804	0.727	0.562
ALFA3	0.599	0.611	0.718	0.668	0.601	0.753	0.715	0.727	0.781	0.598	0.681	0.804	1.000	0.807	0.751
ALOD1	0.673	0.606	0.668	0.759	0.676	0.759	0.662	0.704	0.690	0.641	0.755	0.727	0.807	1.000	0.751
ALOD2	0.596	0.570	0.603	0.673	0.639	0.695	0.622	0.549	0.634	0.584	0.671	0.562	0.751	0.751	1.000

Table 35: Inter-Item Correlation Matrix of Adaptive Leadership (AL)

Summary Item Statistics

The mean for the 15 items was 5.007, with item variances ranging from 1.849 to 3.003. The average inter-item correlation was 0.647, which is ideal for a multidimensional construct such as Adaptive Leadership (AL). The corrected item-total correlations were consistently high, confirming that all items should be retained.

Statistic	Value
Item Means	5.007
Item Variances	2.375
Inter-Item Correlations	0.647

Table 36: Summary Item Statistics of Adaptive Leadership (AL)

Item-Total Statistics

The corrected item-total correlations ranged from 0.718 to 0.847, confirming that each item contributes meaningfully to the overall reliability. The Cronbach's Alpha, if any item was deleted, did not show substantial improvements, indicating that all items should be retained.

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
ALBS1	70.21	306.462	0.785	0.962
ALBS2	70.31	306.911	0.774	0.962
ALBS3	70.29	311.338	0.765	0.962
ALBS4	69.82	315.196	0.799	0.962
ALBS5	70.22	311.577	0.772	0.962
ALSD1	70.20	310.615	0.845	0.961
ALSD2	70.30	306.768	0.817	0.961
ALSD3	70.32	306.478	0.761	0.962
ALSD4	70.11	308.196	0.840	0.961
ALSD5	70.03	312.088	0.772	0.962
ALFA1	69.75	314.623	0.784	0.962
ALFA2	69.82	316.127	0.766	0.962
ALFA3	70.04	309.305	0.814	0.962
ALOD1	69.99	308.426	0.847	0.961
ALOD2	70.09	314.854	0.769	0.962

Table 37: Item-Total Statistics of Adaptive Leadership (AL)

Recommendations

Given the high Cronbach's Alpha (0.964), excellent item-total correlations, and no substantial improvements in Alpha if any item was deleted, no items were removed. The current configuration of the AL scale is robust and reliable for measuring Adaptive Leadership.

Write-Up

A reliability analysis confirmed that the Adaptive Leadership (AL) construct exhibits excellent internal consistency with a Cronbach's Alpha of 0.964. The inter-item

correlations ranged from 0.438 to 0.807, indicating moderate to strong relationships between the items. No deletions were recommended based on the corrected item-total correlations, as all values exceeded 0.7. Consequently, all 15 items were retained for further analysis.

Confirmatory Factor Analysis (CFA)

A Confirmatory Factor Analysis (CFA) was performed using the Maximum Likelihood Estimation (MLR) method to evaluate the one-factor structure of the Adaptive Leadership (AL) construct. Initially, the construct comprised 15 items across four dimensions—Behavioral Strategies (ALBS), Situational Demands (ALSD), Flexible Application (ALFA), and Opposing Demands (ALOD). However, after reviewing modification indices and theoretical considerations, items ALSD3 and ALFA2 were removed to improve model fit.

Model Fit

The CFA results demonstrated a reasonable fit between the data and the one-factor AL model after removing two items. Key model fit indices are summarized as follows:

Fit Index	Value	Threshold for Good Fit
Chi-square (χ^2)	182.387	$p > 0.05$ (non-significant)
Degrees of Freedom (df)	65	
p-value	0.000	Non-significant
Comparative Fit Index (CFI)	0.921	> 0.90
Tucker-Lewis Index (TLI)	0.905	> 0.90
Root Mean Square Error of Approximation (RMSEA)	0.098	< 0.08
90% Confidence Interval for RMSEA	[0.077, 0.119]	
Standardized Root Mean Square Residual (SRMR)	0.047	< 0.08

Table 38: Model Fit of Adaptive Leadership (AL)

While the RMSEA was slightly above the preferred threshold (0.098 vs. < 0.08), the other fit indices (CFI = 0.921, SRMR = 0.047) indicate a reasonable overall model fit.

Factor Loadings

The standardized factor loadings for all observed variables were significant and exceeded the recommended threshold of 0.70, confirming that the items reliably represent the Adaptive Leadership construct.

Latent Factor	Observed Variable	Factor Loading	Standard Error	z-value	p-value
Adaptive Leadership (AL)	ALBS1	1.000 (fixed)	-	-	-
	ALBS2	0.993	0.048	20.844	< 0.001
	ALBS3	0.920	0.074	12.421	< 0.001
	ALBS4	0.837	0.079	10.589	< 0.001
	ALBS5	0.916	0.112	8.180	< 0.001
	ALSD1	0.941	0.083	11.283	< 0.001
	ALSD2	1.009	0.097	10.449	< 0.001
	ALSD4	0.964	0.094	10.241	< 0.001
	ALSD5	0.859	0.159	5.418	< 0.001
	ALFA1	0.847	0.105	8.032	< 0.001
	ALFA3	0.972	0.099	9.839	< 0.001
	ALOD1	0.986	0.094	10.488	< 0.001
	ALOD2	0.853	0.111	7.679	< 0.001

Table 39: Factor Loadings of Adaptive Leadership (AL)

Variances

All variances for the observed variables were statistically significant, confirming that the AL construct explains a substantial proportion of variance in the items.

Observed Variable/Factor	Variance Estimate	Standard Error	z-value	p-value
ALBS1	1.056	0.233	4.526	< 0.001
ALBS2	1.098	0.177	6.222	< 0.001
ALSD1	0.504	0.096	5.231	< 0.001
ALFA1	0.693	0.147	4.725	< 0.001
ALOD1	0.550	0.125	4.392	< 0.001
Adaptive Leadership (AL)	1.758	0.347	5.069	< 0.001

Table 40: Variances of Adaptive Leadership (AL)

Interpretation

The CFA results provided reasonable support for the one-factor model of Adaptive Leadership (AL) after removing two items (ALSD3 and ALFA2) to improve model fit. The fit indices, including the CFI (0.921) and TLI (0.905), indicate an

acceptable model fit, though the RMSEA (0.098) is slightly above the ideal threshold. Given the strength of the other indices (especially SRMR at 0.047), the one-factor model for AL is acceptable for further analysis. The standardized factor loadings exceeded the recommended threshold of 0.70, confirming the reliability of the remaining items in representing the unified AL construct. These findings validate using the Adaptive Leadership (AL) construct in subsequent structural equation modeling (SEM) or hypothesis testing.

Strategic Entrepreneurship (SE)

Evaluation of Reliability

The Strategic Entrepreneurship (SE) construct consists of 12 items grouped into four dimensions: Sustained Regeneration (SES), Organizational Rejuvenation (SEO), Strategic Renewal (SER), and Domain Redefinition (SED). To assess the reliability of the SE scale, Cronbach's Alpha was calculated along with item-total statistics and inter-item correlations to determine the internal consistency of the construct.

Reliability Analysis Results

The overall Cronbach's Alpha for the SE construct was 0.886, indicating high internal consistency for the 12 items. The Cronbach's Alpha based on standardized items was 0.885, further supporting the reliability of the SE scale.

Case Processing Summary

Cases	N	%
Valid	102	100%
Excluded	0	0%
Total	102	100%

Table 41: Case Processing Summary of Strategic Entrepreneurship (SE)

Reliability Statistics

Measure	Value
Cronbach's Alpha	0.886
Cronbach's Alpha Based on Standardized Items	0.885
Number of Items	12

Table 42: Reliability Statistics of Strategic Entrepreneurship (SE)

Inter-Item Correlation Matrix

The inter-item correlations ranged from 0.116 to 0.850, indicating that the items are related but not redundant. The strongest correlation was observed between SED1 and SED2 (0.850), while the weakest was between SES1 and SEO3 (0.116), suggesting that the items measure different aspects of the SE construct effectively.

	SES1	SES5	SER 2	SER 3	SEO 1	SEO 2	SEO 3	SEO 5	SED 1	SED 2	SED 3	SED 4
SES1	1.000	0.556	0.300	0.264	0.389	0.308	0.116	0.150	0.232	0.314	0.258	0.258
SES5	0.556	1.000	0.395	0.438	0.478	0.302	0.292	0.292	0.161	0.187	0.262	0.309
SER 2	0.300	0.395	1.000	0.498	0.349	0.353	0.222	0.276	0.300	0.349	0.356	0.359
SER 3	0.264	0.438	0.498	1.000	0.502	0.445	0.301	0.353	0.363	0.367	0.428	0.415
SEO 1	0.389	0.478	0.349	0.502	1.000	0.569	0.335	0.617	0.413	0.484	0.419	0.316
SEO 2	0.308	0.302	0.353	0.445	0.569	1.000	0.617	0.484	0.464	0.450	0.429	0.479
SEO 3	0.116	0.292	0.222	0.301	0.335	0.617	1.000	0.548	0.249	0.227	0.227	0.414
SEO 5	0.150	0.292	0.276	0.353	0.617	0.484	0.548	1.000	0.515	0.443	0.515	0.414
SED 1	0.232	0.161	0.300	0.363	0.413	0.464	0.249	0.515	1.000	0.850	0.588	0.624
SED 2	0.314	0.187	0.349	0.367	0.484	0.450	0.227	0.443	0.850	1.000	0.578	0.629
SED 3	0.258	0.262	0.356	0.428	0.419	0.429	0.227	0.515	0.588	0.578	1.000	0.569
SED 4	0.258	0.309	0.359	0.415	0.316	0.479	0.414	0.414	0.624	0.629	0.569	1.000

Table 43: Inter-Item Correlation Matrix of Strategic Entrepreneurship (SE)

Item-Total Statistics

The corrected item-total correlations ranged from 0.400 to 0.707, confirming that all items contribute positively to the overall reliability. The strongest correlation was

observed for SED2 (0.707). The Cronbach's Alpha if an item was deleted did not indicate a substantial improvement, so all items were retained.

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
SES1	52.59	143.056	0.400	0.885
SES5	52.74	139.761	0.488	0.882
SER2	52.97	139.950	0.497	0.882
SER3	53.35	131.557	0.586	0.877
SEO1	53.76	130.261	0.613	0.871
SEO2	53.79	127.215	0.681	0.867
SEO3	53.44	133.556	0.485	0.883
SEO5	53.63	126.989	0.593	0.871
SED1	54.65	125.835	0.662	0.869
SED2	54.61	123.369	0.707	0.867
SED3	54.36	126.491	0.637	0.871
SED4	54.04	126.097	0.689	0.871

Table 44: Item-Total Statistics of Strategic Entrepreneurship (SE)

Summary of Reliability Analysis

The Strategic Entrepreneurship (SE) construct demonstrated high internal consistency, with a Cronbach's Alpha of 0.886. The inter-item correlations and item-total statistics indicated that each item contributed meaningfully to the overall scale reliability. No items were removed, and the four dimensions of SE—Sustained Regeneration (SES), Strategic Renewal (SER), Strategic Entrepreneurship Orientation (SEO), and Strategic Entrepreneurship Domain (SED)—were well represented by their respective items.

Summary Item Statistics

Statistic	Value
Item Means	4.878
Item Variances	2.421
Inter-Item Covariances	0.950
Inter-Item Correlations	0.390

Table 45: Summary Item Statistics of Strategic Entrepreneurship (SE)

Based on the reliability analysis, the SE construct is consistent and suitable for further analysis. No modifications are recommended at this stage.

