
CHANGE OF SCANDINAVIA A/S

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Abstract

This report presents a comprehensive analysis of the innovation strategy and product creation process at Change of Scandinavia A/S (Change Lingerie), conducted during a semester-long (18 weeks, full time) project-oriented internship. The study addresses a critical dilemma prevalent in the fast-paced fashion industry: the tension between the necessity for early, significant resource commitment and the inherent uncertainty of predicting volatile market trends. Utilizing a Participatory Action Research (PAR) methodology, the researcher was embedded within the Technical, Design & Sourcing teams to identify systemic barriers to agility and market responsiveness.

The theoretical framework for this analysis integrates the **Open Innovation paradigm**, **Lead User Theory**, and the **Theory of Value Co-creation**. The findings reveal a structural conflict identified as **Historical Data Dominance**, where the organization's reliance on lagging sales data effectively silences predictive 'Lead User' signals from trend-setting markets. This dominance, coupled with a 'Digital Deficit' in prototyping capabilities, results in a trend-timing gap that positions the brand as a 'Fast Follower' rather than a trend leader.

To resolve these challenges, the report proposes a strategic reconfiguration of the firm's innovation ecosystem. Key recommendations include the formalization of a Lead User Validation Protocol to capture non-pecuniary knowledge flows, the full strategic integration of digital tools such as CLO3D and Lectra into the prototyping workflow to accelerate validation agility, and a transition from transactional sourcing to technical co-creation with new manufacturing partners in Sri Lanka and India. Ultimately, the report concludes that organizational survival in an increasingly volatile global landscape depends on the ability to move from a 'Closed' model of historical validation to an 'Open' model of predictive collaboration, ensuring product assortments are both technically superior and perfectly timed for the evolving marketplace.

Keywords: Open Innovation, Lead User Theory, Value Co-creation, Product Creation Process, Agility, Change Lingerie.

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Chapter 1

Introduction

1.1 Background and Context: Change of Scandinavia A/S

This report details the work and findings of a semester-long (18 weeks) project-oriented course at Change of Scandinavia A/S (Change Lingerie), executed during the third semester of the Master's degree program. The project is an applied study focused on the innovation strategy and collaborative value creation within a dynamic, multi-market retail organization (Chesbrough, 2003; Prahalad and Ramaswamy, 2004).

Change of Scandinavia A/S (Change Lingerie, n.d.), established in 1995 and celebrated its 30th anniversary in 2025, has grown from a regional brand into one of Scandinavia's leading lingerie retailers (Change of Scandinavia A/S, n.d.). The company operates a global network of owned and operated stores across nine international markets (more than 500 retail stores), alongside a robust e-commerce presence (Web Shop established 2007) (Change of Scandinavia A/S, n.d.). Change Lingerie is primarily known for its extensive size range and focus on achieving optimal fit, comfort, and aesthetic appeal across its core product categories: bras, briefs, lingerie sets, sleepwear & swimwear.

The company's product ecosystem is characterized by centralized design and technical development in Denmark, while manufacturing is largely outsourced.

- Centralized Design and Technical Development:

Core functions for design, technical product development and quality control are centralized at the headquarters in Farum, Denmark. This team defines the product specifications, ensuring that the manufactured goods meet the brand's exacting standards for fit and style. (Change of Scandinavia A/S, n.d.).

- **Outsourced Manufacturing:**

Production, merchandising, sample development, and sourcing activities are outsourced, primarily managed through offices in China (Own production established in 2021) and utilizing own and external CMT (Cut, Make and Trim) factories in China and Myanmar.

However, the organization is currently navigating a pivotal Strategic Sourcing Shift (Co-creation Context) (Chesbrough, 2003; Prahalad and Ramaswamy, 2004). This move toward diversifying the supply chain to Sri Lanka and India is driven by a global landscape where agility will define the winners. As tariffs and shifting trade policies reshape the fashion value chain, higher duties and rising costs are forcing brands to rethink their operational footprint. In this environment, footprint optimization and supply chain innovation are no longer optional advantages but strategic necessities (Christopher, 2016). Change Lingerie's move to leverage external supplier capabilities in South Asia represents an effort to pivot fast and streamline processes in response to these global ripple effects (Chesbrough, 2003; Christopher, 2016). Therefore, this decision is driven by a strategy to mitigate geopolitical risk, improve supply chain flexibility and engage in Open Innovation by leveraging external supplier capabilities to broaden the product scope (Chesbrough, 2003; Dahlander and Gann, 2010).