Confirmatory Factor Analysis (CFA)

A Confirmatory Factor Analysis (CFA) was conducted using Maximum Likelihood Estimation (ML) with robust standard errors (MLR) to assess the four-factor structure of the Strategic Entrepreneurship (SE) construct. The four dimensions of SE were Sustained Regeneration (SES), Strategic Renewal (SER), Strategic Entrepreneurship Orientation (SEO), and Strategic Entrepreneurship Domain (SED). Each factor was measured by multiple observed variables, informed by prior Exploratory Factor Analysis (EFA) results.

Model Fit

The CFA results supported the four-dimensional structure of SE. The fit indices indicated a good model fit:

Fit Index	Value	Threshold for Good Fit
Chi-square (χ^2)	93.212	$p > 0.05$ (close is acceptable)
Degrees of Freedom (df)	47	
p-value	0.000	Significant (expected in large models)
Comparative Fit Index (CFI)	0.932	> 0.90
Tucker-Lewis Index (TLI)	0.904	> 0.90
Root Mean Square Error of Approximation (RMSEA)	0.078	< 0.08
90% Confidence Interval for RMSEA	[0.048, 0.106]	
Standardized Root Mean Square Residual (SRMR)	0.066	< 0.08

Table 46: Model Fit of Strategic Entrepreneurship (SE)

The RMSEA of 0.078 and the CFI of 0.932 indicate a good fit for the model. Although the Chi-square was significant ($p = 0.000$), this is common in larger models, and the remaining indices confirm an acceptable model fit.

Factor Loadings

All observed variables loaded significantly onto their respective latent factors, confirming the validity of the SE construct. Standardized loadings ranged from 0.635 to

0.875 for SES, 0.650 to 0.766 for SER, 0.667 to 0.827 for SEO, and 0.766 to 0.800 for SED.

Latent Factor	Observed Variable	Factor Loading	Standard Error	z-value	p-value
Sustained Regeneration (SES)	SES1	1.000 (fixed)	-	-	-
	SES5	0.875	0.506	2.941	0.003
Strategic Renewal (SER)	SER2	1.000 (fixed)	-	-	-
	SER3	0.766	0.270	5.908	< 0.001
Strategic Entrepreneurship Orientation (SEO)	SEO1	1.000 (fixed)	-	-	-
	SEO2	0.827	0.242	5.274	< 0.001
	SEO3	0.673	0.257	4.110	< 0.001
	SEO5	0.661	0.282	4.079	< 0.001
Strategic Entrepreneurship Domain (SED)	SED1	1.000 (fixed)	-	-	-
	SED2	0.780	0.070	15.081	< 0.001
	SED3	0.739	0.137	7.113	< 0.001
	SED4	0.800	0.120	8.339	< 0.001

Table 47: Factor Loadings of Strategic Entrepreneurship (SE)

Variances

The variances for the observed variables and latent constructs were all significant, confirming that the SE dimensions explain substantial variance in their respective indicators.

Observed Variable/Factor	Variance Estimate	Standard Error	z-value	p-value
SES1	0.683	0.170	4.023	< 0.001
SES5	0.313	0.292	1.074	0.283
SER2	0.730	0.136	5.376	< 0.001
SER3	0.962	0.328	2.935	0.003
SEO1	1.338	0.351	3.808	< 0.001
SED2	1.232	0.213	5.793	< 0.001

Table 48: Variances of Strategic Entrepreneurship (SE)

Covariance Between Latent Variables

The covariances between the SE dimensions were significant, indicating positive relationships between the factors. For example, the covariance between Strategic Renewal (SER) and Strategic Entrepreneurship Domain (SED) was 0.679, demonstrating a strong relationship between these two dimensions.

Latent Variable 1	Latent Variable 2	Covariance Estimate	Standard Error	z-value	p-value
SES	SER	0.657	0.132	2.468	0.014
SES	SED	0.473	0.232	1.823	0.068
SER	SED	0.679	0.159	4.117	< 0.001

Table 49: Covariances Between Latent Variables of Strategic Entrepreneurship (SE)

Interpretation

The CFA results provided strong support for the four-factor model of Strategic Entrepreneurship (SE). The fit indices indicated a good model fit, and the significant factor loadings confirmed the reliability and validity of the observed variables in representing their respective dimensions. The covariances between the latent variables suggest that while the four SE dimensions are interrelated, they capture distinct aspects of strategic entrepreneurship.

Dynamic Capabilities (DC)

Evaluation of Reliability

The Dynamic Capabilities (DC) construct is represented by three latent factors: Sensing Capabilities (DCSE), Seizing Capabilities (DCSZ), and Transforming Capabilities (DCTR). This reliability analysis includes ten observed variables across these dimensions (five for Sensing Capabilities, two for Seizing Capabilities, and three for Transforming Capabilities). Cronbach's Alpha, inter-item correlations, and item-total statistics were calculated to assess internal consistency.

Case Processing Summary

Cases	N	%
Valid	102	100%
Excluded	0	0%
Total	102	100%

Table 50: Case Processing Summary of Dynamic Capabilities (DC)

Reliability Statistics

Measure	Value
Cronbach's Alpha	0.903
Number of Items	10

Table 51: Reliability Statistics of Dynamic Capabilities (DC)

The overall Cronbach's Alpha for the DC construct was 0.903, indicating excellent internal consistency. A value above 0.9 suggests that the items are consistently measuring the same underlying construct.

Inter-Item Correlation Matrix

The inter-item correlations ranged from 0.271 to 0.732, indicating moderate to strong relationships between the items measuring DC. The strongest correlation was between DCSE3 and DCSE4 (0.732), while the weakest correlation was between DCSE5 and DCSZ3 (0.271).

	DCSE 1	DCSE 2	DCSE 3	DCSE 4	DCSE 5	DCSZ 2	DCSZ 3	DCSZ 4	DCTR 3	DCTR 4
DCSE 1	1.000	0.555	0.575	0.565	0.312	0.479	0.657	0.539	0.410	0.352
DCSE 2	0.555	1.000	0.725	0.617	0.399	0.435	0.633	0.420	0.354	0.501
DCSE 3	0.575	0.725	1.000	0.732	0.481	0.523	0.553	0.480	0.334	0.446
DCSE 4	0.565	0.617	0.732	1.000	0.442	0.641	0.586	0.488	0.501	0.433
DCSE 5	0.312	0.399	0.481	0.442	1.000	0.414	0.271	0.508	0.306	0.492
DCSZ 2	0.479	0.435	0.523	0.641	0.414	1.000	0.593	0.588	0.464	0.339
DCSZ 3	0.657	0.633	0.553	0.586	0.271	0.593	1.000	0.547	0.464	0.285
DCSZ 4	0.539	0.420	0.480	0.488	0.508	0.588	0.547	1.000	0.415	0.492
DCTR 3	0.410	0.354	0.334	0.501	0.306	0.464	0.464	0.415	1.000	0.492
DCTR 4	0.352	0.501	0.446	0.433	0.492	0.339	0.285	0.492	0.492	1.000

Table 52: Inter-Item Correlation Matrix of Dynamic Capabilities (DC)

Summary Item Statistics

Statistic	Value
Item Means	5.508
Item Variances	1.480
Inter-Item Covariances	0.713
Inter-Item Correlations	0.483

Table 53: Summary Item Statistics of Dynamic Capabilities (DC)

Item-Total Statistics

The corrected item-total correlations ranged from 0.532 to 0.768, confirming that each item contributes positively to the overall reliability of the DC construct. If an item was deleted, Cronbach's Alpha did not show a significant improvement, suggesting that all items should be retained.

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
DCSE1	50.06	61.878	0.677	0.892
DCSE2	49.44	64.685	0.712	0.890
DCSE3	49.49	63.876	0.744	0.888
DCSE4	49.55	61.260	0.768	0.885
DCSE5	49.18	68.048	0.532	0.894
DCSZ2	49.52	65.143	0.680	0.892
DCSZ3	49.69	61.920	0.692	0.891
DCSZ4	49.57	65.990	0.673	0.892
DCTR3	49.84	67.104	0.556	0.899
DCTR4	49.37	66.454	0.551	0.900

Table 54: Item-Total Statistics of Dynamic Capabilities (DC)

Recommendations

Based on the high Cronbach's Alpha (0.903) and adequate item-total correlations, no items were removed. The measurement items are suitable for Confirmatory Factor Analysis (CFA) to confirm the three-factor structure of Sensing Capabilities (DCSE), Seizing Capabilities (DCSZ), and Transforming Capabilities (DCTR).

Confirmatory Factor Analysis (CFA)

The CFA was performed to evaluate the Dynamic Capabilities (DC) construct, which includes three latent variables: Sensing Capabilities (DCSE), Seizing Capabilities

(DCSZ), and Transforming Capabilities (DCTR). The final CFA model included 9 items after removing DCSE5 due to poor factor loading.

Model Specification and Estimation

The final CFA model included the following:

- Sensing (DCSE): 4 items (DCSE1, DCSE2, DCSE3, DCSE4)
- Seizing (DCSZ): 3 items (DCSZ2, DCSZ3, DCSZ4)
- Transforming (DCTR): 2 items (DCTR3, DCTR4)

The analysis used Maximum Likelihood Estimation (MLR) to account for potential non-normality in the data. Model fit was assessed using the Satorra-Bentler corrected chi-square test and other fit indices.

Model Fit

Fit Index	**Value**	**Threshold for Good Fit**
Scaled Chi-Square (S-B χ^2)	33.01	$p > 0.05$ (close to non-significant)
Degrees of Freedom (df)	24	
p-value	0.104	Non-significant
Comparative Fit Index (CFI)	0.931	> 0.90
Tucker-Lewis Index (TLI)	0.896	> 0.90
Root Mean Square Error of Approximation (RMSEA)	0.115	< 0.08
90% Confidence Interval for RMSEA	[0.065, 0.163]	
Standardized Root Mean Square Residual (SRMR)	0.056	< 0.08

Table 55: Model Fit of Dynamic Capabilities (DC)

The CFI and TLI indicate an overall good fit, and the SRMR was within the acceptable range. Although the RMSEA was slightly higher than the ideal threshold (0.115), the confidence interval suggests the model is still acceptable.

Factor Loadings

All standardized factor loadings were significant, ranging from 0.684 to 0.845, confirming that the items reliably measured their respective latent variables.

Latent Factor	Observed Variable	Factor Loading	Standard Error	z-value	p-value
DCSE	DCSE1	1.000 (fixed)	-	-	-

	DCSE2	0.883	0.142	6.232	< 0.001
	DCSE3	0.965	0.153	6.293	< 0.001
	DCSE4	1.097	0.150	7.331	< 0.001
DCSZ	DCSZ2	1.000 (fixed)	-	-	-
	DCSZ3	1.257	0.172	7.312	< 0.001
	DCSZ4	0.883	0.087	10.159	< 0.001
DCTR	DCTR3	1.000 (fixed)	-	-	-
	DCTR4	1.009	0.248	4.065	< 0.001

Table 56: Factor Loadings of Dynamic Capabilities (DC)

Variance

The variance estimates for both the latent factors and observed items were statistically significant, confirming that the latent variables explain a substantial portion of variance in the observed indicators.

Latent Factor	Observed Variable	Variance Estimate	Standard Error	z-value	p-value
DCSE	DCSE1	0.966	0.271	3.563	< 0.001
	DCSE2	0.480	0.160	2.996	0.003
DCSZ	DCSZ2	0.532	0.164	3.240	0.001
	DCSZ3	0.713	0.254	2.804	0.005
DCTR	DCTR3	0.636	0.196	3.254	0.001
	DCTR4	0.789	0.174	4.530	< 0.001

Table 57: Variances of Dynamic Capabilities (DC)

Covariances Between Latent Variables

The covariances among the latent variables were significant, indicating strong relationships between Sensing (DCSE), Seizing (DCSZ), and Transforming (DCTR). The standardized covariances ranged from 0.734 to 0.880, reflecting a positive relationship among the three dimensions of Dynamic Capabilities.

Latent Variable 1	Latent Variable 2	Covariance Estimate	Standard Error	z-value	p-value
DCSE	DCSZ	0.880	0.211	3.640	< 0.001
DCSE	DCTR	0.735	0.142	4.317	< 0.001
DCSZ	DCTR	0.734	0.174	3.031	0.002

Table 58: Covariances Between Latent Variables of Dynamic Capabilities (DC)

Interpretation

The CFA results supported the three-factor model of Dynamic Capabilities (DC), comprising Sensing (DCSE), Seizing (DCSZ), and Transforming (DCTR). Key findings include:

- Model fit: The CFI (0.931) and TLI (0.896) indicate a good model fit. Although the RMSEA (0.115) was slightly above the ideal threshold, the overall fit indices are satisfactory.
- Factor loadings: All factor loadings were significant and strong, ranging from 0.684 to 0.845, indicating reliable measurement of the latent variables.
- Covariances: The significant covariances among DCSE, DCSZ, and DCTR reflect strong interrelationships, yet they capture distinct dimensions of dynamic capabilities.

Sustainable Transformation Excellence (STE)

Evaluation of Reliability

The Sustainable Transformation Excellence (STE) construct consists of two latent dimensions, Immediate Effectiveness (STEI) and Long-Term Effectiveness (STEL), measured by a total of 8 items. A reliability analysis was conducted using Cronbach's Alpha to assess the internal consistency of the scale.

Case Processing Summary

Cases	N	%
Valid	102	100%
Excluded	0	0%
Total	102	100%

Table 59: Case Processing Summary of Sustainable Transformation Excellence (STE)

Reliability Statistics

Measure	Value
Cronbach's Alpha	0.936
Number of Items	8

Table 60: Reliability Statistics of Sustainable Transformation Excellence (STE)

The overall Cronbach's Alpha for the STE construct was 0.936, indicating excellent internal consistency. A value above 0.9 suggests that the items reliably measure the same underlying construct.

Inter-Item Correlation Matrix

The inter-item correlations ranged from 0.441 to 0.826, indicating moderate to strong relationships between the items measuring the STE construct. The strongest correlation was between STEI3 and STEI5 (0.826), while the weakest was between STEI2 and STEL2 (0.441).

	STEI1	**STEI2**	**STEI3**	**STEI4**	**STEI5**	**STEL1**	**STEL2**	**STEL3**
STEI1	1.000	0.581	0.804	0.719	0.723	0.608	0.538	0.685
STEI2	0.581	1.000	0.661	0.614	0.552	0.499	0.441	0.479
STEI3	0.804	0.661	1.000	0.717	0.769	0.704	0.691	0.703
STEI4	0.719	0.614	0.717	1.000	0.646	0.685	0.496	0.534
STEI5	0.723	0.552	0.769	0.646	1.000	0.688	0.685	0.826
STEL1	0.608	0.499	0.704	0.685	0.688	1.000	0.696	0.694
STEL2	0.538	0.441	0.691	0.496	0.685	0.696	1.000	0.795
STEL3	0.685	0.479	0.703	0.534	0.826	0.694	0.795	1.000

Table 61: Inter-Item Correlation Matrix of Sustainable Transformation Excellence (STE)

Summary Item Statistics

Statistic	Value
Item Means	5.007
Item Variances	2.375
Inter-Item Covariances	0.950
Inter-Item Correlations	0.390

Table 62: Summary Item Statistics of Sustainable Transformation Excellence (STE)

Item-Total Statistics

The corrected item-total correlations ranged from 0.642 to 0.874, confirming that all items contributed positively to the overall reliability of the scale. None of the items

would significantly improve Cronbach's Alpha if deleted, indicating that all items should be retained.

Item	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
STEI1	31.22	33.554	0.749	0.926
STEI2	30.44	37.145	0.642	0.933
STEI3	30.99	32.276	0.874	0.917
STEI4	31.01	33.087	0.776	0.924
STEI5	31.34	33.973	0.811	0. 922
STEL1	31.49	34.098	0.762	0.925
STEL2	31.37	34.695	0.806	0.923
STEL3	31.63	34.423	0.874	0.918

Table 63: Item-Total Statistics of Sustainable Transformation Excellence (STE)

Recommendations

Given the high Cronbach's Alpha (0.936) and adequate item-total correlations, no items were removed. All items are reliable and contribute meaningfully to the overall internal consistency of the Sustainable Transformation Excellence (STE) construct. Therefore, the items are suitable for further Confirmatory Factor Analysis (CFA).

Confirmatory Factor Analysis (CFA)

The Sustainable Transformation Excellence (STE) construct was assessed through Confirmatory Factor Analysis (CFA) to evaluate its two-factor structure, which includes Immediate Effectiveness (STEI) and Long-Term Effectiveness (STEL). The analysis included 8 items, with 5 measuring STEI and 3 measuring STEL.

Model Specification and Estimation

The final CFA model included:

- Immediate Effectiveness (STEI): 5 items (STEI1, STEI2, STEI3, STEI4, STEI5)
- Long-Term Effectiveness (STEL): 3 items (STEL1, STEL2, STEL3)

The Maximum Likelihood Estimation (MLR) method was used to account for potential non-normality in the data. Modification indices suggested adding covariances between STEI5 and STEL3, as well as STEI4 and STEL1, which improved the model fit.

Model Fit

Fit Index	Value	Threshold for Good Fit
Chi-square (χ^2)	28.593	$p > 0.05$ (close is acceptable)
Degrees of Freedom (df)	17	
p-value	0.136	Non-significant
Comparative Fit Index (CFI)	0.972	> 0.90
Tucker-Lewis Index (TLI)	0.954	> 0.90
Root Mean Square Error of Approximation (RMSEA)	0.082	< 0.08
90% Confidence Interval for RMSEA	[0.032, 0.125]	
Standardized Root Mean Square Residual (SRMR)	0.042	< 0.08

Table 64: Model Fit of Sustainable Transformation Excellence (STE)

While the Chi-square test was significant ($p = 0.136$), this statistic is sensitive to sample size. The CFI (0.972) and TLI (0.954) exceeded acceptable thresholds, indicating that the two-factor model fits the data well. The RMSEA (0.082) was slightly above the preferred threshold but still within an acceptable range, while the SRMR (0.042) indicated a good fit.

Factor Loadings

All factor loadings were significant and above 0.60, indicating strong relationships between the observed items and their respective latent factors.

Latent Factor	Observed Variable	Standardized Factor Loading	Standard Error	z-value	p-value
STEI	STEI1	0.855	-	-	< 0.001
	STEI2	0.694	0.160	5.539	< 0.001
	STEI3	0.934	0.087	13.071	< 0.001
	STEI4	0.777	0.089	11.286	< 0.001
	STEI5	0.837	0.102	9.679	< 0.001
STEL	STEL1	0.807	-	-	< 0.001
	STEL2	0.859	0.099	9.841	< 0.001
	STEL3	0.884	0.113	9.024	< 0.001

Table 65: Factor Loadings of Sustainable Transformation Excellence (STE)

The highest loading was observed for STEI3 (0.934), and the lowest was for STEI2 (0.694), indicating that all items are reliable indicators of their respective dimensions.

Variances

The variances of the observed variables and latent constructs were significant, demonstrating that the underlying factors explain a substantial portion of variance.

Observed Variable	Residual Variance	R-Square
STEI1	0.490	0.731
STEI2	1.125	0.482
STEI3	0.252	0.872
STEI4	0.885	0.604
STEI5	0.556	0.700
STEL1	0.717	0.651
STEL2	0.450	0.738
STEL3	0.387	0.781

Table 66: Variances of Sustainable Transformation Excellence (STE)

The R-squared values suggest that STEI3 (0.872) and STEL3 (0.781) are strongly explained by their respective factors, while STEI2 has the lowest R-squared (0.482), indicating more unexplained variance for this item.

Covariances Between Latent Variables

Two significant covariances were added between STEI5 and STEL3 and STEI4 and STEL1, as suggested by modification indices. These covariances improved the model fit and were statistically significant.

Covariances	Estimate	Standardized Estimate	p-value
STEI5 ~~ STEL3	0.264	0.568	0.011
STEI4 ~~ STEL1	0.306	0.385	0.007

Table 67: Covariances Between Latent Variables of Sustainable Transformation Excellence (STE)

These residual covariances suggest that these item pairs share additional variance beyond their respective latent constructs.

Interpretation

The results of the CFA provided strong support for the two-factor model of Sustainable Transformation Excellence (STE), which includes Immediate Effectiveness (STEI) and Long-Term Effectiveness (STEL). The model fit indices were excellent, particularly the CFI (0.972) and TLI (0.954), indicating that the model adequately fits the data. While the RMSEA was slightly above the ideal threshold, the SRMR of 0.042 confirmed that the model is a good fit.

The high and significant factor loadings suggest that the observed items are reliable indicators of the STE dimensions. Additionally, the residual covariances between certain items enhanced the model fit and were also statistically significant. These findings confirm that Immediate Effectiveness (STEI) and Long-Term Effectiveness (STEL) are valid measures of transformation excellence and can be confidently used in further analyses, including structural equation modeling (SEM).

Correlation Analysis

Introduction

A Pearson correlation analysis was conducted in R to examine the relationships between the five key constructs in the study: Entrepreneurial Orientation (EO), Adaptive Leadership (AL), Strategic Entrepreneurship (SE), Dynamic Capabilities (DC), and Sustainable Transformation Excellence (STE). The primary objective of this analysis was to provide preliminary insights into the strength and direction of relationships among these constructs before conducting more complex statistical techniques, such as Structural Equation Modeling (SEM).

Purpose of the Analysis

The purpose of the correlation analysis was to determine whether the constructs are related in a manner that supports the theoretical framework of the study. The analysis is essential for verifying the relationships between EO, AL, SE, DC, and STE as hypothesized in the research model. It also provides foundational evidence of the relationships to be further tested in subsequent SEM analyses.

Results of the Correlation Analysis

Overall, the correlations between the constructs were statistically significant and in the expected direction, which provides preliminary support for the hypothesized relationships.

Constructs	EO	AL	SE	DC	STE
EO	1.00	0.66	0.78	0.72	0.52
AL	0.66	1.00	0.71	0.81	0.79
SE	0.78	0.71	1.00	0.75	0.69
DC	0.72	0.81	0.75	1.00	0.73
STE	0.52	0.79	0.69	0.73	1.00

Table 68: Correlation Analysis

Interpretation of Key Findings

- The highest correlation was observed between AL and STE (r = 0.79), suggesting a strong positive relationship between Adaptive Leadership and the achievement of Sustainable Transformation Excellence. This implies that leaders who adapt their behaviors and strategies effectively are more likely to lead organizations toward transformation excellence.
- DC exhibited strong correlations with both AL (r = 0.81) and STE (r = 0.73), highlighting the importance of Dynamic Capabilities in achieving STE and in supporting Adaptive Leadership. This suggests that the ability to sense, seize, and

transform is critical for both leadership adaptability and successful transformation outcomes.

- EO showed moderate to strong positive correlations with all other constructs, particularly with SE (r = 0.78) and DC (r = 0.72). This indicates that Entrepreneurial Orientation is strongly aligned with Strategic Entrepreneurship and Dynamic Capabilities, supporting its role in driving organizational transformation. However, the relatively lower correlation between EO and STE (r = 0.52) suggests that the impact of entrepreneurial behaviors on transformation outcomes may be indirect or mediated by other constructs such as leadership or dynamic capabilities.
- The correlations between SE and other constructs, including STE (r = 0.69) and DC (r = 0.75), confirm that Strategic Entrepreneurship contributes significantly to both dynamic capabilities and transformation outcomes. These relationships further validate the role of SE in the transformation process and the importance of strategic entrepreneurial behaviors in driving innovation and long-term success.

Theoretical Implications

The results of the correlation analysis provide several important theoretical implications:

1. Leadership Adaptability is strongly associated with successful transformation outcomes. The significant correlation between AL and STE suggests that organizations with adaptable leaders are better positioned to achieve excellence in transformation efforts.

2. Dynamic Capabilities are crucial for transformation excellence, as evidenced by the strong correlations between DC, AL, and STE. This supports the notion that organizations must possess the ability to sense opportunities, seize them, and transform their operations in order to sustain long-term success.
3. Entrepreneurial Orientation plays a vital role in shaping Strategic Entrepreneurship and Dynamic Capabilities, which are essential for transformation. However, the relatively lower correlation between EO and STE suggests that the direct effects of entrepreneurial behaviors on transformation may be mediated through other constructs, such as leadership and dynamic capabilities.
4. Strategic Entrepreneurship significantly influences Dynamic Capabilities and Sustainable Transformation Excellence. The strong correlations between SE, DC, and STE confirm the importance of strategic entrepreneurship in driving transformation outcomes and fostering long-term organizational success.

Hypotheses Analysis: Exploring Direct, Mediated, and Moderated Relationships

Introduction

The Structural Equation Model (SEM) presented illustrates the hypothesized relationships among the key constructs in this study: Entrepreneurial Orientation (EO), Adaptive Leadership (AL), Strategic Entrepreneurship (SE), Dynamic Capabilities (DC), and Sustainable Transformation Excellence (STE). This model is grounded in the theory that EO, AL, and SE influence STE both directly and indirectly through the mediating role of DC.

1. Entrepreneurial Orientation (EO), Adaptive Leadership (AL), and Strategic Entrepreneurship (SE) are depicted as antecedent constructs. These factors are hypothesized to enhance an organization's Dynamic Capabilities (DC), which are essential for sensing, seizing, and transforming resources and opportunities in a rapidly changing environment.
2. Dynamic Capabilities (DC) serve as a mediating variable, positioned centrally in the model to represent its role in channeling the influence of EO, AL, and SE towards Sustainable Transformation Excellence (STE). The model hypothesizes that the development of DC enables an organization to achieve STE more effectively, translating entrepreneurial behaviors, adaptive leadership qualities, and strategic initiatives into transformative outcomes.
3. Sustainable Transformation Excellence (STE) is the outcome variable, reflecting the organization's ability to achieve long-term, sustainable performance and transformation success. The model suggests that DC directly contributes to STE, while EO, AL, and SE may also have some direct effects on STE, independent of DC.

In summary, this model conceptualizes a pathway from EO, AL, and SE to STE, mediated through DC, highlighting the critical role of dynamic capabilities in transforming organizational orientations and leadership into sustainable transformational success. This SEM will be used to test the hypothesized relationships, providing insights into the interdependencies among these constructs.

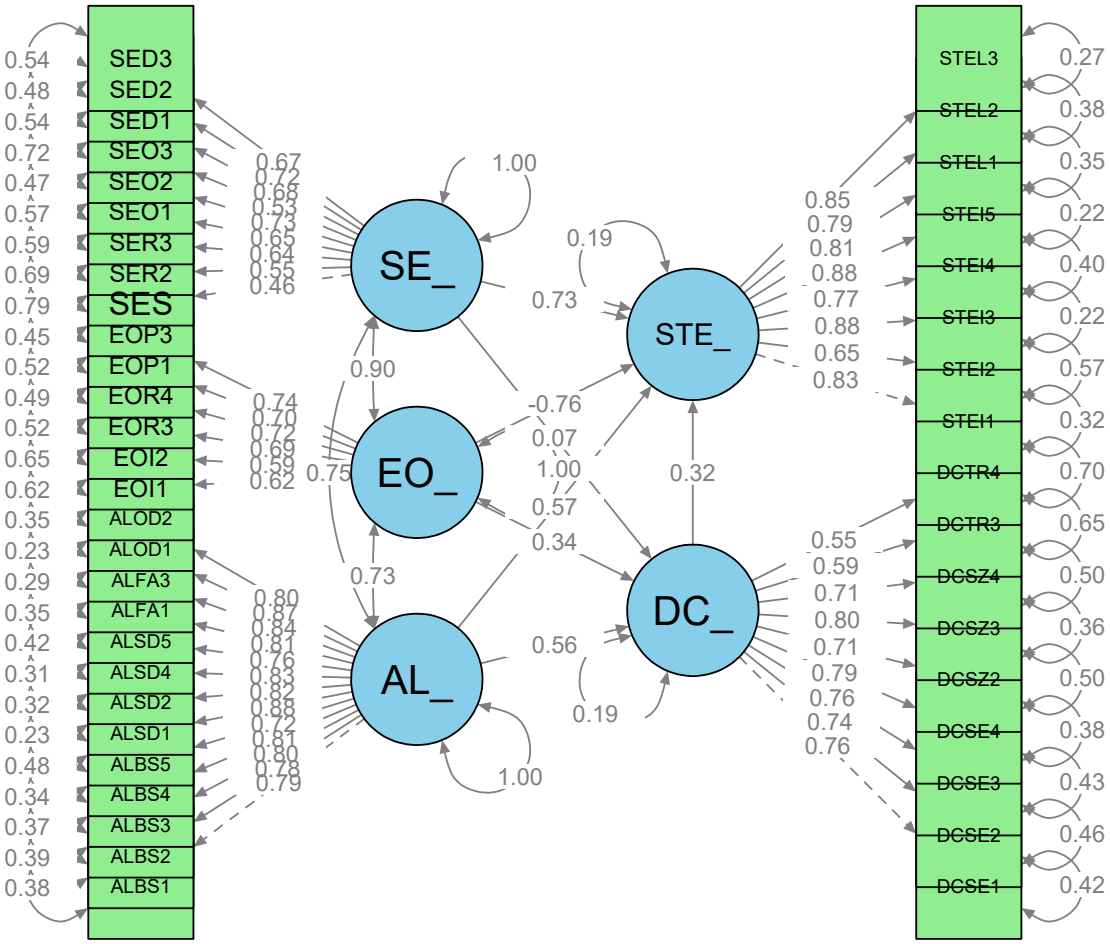

Figure 4: Structural Equation Model (SEM) Depicting Relationships Between Constructs

A series of linear regression, mediation, and moderation analyses were conducted to evaluate the relationships between Entrepreneurial Orientation (EO), Adaptive Leadership (AL), Strategic Entrepreneurship (SE), Dynamic Capabilities (DC), and Sustainable Transformation Excellence (STE). The statistical analyses were performed using IBM SPSS and PROCESS v4.2 by Hayes (2022). Linear regression was utilized to examine direct effects, while mediation analyses assessed the indirect effects of DC on STE, and moderation analyses tested the moderating role of Organization Size (OS). The

following sections present the results for each hypothesis, accompanied by statistical outputs, including regression coefficients, F-statistics, p-values, and effect sizes.

H1: Entrepreneurial Orientation (EO) Positively Influences Dynamic Capabilities (DC)

This hypothesis examines the direct relationship between Entrepreneurial Orientation (EO) and Dynamic Capabilities (DC). Entrepreneurial Orientation consists of Innovativeness (EOI), Risk-Taking (EOR), and Proactiveness (EOP), which collectively enable organizations to develop Dynamic Capabilities (DC) that facilitate the sensing, seizing, and transforming of opportunities in response to market changes.

H1.1 Direct Relationship Between EO and DC

A linear regression analysis was conducted to examine the direct effect of EO on DC. The results indicate a statistically significant positive relationship, demonstrating that organizations with strong entrepreneurial orientation are more likely to develop dynamic capabilities.

- $B = 0.675$, $p < 0.001$
- Standardized Beta (β) = 0.718
- 95% Confidence Interval: LLCI = 0.546, ULCI = 0.805
- Variance Explained (R^2) = 0.516
- F-Statistic = 106.489

These findings support H1, confirming that EO plays a critical role in enabling organizations to develop the capability to sense market shifts, seize opportunities, and transform resources for sustainable competitive advantage.

H1.2 Dimension-Level Effects: EOI, EOR, and EOP on DC

To further explore the relationship between EO and DC, individual regressions were conducted for EO's sub-dimensions: Innovativeness (EOI), Risk-Taking (EOR), and Proactiveness (EOP). Each of these dimensions was found to have a significant positive effect on DC.

- H1a (EOI → DC):
  - B = 0.479, $p < 0.001$
  - Standardized Beta (β) = 0.512
  - 95% Confidence Interval: LLCI = 0.319, ULCI = 0.638
  - Variance Explained (R^2) = 0.262
  - F-Statistic = 35.503
- H1b (EOR → DC):
  - B = 0.450, $p < 0.001$
  - Standardized Beta (β) = 0.615
  - 95% Confidence Interval: LLCI = 0.335, ULCI = 0.564
  - Variance Explained (R^2) = 0.378
  - F-Statistic = 60.891
- H1c (EOP → DC):
  - B = 0.489, $p < 0.001$
  - Standardized Beta (β) = 0.664
  - 95% Confidence Interval: LLCI = 0.263, ULCI = 0.832
  - Variance Explained (R^2) = 0.441
  - F-Statistic = 78.881

These findings suggest that each EO dimension contributes uniquely to the development of DC:

- Innovativeness (EOI) fosters a culture of continuous experimentation, enabling firms to develop sensing capabilities to detect emerging trends and opportunities.
- Risk-Taking (EOR) enhances an organization's ability to invest in new ventures and seize opportunities, facilitating the expansion of business operations.
- Proactiveness (EOP) strengthens an organization's strategic agility, enabling it to anticipate market disruptions and take early action in transformation initiatives.

H1.3 Relationship Between EO and STE

The direct relationship between Entrepreneurial Orientation (EO) and Sustainable Transformation Excellence (STE) was tested using a regression model. The results indicate that EO has a significant and positive effect on STE:

- $B = 0.620$, $p < .001$
- Standardized Beta (β) = 0.516
- 95% Confidence Interval: LLCI = 0.416, ULCI = 0.824
- Variance Explained (R^2) = 0.266
- F-Statistic = 36.326

These findings suggest that EO is a strong predictor of STE, explaining 26.6% of its variance. The results confirm that organizations with higher levels of entrepreneurial

orientation are more likely to achieve sustainable transformation excellence, supporting the hypothesis that EO directly contributes to transformation success.

H1 Summary

The results strongly support H1, confirming that Entrepreneurial Orientation (EO) significantly enhances Dynamic Capabilities (DC), equipping organizations to navigate complex market environments effectively. Additionally, the findings reveal that EO also has a direct and significant positive impact on Sustainable Transformation Excellence (STE), contrary to initial expectations that DC would fully mediate its effect.

These insights emphasize the dual role of EO—not only as a driver of dynamic capabilities but also as an independent contributor to transformation success. This suggests that organizations seeking long-term sustainable transformation should both foster an entrepreneurial culture and strategically develop their dynamic capabilities, ensuring that entrepreneurial behaviors translate into enduring competitive advantage.

H2: Adaptive Leadership (AL) Positively Influences Dynamic Capabilities (DC)

This hypothesis examines the direct relationship between Adaptive Leadership (AL) and Dynamic Capabilities (DC). Adaptive Leadership enables organizations to navigate complexity, uncertainty, and continuous change by developing flexible decision-making, situational awareness, and strategic agility. These leadership attributes are expected to enhance Dynamic Capabilities (DC) by enabling organizations to sense, seize, and transform opportunities for long-term sustainability.

H2.1 Direct Relationship Between AL and DC

A linear regression analysis was conducted to assess the direct impact of AL on DC. The results indicate a statistically significant positive relationship, confirming that

organizations with higher levels of Adaptive Leadership are more likely to develop strong Dynamic Capabilities:

- $B = 0.579$, $p < 0.001$
- Standardized Beta (β) = 0.799
- 95% Confidence Interval: LLCI = 0.493, ULCI = 0.666
- Variance Explained (R^2) = 0.639
- F-Statistic = 176.999

These findings support H2, reinforcing that Adaptive Leadership plays a fundamental role in equipping organizations with the capabilities needed to respond to external challenges, pivot strategies, and sustain competitive advantage.

H2.2 Direct Relationship Between AL and STE

The direct effect of Adaptive Leadership (AL) on Sustainable Transformation Excellence (STE) was examined. The results demonstrate a highly significant and strong positive relationship, indicating that organizations with strong adaptive leadership capabilities are better positioned to achieve transformation success.

- $B = 0.736$, $p < .001$
- Standardized Beta (β) = 0.795
- 95% Confidence Interval: LLCI = 0.624, ULCI = 0.847
- Variance Explained (R^2) = 0.632
- F-Statistic = 171.632

These findings suggest that AL is a dominant predictor of an organization's ability to sustain transformation efforts, independent of Dynamic Capabilities (DC). Leaders who cultivate strategic responsiveness, resilience, and organizational agility play a crucial

role in embedding transformation into the organization's core strategy, significantly driving long-term success.

H2 Summary

The results provide strong empirical support for H2, confirming that Adaptive Leadership (AL) significantly enhances Dynamic Capabilities (DC) and has a direct, highly positive effect on Sustainable Transformation Excellence (STE). This underscores the critical role of leadership agility in driving and sustaining long-term transformation success.

These findings highlight that organizations seeking to sustain transformation must embed Adaptive Leadership at all levels, ensuring that leaders cultivate strategic responsiveness, resilience, and transformation agility. By fostering a leadership culture that embraces adaptability, organizations can effectively navigate uncertainty and embed sustainable transformation into their core strategy.

H3: Strategic Entrepreneurship (SE) Positively Influences Dynamic Capabilities (DC)

This hypothesis examines the direct relationship between Strategic Entrepreneurship (SE) and Dynamic Capabilities (DC). SE combines entrepreneurial thinking with strategic resource allocation, enabling organizations to sustain competitive advantage, innovation, and market leadership. SE is hypothesized to enhance DC by fostering a culture of sustained regeneration, strategic renewal, organizational rejuvenation, and domain redefinition—all of which contribute to the organization's ability to sense, seize, and transform opportunities in dynamic environments.

H3.1 Direct Relationship Between SE and DC

A linear regression analysis was conducted to examine the direct relationship between SE and DC. The results indicate a statistically significant positive relationship, confirming that organizations with strong Strategic Entrepreneurship capabilities are more likely to develop Dynamic Capabilities.

- $B = 0.665$, $p < 0.001$
- Standardized Beta (β) = 0.752
- 95% Confidence Interval: LLCI = 0.225, ULCI = 0.640
- Variance Explained (R^2) = 0.565
- F-Statistic = 129.949

These findings support H3, demonstrating that Strategic Entrepreneurship plays a critical role in enhancing an organization's ability to adapt, innovate, and transform resources to sustain long-term strategic advantage.

H3.2 Dimension-Level Effects: SES, SER, SEO, and SED on DC

To further assess the mechanisms through which SE enhances DC, separate regressions were conducted for SE's four sub-dimensions:
Sustained Regeneration (SES), Strategic Renewal (SER), Organizational Rejuvenation (SEO), and Domain Redefinition (SED).

Each sub-dimension was found to have a statistically significant positive impact on DC, with varying degrees of influence.

- H3a (SES → DC)
  - $B = 0.457$, $p < 0.001$
  - Standardized Beta (β) = 0.491

- 95% Confidence Interval: LLCI = 0.223, ULCI = 0.623
- Variance Explained (R^2) = 0.241
- F-Statistic = 31.828

- H3b (SER → DC)
  - B = 0.480, $p < 0.001$
  - Standardized Beta (β) = 0.605
  - 95% Confidence Interval: LLCI = 0.355, ULCI = 0.605
  - Variance Explained (R^2) = 0.367
  - F-Statistic = 57.883
- H3c (SEO → DC)
  - B = 0.479, $p < 0.001$
  - Standardized Beta (β) = 0.681
  - 95% Confidence Interval: LLCI = 0.377, ULCI = 0.581
  - Variance Explained (R^2) = 0.464
  - F-Statistic = 86.411
- H3d (SED → DC)
  - B = 0.360, $p < 0.001$
  - Standardized Beta (β) = 0.580
  - 95% Confidence Interval: LLCI = 0.260, ULCI = 0.460
  - Variance Explained (R^2) = 0.336
  - F-Statistic = 50.630

These findings suggest that each SE dimension uniquely contributes to the development of DC:

- Sustained Regeneration (SES) enables firms to continuously renew and reconfigure their resources to remain competitive.
- Strategic Renewal (SER) allows organizations to develop new business strategies in response to changing market conditions.
- Organizational Rejuvenation (SEO) drives internal innovation, enhancing operational agility.
- Domain Redefinition (SED) enables firms to expand into new markets and redefine competitive boundaries.

H3.3 Direct Relationship Between SE and STE

The direct relationship between Strategic Entrepreneurship (SE) and Sustainable Transformation Excellence (STE) was examined. The results indicate a statistically significant and strong positive effect, suggesting that SE contributes meaningfully to STE, independent of Dynamic Capabilities (DC).

- $B = 0.778$, $p < .001$
- Standardized Beta (β) = 0.688
- 95% Confidence Interval: LLCI = 0.615, ULCI = 0.941
- Variance Explained (R^2) = 0.474
- F-Statistic = 90.110

These findings demonstrate that Strategic Entrepreneurship is a crucial driver of Sustainable Transformation Excellence. Even without considering Dynamic Capabilities

as a mediating mechanism, SE alone explains nearly half of the variance in STE, reinforcing its critical role in enabling organizations to sustain transformation over time.

Summary of H3:

The results provide strong empirical support for H3, confirming that Strategic Entrepreneurship (SE) significantly enhances Dynamic Capabilities (DC) and directly contributes to Sustainable Transformation Excellence (STE). This reinforces the importance of strategic innovation, resource renewal, and organizational agility in driving long-term transformation success.

These findings emphasize that organizations must embrace a Strategic Entrepreneurship approach, ensuring continuous renewal, strategic repositioning, and market adaptability. By fostering an entrepreneurial mindset and dynamic resource orchestration, organizations can sustain competitive advantage and navigate the complexities of an evolving business landscape with agility and resilience.

H4: Dynamic Capabilities (DC) Positively Influence Sustainable Transformation Excellence (STE)

This hypothesis examines the direct relationship between Dynamic Capabilities (DC) and Sustainable Transformation Excellence (STE). DC enables organizations to sense, seize, and transform resources in response to market changes, ensuring long-term strategic renewal and sustainability. DC is hypothesized to play a crucial role in driving transformation effectiveness and sustaining competitive advantage over time.

H4.1 Direct Relationship Between DC and STE

A linear regression analysis was conducted to assess the direct impact of Dynamic Capabilities (DC) on Sustainable Transformation Excellence (STE). The results indicate

a statistically significant and strong positive relationship, confirming that organizations with well-developed Dynamic Capabilities are more likely to achieve transformation excellence.

- $B = 0.928$, $p < .001$
- Standardized Beta (β) = 0.727
- 95% Confidence Interval: LLCI = 0.754, ULCI = 1.102
- Variance Explained (R^2) = 0.528
- F-Statistic = 112.043

These findings provide strong support for H4, demonstrating that Dynamic Capabilities serve as a critical driver of Sustainable Transformation Excellence (STE). Organizations that effectively sense, seize, and transform resources are better positioned to sustain transformation efforts, adapt to environmental shifts, and maintain strategic agility. By fostering a continuous renewal and reconfiguration mindset, firms can embed long-term resilience and competitiveness into their transformation strategy.

H4.2 Dimension-Level Effects: DCSE, DCSZ, and DCTR on STE

To further explore the relationship between DC and STE, separate regressions were conducted for the three Dynamic Capabilities sub-dimensions: Sensing Capabilities (DCSE), Seizing Capabilities (DCSZ), Transforming Capabilities (DCTR).

Each dimension was found to have a statistically significant positive effect on STE, confirming that these capabilities collectively enhance transformation excellence:

H4a: Sensing Capabilities (DCSE) and STE

Sensing Capabilities significantly influenced STE, indicating that an organization's ability to identify market shifts and emerging opportunities is critical for transformation:

- B = 0.720, $p < 0.001$
- Standardized Beta (β) = 0.655
- 95% Confidence Interval: LLCI = 0.555, ULCI = 0.885
- Variance Explained (R^2) = 0.429
- F-Statistic = 75.150

H4b: Seizing Capabilities (DCSZ) and STE

Seizing Capabilities also had a significant positive effect on STE, confirming that the ability to capitalize on opportunities and implement strategic changes is essential for sustainability:

- B = 0.759, $p < 0.001$
- Standardized Beta (β) = 0.660
- 95% Confidence Interval: LLCI = 0.587, ULCI = 0.930
- Variance Explained (R^2) = 0.436
- F-Statistic = 77.231

H4c: Transforming Capabilities (DCTR) and STE

Transforming Capabilities significantly predicted STE, demonstrating that organizations must continuously adapt and refine their processes, structures, and resources:

- B = 0.661, $p < 0.001$
- Standardized Beta (β) = 0.579
- 95% Confidence Interval: LLCI = 0.476, ULCI = 0.845
- Variance Explained (R^2) = 0.336
- F-Statistic = 50.523

These findings suggest that each DC sub-dimension uniquely contributes to STE:

- Sensing Capabilities (DCSE) allow organizations to detect emerging trends and shifts in the external environment.
- Seizing Capabilities (DCSZ) enable firms to capitalize on opportunities, deploy resources effectively, and optimize transformation efforts.
- Transforming Capabilities (DCTR) ensure that organizations continuously adapt and reconfigure assets to sustain transformation effectiveness.

Summary of H4:

The results provide strong empirical support for H4, confirming that Dynamic Capabilities significantly enhance Sustainable Transformation Excellence (STE). Additionally, the findings demonstrate that all three DC sub-dimensions—Sensing, Seizing, and Transforming—play a critical role in transformation success.

These findings emphasize that organizations seeking long-term transformation excellence must invest in strengthening their Dynamic Capabilities, ensuring they can sense environmental changes, seize opportunities strategically, and continuously transform their business models to sustain competitive advantage.

H5: Organization Size (OS) Does Not Moderate the Relationship Between Dynamic Capabilities (DC) and Sustainable Transformation Excellence (STE)

H5.1 Direct Effect of DC and OrgSz on STE

A hierarchical regression analysis was conducted to examine whether Organization Size (OrgSz) moderates the relationship between Dynamic Capabilities (DC) and Sustainable Transformation Excellence (STE). The analysis was performed in two steps: first, testing the direct effects of DC and OrgSz (small, medium, and large

categories) on STE, and second, incorporating the interaction terms (DC * OrgSz) to assess moderation.

The results of the first model (main effects only) demonstrated a significant relationship between DC and STE ($B = 0.745$, $p < .001$), explaining 53.1% of the variance ($R^2 = 0.531$, $p < .001$). However, the direct effect of OrgSz_Medium on STE was not significant ($B = -0.109$, $p = 0.254$). Similarly, previous models testing OrgSz_Large and OrgSz_Small as moderators also yielded non-significant direct effects.

H5.2 Moderation Analysis (Interaction Effects)

In the second step, the interaction terms (DC * OrgSz_Medium, DC * OrgSz_Large, and DC * OrgSz_Small) were added to test for moderation effects. The inclusion of the interaction term for OrgSz_Medium (Model 2) did not significantly improve the model ($\Delta R^2 = 0.000$, F-change = 0.053, $p = 0.818$). The coefficient for the interaction term ($B = -0.189$, $p = 0.818$, 95% CI: -0.189 to 0.239) indicated that the moderating effect of OrgSz_Medium was statistically insignificant. Similar results were found for OrgSz_Large ($B = -0.080$, $p = 0.506$) and OrgSz_Small ($B = -0.853$, $p = 0.509$), reinforcing the conclusion that organization size does not moderate the DC-STE relationship.

H5.3 Multicollinearity and Model Diagnostics

Further analysis of variance inflation factor (VIF) and tolerance statistics revealed severe multicollinearity issues with the organization size variables and their interaction terms. Specifically, the VIF for OrgSz_Medium was 44.629, while its interaction term (DC * OrgSz_Medium) had a VIF of 45.654, indicating extreme collinearity. Similarly, for OrgSz_Large, the VIF was 39.480, and its interaction term (DC * OrgSz_Large) had

a VIF of 39.760. The low tolerance values (< 0.10) further confirmed redundancy among these predictors, making the estimates unstable.

Summary of H5

The results do not support H5, confirming that Organization Size (OS) does not significantly moderate the relationship between Dynamic Capabilities (DC) and Sustainable Transformation Excellence (STE). The presence of severe multicollinearity suggests that the organization size categories (Small, Medium, Large) may be too interdependent, inflating standard errors and potentially obscuring meaningful interaction effects.

Summary of Hypotheses Analysis Results

HYPOTHESIS NO.	PATHWAY	ANALYSIS TYPE	UNSTANDARDIZED (B)	STANDARDIZED BETA (B)	P-VALUE	95% CI LOWER	95% CI UPPER	VARIANCE EXPLAINED (R^2)	F-STATISTIC	HYPOTHESIS SUPPORTED
H1	**EO → DC**	Direct Regression	0.675	0.718	<0.001	0.546	0.805	0.516	106.489	Yes
H1a	*EOI → DC*	*Direct Regression*	*0.479*	*0.512*	*<0.001*	*0.319*	*0.638*	*0.262*	*35.503*	*Yes*
H1b	*EOR → DC*	*Direct Regression*	*0.450*	*0.615*	*<0.001*	*0.335*	*0.564*	*0.378*	*60.891*	*Yes*
H1c	*EOP → DC*	*Direct Regression*	*0.489*	*0.664*	*<0.001*	*0.263*	*0.832*	*0.441*	*78.881*	*Yes*
H1-STE	**EO → STE**	Direct Regression	0.620	0.516	*<0.001*	0.416	0.824	0.266	36.326	*Yes*
H2	**AL → DC**	Direct Regression	0.579	0.799	<0.001	0.493	0.666	0.639	176.999	Yes
H2-STE	**AL → STE**	Direct Regression	0.736	0.795	<0.001	0.624	0.847	0.632	171.632	Yes
H3	**SE → DC**	Direct Regression	0.665	0.752	<0.001	0.225	0.640	0.565	129.949	Yes
H3a	*SES → DC*	*Direct Regression*	*0.457*	*0.491*	*<0.001*	*0.296*	*0.617*	*0.241*	*31.828*	*Yes*
H3b	*SER → DC*	*Direct Regression*	*0.480*	*0.605*	*<0.001*	*0.355*	*0.605*	*0.367*	*57.883*	*Yes*
H3c	*SEO → DC*	*Direct Regression*	*0.479*	*0.681*	*<0.001*	*0.377*	*0.581*	*0.464*	*86.411*	*Yes*
H3d	*SED → DC*	*Direct Regression*	*0.360*	*0.580*	*<0.001*	*0.260*	*0.460*	*0.336*	*50.630*	*Yes*
H3-STE	**SE → STE**	Direct Regression	0.778	0.688	<0.001	0.615	0.941	0.474	90.110	Yes
H4	**DC → STE**	Direct Regression	0.928	0.727	<0.001	0.754	1.102	0.528	112.043	Yes
H4a	*DCSE → STE*	*Direct Regression*	*0.720*	*0.655*	*<0.001*	*0.555*	*0.885*	*0.429*	*75.150*	*Yes*
H4b	*DCSZ → STE*	*Direct Regression*	*0.759*	*0.660*	*<0.001*	*0.587*	*0.930*	*0.436*	*77.231*	*Yes*
H4c	*DCTR → STE*	*Direct Regression*	*0.661*	*0.579*	*<0.001*	*0.476*	*0.845*	*0.336*	*50.523*	*Yes*
H5	**DC * OrgSzSML -> STE**	Moderation Effect	-0.08	0.189	0.818	0.189	0.239	0.531	0.053	**No**

Figure 5: Summary of Hypotheses Analysis Results

VI. DISCUSSION

Summary of Core Findings

This study identified key drivers of Sustainable Transformation Excellence (STE) in U.S. fashion retail, centering on Entrepreneurial Orientation (EO), Adaptive Leadership (AL), Strategic Entrepreneurship (SE), and Dynamic Capabilities (DC). The findings provide empirical evidence that:

1. Entrepreneurial Orientation (EO) particularly Innovativeness (EOI), Risk-Taking (EOR), and Proactiveness (EOP) plays a critical role in strengthening Dynamic Capabilities (DC), which enhance organizational adaptability and agility (Anderson, Eshima, & Hornsby, 2019; Gans, Stern, & Wu, 2019).
2. Adaptive Leadership (AL), conceptualized as a unified construct, contributes significantly to DC by equipping leaders with the ability to navigate complexity and uncertainty, fostering a culture of responsiveness (Nöthel et al., 2023; Kantur, 2016).
3. Strategic Entrepreneurship (SE) facilitates continuous innovation and strategic renewal, strengthening long-term organizational resilience and sustainability (Bhardwaj & Fairhurst, 2010; Carroll, 2017).
4. Dynamic Capabilities (DC) serve as a mediating mechanism that links EO, AL, and SE to Sustainable Transformation Excellence (STE), enabling organizations to sense, seize, and transform resources effectively (Teece, Pisano, & Shuen, 1997; Kump et al., 2019).
5. Organization Size (OS) was found not to moderate the relationship between DC and STE, challenging conventional assumptions that larger organizations

have an inherent advantage in transformation efforts. Instead, the ability to sense, seize, and transform resources remains a universal driver of STE, regardless of firm size.

Beyond these core findings, the descriptive analysis revealed general trends in how respondents perceive these constructs. High ratings for Innovativeness (EOI), Flexible Application (ALFA), and Sensing Capabilities (DCSE) indicate that organizations recognize these elements as essential for transformation. However, moderate variability in STE outcomes suggests differences in how organizations experience transformation effectiveness. The slight negative skewness in most items underscores a generally favorable perception of organizational capabilities, reinforcing how these constructs interact to drive both immediate and sustained transformation excellence.

Additionally, the lack of a moderating effect of Organization Size (OS) suggests that the scale of an organization does not inherently determine transformation success. Instead, firms of all sizes must focus on developing Dynamic Capabilities (DC) and strategic agility to navigate industry disruptions and sustain transformation efforts. This finding further supports the argument that internal capabilities, rather than external firm characteristics such as size, drive successful transformation.

These findings highlight the interconnected and multidimensional nature of EO, AL, SE, and DC, demonstrating how they collectively shape both short-term agility and long-term transformation success within the fashion retail sector.

Final Research Model: The STEP Framework

Based on the empirical findings, the final research model, STEP (Sustainable Transformation Excellence Program™), has been refined to emphasize the validated relationships among EO, AL, SE, DC, and STE. This refined model integrates key insights from hypothesis testing, removing Organization Size (OS) as a moderating variable due to its lack of statistical significance and reinforcing Adaptive Leadership (AL) as a single-factor construct.

Key Refinements in the Final Model

1. EO, AL, and SE serve as primary drivers of DC, underscoring their foundational role in fostering transformation capabilities.
2. DC mediates the effects of EO, AL, and SE on STE, reinforcing its role as a critical enabler of sustainable transformation.
3. STE remains a two-factor construct, ensuring that both immediate and long-term effectiveness are explicitly accounted for.
4. OS is excluded, confirming that transformation excellence is capability-driven rather than size-dependent—a key finding that challenges traditional assumptions in transformation research.

Refined Conceptual Model

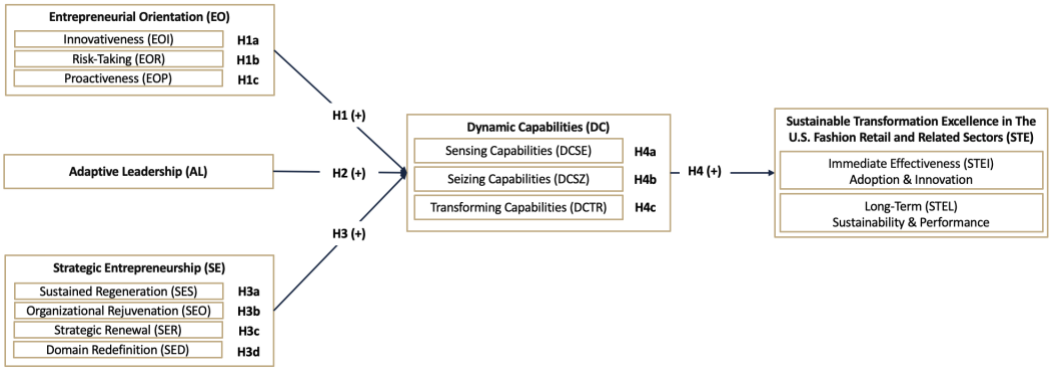

Figure 6: Final Validated Research Model (STEP Framework)

This revised STEP framework presents a structured approach to achieving sustainable transformation excellence by illustrating how entrepreneurial, strategic, and leadership capabilities drive dynamic capabilities, which in turn enable transformation success

Industry-Specific Applications of the STEP Framework

The STEP framework offers a scalable and adaptable model that can be applied across different industries to drive sustainable transformation excellence.

Fashion Retail Industry

- Trend Forecasting: STEP leverages AI-driven predictive analytics and social media monitoring to enhance Sensing Capabilities (DCSE), enabling brands to respond proactively to consumer shifts.
- Sustainable Practices: By embedding eco-friendly sourcing and circular economy principles within STEP, fashion retailers align Sustainable Transformation Excellence (STE) with corporate social responsibility.

Technology Sector

- Anticipating Disruption: The Sensing Capabilities (DCSE) framework within STEP equips tech firms to identify and integrate AI, blockchain, and automation, driving digital transformation.
- Agile Development: STEP principles promote continuous iteration and rapid scaling, ensuring tech companies can swiftly implement innovations while maintaining operational efficiency.

Manufacturing & Supply Chain

- Lean Production & IoT: STEP encourages manufacturers to use real-time analytics for decision-making, enhancing Seizing Capabilities (DCSZ) for process optimization.
- Smart Factory Transformation: STEP promotes automation and AI-driven manufacturing, aligning transformation efforts with sustainability and efficiency goals.
- Financial Services in Retail
- Optimizing Payment Systems: STEP enhances Sensing Capabilities (DCSE) by encouraging retailers to monitor and adopt emerging payment technologies (e.g., BNPL, contactless payments).
- Cybersecurity and Trust: STEP ensures that organizations prioritize digital security by embedding robust encryption, fraud detection, and compliance measures.

Theoretical and Practical Contributions

The following table summarizes the **key theoretical and practical contributions** of the STEP framework:

Construct	Theoretical Contribution	Practical Application
Entrepreneurial Orientation (EO)	Validates EO as a driver of Dynamic Capabilities (DC)	Helps organizations adopt entrepreneurial strategies for market agility
Adaptive Leadership (AL)	Confirms AL as a one-factor construct essential for transformation	Guides leadership development for enhanced adaptability
Strategic Entrepreneurship (SE)	Demonstrates SE's role in fostering renewal and competitive advantage	Provides organizations with a structured pathway for ongoing strategic renewal
Dynamic Capabilities (DC)	Reinforces DC as the mediating factor in transformation	Helps firms systematically build sensing, seizing, and transforming capabilities
Sustainable Transformation Excellence (STE)	Establishes STE as a multidimensional construct	Enables organizations to balance short-term gains with long-term sustainability
STEP Framework	Integrates EO, AL, SE, and DC into a structured transformation model	Provides a roadmap for organizations to implement data-driven transformation strategies

Conclusion

As refined in this study, the STEP framework provides a validated pathway for organizations seeking to achieve sustainable transformation excellence. The empirical findings confirm that EO, AL, and SE drive DC, which in turn enables organizations to achieve both immediate and long-term transformation effectiveness. By removing OS and confirming AL as a unified construct, this model provides a streamlined, empirically supported foundation for leadership assessment, strategic execution, and transformation governance.

Through STEP, organizations can effectively navigate transformation efforts by integrating leadership adaptability, entrepreneurial orientation, and strategic renewal with dynamic capabilities. This research contributes to the broader discourse on sustainable business transformation by reinforcing the central role of dynamic capabilities as the bridge between strategic intent and long-term success.

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Appendix A: Survey Instrument

CONSTRUCTS & DIMENSIONS	ITEM & FACTOR COUNT	SUSTAINABLE TRANSFORMATION EXCELLENCE SURVEY INSTRUMENT
DISQUALIFIERS	**2 ITEMS**	**Screening Questions**
Less than 1 year	QUL1	How long have you been working in the fashion retail or related sectors?
No	QUL3	Is your company primarily based in the United States?
	1 ITEM	**(OS) - Organization Size - Moderator**
1-10 employees	OrgSize	What is the size of your company in terms of the number of employees?
DIMENSIONS	**6 ITEMS 3 FACTORS**	**(EO) Entrepreneurial Orientation: (Molokwu et al., 2013) and (Zhang et al, 2014) 7-Point Likert Scale**
Innovativeness (EOI)	EOI1	My firm frequently introduces new products, services, and processes.
	EOI2	My firm emphasizes the importance of new product/service development.
Risk-Taking (EOR)	EOR3	My firm commits a large portion of its resources in order to grow.
	EOR4	In my firm, people in our business are encouraged to take calculated risks with new ideas.
Proactiveness: (EOP)	EOP1	My firm typically initiates actions which the competition then responds to.
	EOP3	My firm excels at identifying opportunities.
DIMENSIONS	**12 ITEMS 4 FACTORS**	**(SE) Strategic Entrepreneurship (Kantur, 2016) 7-Point Likert Scale**
Sustained Regeneration (SES)	SES1	My firm has introduced new product lines.
	SES5	My firm continuously explores new markets for our products/services.
Strategic Renewal (SER)	SER2	My firm frequently reassesses its competitive strategy to stay ahead in the market.
	SER3	My firm proactively modifies its business model to adapt to changing market conditions.
Organizational Rejuvenation (SEO)	SEO1	My firm has reorganized to foster innovation.
	SEO2	My firm has adopted flexible organizational structures to foster innovation.
	SEO3	My firm has introduced team-work to foster innovation.
	SEO5	My firm invests in training and development to enhance employee skills for innovation.
Domain Redefinition (SED)	SED1	My firm has changed the rules of competition.
	SED2	My firm has moved the competition to a new platform.
	SED3	My firm redefines its market scope by entering entirely new sectors
	SED4	My firm pioneers new standards or practices in the industry.
DIMENSIONS	**13 ITEMS 1 FACTOR**	**(AL) Adaptive Leadership: Nöthel et al. (2023) 7-Point Likert Scale:**
Adaptive Leadership Behavior	ALBS1	Leadership in my firm effectively balances task management with attentiveness to employee needs in our fast-paced retail environn
	ALBS2	Leadership in my firm adapts their leadership style to meet the varying needs of team members in our dynamic fashion industry.
	ALBS3	Leadership in my firm appropriately balances directive and empowering behaviors to suit different situations in our organization.
	ALBS4	Leadership in my firm remains goal-oriented while flexibly adapting leadership approaches to achieve objectives in our evolving mar
	ALBS5	Leadership in my firm seamlessly transitions between directive and collaborative leadership styles based on situational demands.
	ALSD1	Leadership in my firm quickly identifies the most effective leadership behavior for each unique situation in our business.
	ALSD2	Leadership in my firm recognizes when to change their leadership style in response to shifting circumstances in our industry.
	ALSD4	Leadership in my firm notices shifts in task priorities and modifies their leadership behavior accordingly.
	ALSD5	Leadership in my firm continuously adjusts their behavior to appropriately match the changing circumstances.
	ALFA1	Leadership in my firm responds appropriately to unforeseen challenges in our business operations.
	ALFA3	Leadership in my firm changes their leadership approach in response to unexpected events.
	ALOD1	Leadership in my firm effectively leads through challenges, ambiguity, and complex situations in our industry.
	ALOD2	Leadership in my firm successfully balances conflicting needs of different stakeholders in our organization.
DIMENSIONS	**10 ITEMS 3 FACTORS**	**(DC) Dynamic Capabilities: (Kump et al., 2019) - Mediator 7-Point Likert Scale**
Sensing Capabilities (DCSE)	DCSE1	My firm knows the best practices in the market.
	DCSE2	My firm is up-to-date on the current market situation.
	DCSE3	My firm systematically searches for information on the current market situation.
	DCSE4	As a firm, we know how to access new information.
	DCSE5	My firm always has an eye on our competitors' activities.
Seizing Capabilities (DCSZ)	DCSZ2	We recognize what new information can be utilized in our company.
	DCSZ3	My firm is capable of turning new technological knowledge into process and product innovation.
	DCSZ4	Current information leads to the development of new products or services.
Transforming Capabilities (DCTR)	DCTR3	Decisions on planned changes are pursued consistently in our company.
	DCTR4	In the past, we have demonstrated our strengths in implementing changes.
DIMENSIONS	**8 ITEMS 2 FACTORS**	**(STE) Sustainable Transformation Effectiveness Immediate Effectiveness Adoption & Innovation and Long-Term Sustainability & Performance 7-Point Likert Scale**
Immediate Effectiveness on Adoption & Innovation (STEI)	STEI1	My firm's recent transformation initiatives have successfully met their immediate goals.
	STEI2	Our employees have quickly adapted to the changes introduced by My firm's transformation efforts.
	STEI3	We have observed immediate improvements in performance following My firm's transformation initiatives.
	STEI4	The implementation of new processes at My firm has been both smooth and efficient.
	STEL5	My firm has achieved strategic agility, enabling us to adapt quickly to new opportunities.
Long-term Sustainability Impact & Performance Metrics (STEL)	STEL1	My firm's transformation efforts have resulted in sustained improvements in organizational performance.
	STEL2	The changes implemented by My firm are likely to yield long-term benefits.
	STEL3	My firm continuously improves performance metrics to support long-term transformation initiatives.
CONTROL VARIABLES	**8 ITEMS**	**DEMOGRAPHIC & DESCRIPTIVE**
Age	DEM1	What is your age group?
Gender	DEM2	What is your gender?
Org. Level	DEM3	What is your current role within your company hierarchy?
Department	DEM4	Which department do you work in?
Retail Type	DEM5	Select your organization's retail type.
Work Location	DEM6	What is your primary work location within the organization?
State	DEM7	Your organization's head quarters are located in which state?
Yes/No	INVOLVED	Have you been directly involved in any transformation initiatives within your organization in the past 3 years (2021, 2022, or 2023)?

Figure 7: Appendix A: Survey Instrument

Appendix B: CloudResearch® Advertisement

Summary

We invite professionals working in the U.S. fashion retail and related sectors (e.g., clothing, footwear, accessories, textiles, beauty, and personal care products) to participate in this survey. We are seeking insights from individuals with experience in organizational transformation efforts. Your participation will help us better understand the dynamics of Retail Transformation in the industry. The survey will take approximately 10-15 minutes to complete, and your responses will be anonymous and confidential. If you feel this describes your experience, we encourage you to proceed with the survey. Thank you for your valuable contribution! Note: Eligibility will be determined by a few brief questions at the beginning of the survey to ensure we gather insights from the most relevant participants.

Figure 8: Appendix B: CloudResearch® Advertisement

Appendix C: Survey Information Letter

Letter

Welcome to the Sustainable Transformation Survey!

Eligibility:
This survey is intended for professionals working in the U.S. fashion retail and related sectors (e.g., clothing, footwear, accessories, textiles, beauty, and personal care products) who have been directly involved in transformation initiatives within their organization in the past 4 years. Please proceed only if you meet these criteria.

Purpose:
Your participation will contribute valuable insights into Retail Transformation based on your experiences and observations. We encourage you to carefully consider each question as you respond.

Survey Details:

- **Duration:** Approximately 10-15 minutes.
- **Confidentiality:** Your responses are completely anonymous and confidential.
- **Voluntary Participation:** Participation is entirely voluntary, and you may withdraw at any time without penalty.

Instructions:

1. **Read Carefully:** You will be presented with statements regarding your organization's transformation efforts.
2. **Rate Agreement:** Please indicate your level of agreement based on your personal experiences and observations.
3. **Complete All Questions:** Answer all questions honestly; there are no right or wrong answers.
4. **Completion Code:** After finishing the survey, be sure to copy the "Completion Code" to receive credit for your participation.

Contact Information:
If you have any questions or concerns, please contact the FIU Office of Research Integrity at ori@fiu.edu.

Thank you for your valuable contribution. Click "Next" to begin the survey.

Figure 9: Appendix C: Survey Information Letter

Appendix D: Hypotheses Results Summary

HYPOTHESIS NO.	HYPOTHESIS STATEMENT	PATHWAY	ANALYSIS TYPE	UNSTANDARDIZED (B)	STANDARDIZED BETA (B)	P-VALUE	95% CI LOWER	95% CI UPPER	VARIANCE EXPLAINED (R^2)	F-STATISTIC	HYPOTHESIS SUPPORTED
H1	**Entrepreneurial Orientation (EO) Positively Influences Dynamic Capabilities (DC).**	**EO → DC**	**Direct Regression**	**0.675**	**0.718**	**<0.001**	**0.546**	**0.805**	**0.516**	**106.489**	**Yes**
H1a	*EO Innovativeness (EOI) Positively Influences Dynamic Capabilities (DC).*	*EOI → DC*	*Direct Regression*	*0.479*	*0.512*	*<0.001*	*0.319*	*0.638*	*0.262*	*35.503*	*Yes*
H1b	*EO Risk-Taking (EOR) Positively Influences Dynamic Capabilities (DC).*	*EOR → DC*	*Direct Regression*	*0.450*	*0.615*	*<0.001*	*0.335*	*0.564*	*0.378*	*60.891*	*Yes*
H1c	*EO Proactiveness (EOP) Positively Influences Dynamic Capabilities (DC).*	*EOP → DC*	*Direct Regression*	*0.489*	*0.664*	*<0.001*	*0.263*	*0.832*	*0.441*	*78.881*	*Yes*
H1-STE	**Entrepreneurial Orientation (EO) Positively Influences Sustainable Transformation Excellence (STE).**	**EO → STE**	**Direct Regression**	**0.620**	**0.516**	***<0.001***	**0.416**	**0.824**	**0.266**	**36.326**	***Yes***
H2	**Adaptive Leadership (AL) Positively Influences Dynamic Capabilities (DC).**	**AL → DC**	**Direct Regression**	**0.579**	**0.799**	**<0.001**	**0.493**	**0.666**	**0.639**	**176.999**	**Yes**
H2-STE	**Adaptive Leadership (AL) Positively Influences Sustainable Transformation Excellence (STE).**	**AL → STE**	**Direct Regression**	**0.736**	**0.795**	**<0.001**	**0.624**	**0.847**	**0.632**	**171.632**	**Yes**
H3	**Strategic Entrepreneurship (SE) Positively Influences Dynamic Capabilities (DC).**	**SE → DC**	**Direct Regression**	**0.665**	**0.752**	**<0.001**	**0.225**	**0.640**	**0.565**	**129.949**	**Yes**
H3a	*SE Sustained Regeneration (SES) Positively Influences Capabilities (DC).*	*SES → DC*	*Direct Regression*	*0.457*	*0.491*	*<0.001*	*0.296*	*0.617*	*0.241*	*31.828*	*Yes*
H3b	*SE Organizational Rejuvenation (SEO) Positively Influences Dynamic Capabilities (DC).*	*SER → DC*	*Direct Regression*	*0.480*	*0.605*	*<0.001*	*0.355*	*0.605*	*0.367*	*57.883*	*Yes*
H3c	*SE Strategic Renewal (SER) Positively Influences Dynamic Capabilities (DC).*	*SEO → DC*	*Direct Regression*	*0.479*	*0.681*	*<0.001*	*0.377*	*0.581*	*0.464*	*86.411*	*Yes*
H3d	*SE Domain Redefinition (SED) Positively Influences Dynamic Capabilities (DC).*	*SED → DC*	*Direct Regression*	*0.360*	*0.580*	*<0.001*	*0.260*	*0.460*	*0.336*	*50.630*	*Yes*
H3-STE	**Strategic Entrepreneurship (SE) Positively Influences Sustainable Transformation Excellence (STE).**	**SE → STE**	**Direct Regression**	**0.778**	**0.688**	**<0.001**	**0.615**	**0.941**	**0.474**	**90.110**	**Yes**
H4	**Dynamic Capabilities (DC) positively influence Sustainable Transformation Excellence (STE).**	**DC → STE**	**Direct Regression**	**0.928**	**0.727**	**<0.001**	**0.754**	**1.102**	**0.528**	**112.043**	**Yes**
H4a	*Sensing Capabilities (DCSE) positively influence Sustainable Transformation Excellence (STE).*	*DCSE → STE*	*Direct Regression*	*0.720*	*0.655*	*<0.001*	*0.555*	*0.885*	*0.429*	*75.150*	*Yes*
H4b	*Seizing Capabilities (DCSZ) positively influence Sustainable Transformation Excellence (STE).*	*DCSZ → STE*	*Direct Regression*	*0.759*	*0.660*	*<0.001*	*0.587*	*0.930*	*0.436*	*77.231*	*Yes*
H4c	*Transforming Capabilities (DCTR) positively influence Sustainable Transformation Excellence (STE).*	*DCTR → STE*	*Direct Regression*	*0.661*	*0.579*	*<0.001*	*0.476*	*0.845*	*0.336*	*50.523*	*Yes*
H5	**Organization Size (OS) does not significantly moderate the relationship between Dynamic Capabilities (DC) and Sustainable Transformation Excellence (STE).**	**DC * OrgSzSML -> STE**	**Moderation Effect**	**-0.08**	**0.189**	**0.818**	**0.189**	**0.239**	**0.531**	**0.053**	**No**

Figure 10: Appendix D: Hypotheses Results Summary

Appendix E: Theoretical Review Framework

DEFINITION:	LITERATURE
(STE) – Sustainable Transformation Excellence: An organization's ability to successfully implement comprehensive and strategic initiatives that innovate and adapt its business model, operational processes, products, and services in response to evolving market demands and technological advancements. ▪ **Immediate Excellence (STEI):** The short-term success and performance improvements resulting from transformation initiatives. ▪ **Long-Term Sustainability (STEL):** The enduring benefits and impact of transformation efforts on the organization's competitive advantage and market position.	(Dervitsiotis, 2003) and (Savastano et al., 2022)
(EO) – Entrepreneurial Orientation: A firm's ability to navigate and leverage opportunities for competitive advantage, fostering a robust entrepreneurial culture within the organization. ▪ **Innovativeness (EOI):** A willingness to introduce newness and novelty through experimentation and creative processes aimed at developing new products, services, and processes. ▪ **Risk-taking (EOR):** Making decisions and taking action without certain knowledge of probable outcomes; some undertakings may also involve making substantial resource commitments in the process of venturing forward. ▪ **Proactiveness (EOP):** A forward-looking perspective characteristic of a marketplace leader with the foresight to seize opportunities in anticipation of future demand.	(Molokwu et al., 2013) (Lee & Chu, 2017) (Lumpkin and Dess (2005) 3 Dimension Construct
(AL) – Adaptive Leadership: The ability of leaders to adjust their behaviors to meet the needs of their organizations, manage complex environments, and foster transformation. ▪ **Behavioral Strategies (ALBS):** Leaders continuously adjust their behavior to match changing circumstances. ▪ **Situational Demands (ALSD):** Leaders adapt their style to meet team needs in a dynamic environment. ▪ **Flexible Application (ALFA):** Leaders remain goal-oriented while flexibly adapting their approach ▪ **Opposing Demands (ALOD):** Leaders balance task management with attentiveness to employee needs.	Nöthel et al. (2023) 1 Dimension Construct
(SE) - Strategic Entrepreneurship: Firm-level entrepreneurial events represent firms' strategic actions and initiatives to create and exploit market opportunities, improve internal processes, and redefine their competitive space. ▪ **Sustained Regeneration (SES):** Ability to constantly innovate and adapt to market changes by developing new offerings or expanding into new market segments. ▪ **Organizational Rejuvenation (SEO):** Improving a firm's competitive position by modifying its internal processes, structures, and capabilities. ▪ **Strategic Renewal (SER):** Redefining the firm's relationship with its markets or industry competitors by fundamentally changing how it competes. ▪ **Domain Redefinition (SED):** The proactive creation of new competitive grounds that have not yet been recognized by competitors.	(Kantur, 2016) 3 Dimension Construct
(DC) – Dynamic Capabilities: The firm's ability to integrate, build, and reconfigure internal and external competencies to address rapidly changing environments. ▪ **Sensing Capabilities (DCSE):** The ability to identify and assess opportunities and threats in the retail environment. This involves processes for gathering and interpreting information from various sources to detect changes and potential opportunities. ▪ **Seizing Capabilities (DCSZ):** The ability to mobilize resources to capture value from opportunities. This includes developing new products, services, or processes in response to identified opportunities and ensuring that retail leaders can quickly and effectively capitalize on market trends. ▪ **Transforming Capabilities (DCTR):** The ability to continuously align and realign the organization's structure, resources, and processes to adapt to new conditions. This involves reconfiguring existing assets and capabilities to meet evolving market demands and maintaining strategic flexibility in the face of rapid changes.	(Kump et al., 2019) Teece, Pisano, & Shuen (1997) 3 Dimension Construct

Figure 11: Appendix E: Theoretical Review Framework

Appendix F: Types of Retail Organizations

RETAIL TYPE	DESCRIPTION	EXAMPLE
Boutiques	These retailers are small, specialized shops that offer unique, high-quality, and often designer or vintage products.	Designer stores, Vintage stores.
Catalog Retailer	These retailers primarily sell through catalogs, often with a focus on specific product categories.	L.L. Bean, Lands' End.
Consulting Firms	Companies that provide expert advice and services to retail businesses to improve their operations and strategies.	
Crafting and Hobby Retail	These retailers specialize in selling crafting and hobby supplies, including textiles, fabrics, and other materials for DIY projects.	Michaels, Hobby Lobby.
Convenience Store/Pharmacy	These retailers focus on providing a variety of essential goods and services, such as snacks, beverages, basic groceries, personal care products, and medications. Convenience stores and pharmacies emphasize quick and easy access to products, catering to consumers' need for convenience and speed.	7-Eleven, CVS, and Walgreens
Department Store	These retailers offer a wide variety of products across multiple categories.	Macy's, Nordstrom, Bloomingdale's.
Discount Retailer	These retailers offer products at lower prices by using cost-cutting measures.	Walmart, Target, Ross, TJ Maxx.
Farm and Ranch Retailer	These retailers specialize in products and services tailored to agricultural and rural needs, including farming equipment, animal feed, tools, outdoor clothing, and other supplies for rural living. Farm and ranch retailers cater primarily to farmers, ranchers, and rural communities.	Tractor Supply Co. and Rural King
Fashion Industry Association	Organizations that represent the interests of fashion industry stakeholders, including designers, manufacturers, and retailers.	
Fast Fashion Retailer	These retailers quickly produce trendy, affordable clothing, footwear, and accessories.	H&M, Forever 21, Zara.
Luxury Retailer	These retailers offer high-end products and services with an emphasis on exclusivity and personalization.	Chanel, Louis Vuitton, Gucci.
Mass Merchandiser	Large retail stores that sell a wide variety of merchandise, often at lower prices due to economies of scale.	Walmart, Target.
Off-Price Retailer	These retailers sell branded products at discounted prices, often by purchasing excess or out-of-season inventory.	Marshalls, Burlington.
Online Only Retailer	This category includes retailers that primarily operate through online platforms. They offer a variety of products directly to consumers, often leveraging digital channels to engage customers. This category can also encompass retailers that operate through other direct-to-consumer channels, such as television.	Amazon, Venus, Zappos, ASOS., HSN
Outlet Store	These retailers sell discounted merchandise from previous seasons or overstocked inventory.	Nike Factory Store, GAP Outlet, J.Crew Factory, Saks Off Fifth.
Pop-up Stores	Temporary retail spaces that appear for a short period, often around special events or holidays.	seasonal Halloween stores, holiday gift shops.
Specialty Retailer	This category includes retailers focusing on a specific niche market, offering specialized products catering to particular consumer interests. It encompasses subcategories such as Upscale and Specialty Apparel, which focuses on high-quality, unique, and trend-driven fashion.	Anthropologie, J.Crew, Banana Republic, Nike, Foot Locker, Victoria's Secret, Lululemon, Michaels, and Hobby Lobby.
Warehouse Clubs	These retailers require a membership and offer products in bulk at discounted prices.	Costco, Sam's Club.
Other	Any other type of retail operation not specifically listed above.	

Figure 12: Appendix F: Types of Retail Organizations

VITA

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PUBLICATIONS, PRESENTATIONS & MEDIA FEATURES

- Guest Speaker, *C-Suite Sherpas Podcast* (2025)
- Featured Panelist, *Black Founders in Supply Chain and Retail* (2021)
- Featured Panelist, *Passion and Purpose: The Stories of Three Diverse Entrepreneurs,* LIM College Entrepreneurship Week (2020)
- Featured Guest, *Retail Reborn: The Earthshot: A New Sustainability Mindset for Fashion Retail,* Business of Fashion Podcast (2020)
- Featured Interviewee, *One Step Towards a Healthy Future,* Fashinnovation Q&A (2020)
- Speaker, *Sustainable Fashion Webinar,* Jordan Alliance Group (2020)
- Panelist, *Supply Chain and Circular Economy Panel Discussion* (2020)
- Featured Speaker, *An Earned Seat at the Table: Women's History Month Tribute* (2020)

AWARDS & RECOGNITION

Recognized by CIO Applications as one of the *Top 10 Digital Transformation Consulting/Service Companies 2020* for leadership in digital transformation and supply chain optimization.

ACADEMIC PUBLICATIONS

Jordan-Whitaker, I. (Expected 2025). *Doctoral Dissertation: Beyond Boundaries: Strategic Entrepreneurship and Dynamic Capabilities for Sustainable Transformation Excellence in U.S. Fashion Retail.*

Jordan-Whitaker, I. (Forthcoming 2025). *TAG Forward®: Beyond Strategy to Execution Excellence.*

Jordan-Whitaker, I. (Forthcoming 2026). *STEP Beyond Boundaries: A Roadmap for a Resilient Future-Proof Organization.*