1.2 Problem Domain and Project Scope

The dynamic nature of the fashion industry, with its rapid trend cycles, necessitates a highly responsive and efficient product creation process (Barnes and Lea-Greenwood, 2006; Bruce and Daly, 2006). Change Lingerie faces a fundamental challenge of maximizing commercial success by ensuring that market intelligence, strategic forecasting and creative concepts are efficiently translated into physical products that are both timely and accurate in fit (Barnes and Lea-Greenwood, 2006). Evidence from high-level internal meetings, such as the AW26 Design Review, highlights the need for improvement in market timing, assortment accuracy, and collaborative efficiency.

1. **Market Timing & Uncertainty:** Correctly anticipating macro fashion trends to avoid missed opportunities (ex: avoiding being late on the leopard print trend) while managing the risk of early commitment.
2. **Assortment Accuracy:** Integrating specific market feedback (ex: high demand for white EB in Sweden) to ensure a strong Product-Market Fit for both core and novelty ranges.
3. **Collaborative Efficiency:** Streamlining the technical process from concept to final sample (Proto > Design > Fit > SMS > Size Set(max 2) > PP > Bulk Sample) to ensure the fastest and most accurate time-to-market, moving from transactional relationships to Co-creation models (Prahalad and Ramaswamy, 2004; von Hippel, 1986).

In a global landscape where businesses are under growing pressure to adapt quickly, the scope of this project is to examine how Change Lingerie can sharpen its competitive edge through digitalization, automation (ex: CLO3D), and improved trend validation. The analysis utilizes observations from two concurrent, yet distinct, seasonal tracks: the advanced-stage ‘AW26 Design Review’ and the initial-stage ‘SS27 Proto Review’

to capture the full spectrum of the company’s product lifecycle activities. Ultimately, this report is grounded in the principle, often attributed to Charles Darwin, *that it is not the strongest of the species that survives, nor the most intelligent, but the one most responsive to change* (Darwin, 1859). For Change Lingerie, this responsiveness is found in the transition from historical validation to predictive, agile innovation (Chesbrough, 2003; von Hippel, 1986).

1.3 Objective and Report Structure

The primary objective of this report is to analyze the existing product creation process at Change Lingerie and, by grounding organizational observations in established theory, propose actionable recommendations for reducing uncertainty. The analysis focuses on how the company can better validate product concepts using Lead User feedback and data, before committing to mass production.

The findings are informed directly by the practical scope of work during the internship, which included assisting the team in early-stage product ideation, measuring incoming samples, participating in fit sessions and managing bulk sample approvals. The ultimate goal is to contribute to the company's pursuit of operational excellence, particularly concerning efficiency, time-to-market and the accuracy of assortment planning (Slack et al., 2013).

This report is organized into the following chapters:

- Chapter 1: Introduction
- Chapter 2: Initial Case, Problem Statement, and Research Questions
- Chapter 3: Methodology
- Chapter 4: Literature Review, Theory & Research Model
- Chapter 5: Data Analysis and Findings
- Chapter 6: Discussion
- Chapter 7: Recommendations and Conclusion

Chapter 2

Initial Case Introduction, Problem Statement and Research Questions

2.1 Case Introduction: Change Lingerie's Product Ecosystem

Change Lingerie operates a vertically integrated model where core design and technical product development are centralized at its headquarters (HQ) in Farum, Denmark (Change of Scandinavia A/S, n.d.). This HQ team is responsible for creative direction, fit perfection and material specification, setting the standard for the company's manufactured products. The design process is fundamentally about balancing aesthetic appeal with the functional demands of comfort and fit across a wide spectrum of sizes.

Manufacturing, merchandising, and sample development are predominantly outsourced and managed through offices in China. However, every sample at each gate of the product development process is checked and approved by HQ. Also, the company is actively exploring a strategic diversification of its supply chain, with discussions underway to move the basic sleepwear range (like the popular *Lilly* range) to suppliers in Sri Lanka and India. This shift is not merely logistical, it represents a move towards Open Innovation and Co-creation, utilizing diverse supplier capabilities to broaden the product scope (ex: introducing the *Lilly* range to the newly acquired Austrian 'Palmer's' brand). This aligns with the established capabilities of the region; for example, major manufacturers in Sri Lanka (such as MAS Holdings) have long served as key innovation partners for global lingerie brands, demonstrating the high potential for value co-creation in this market.

The complexity of deciding *what* to make and *when* to make it, given the long lead times of the fashion cycle was evident during the observation of the AW26 Design Review. Executive feedback highlighted strategic challenges in managing market timing and risk:

- **The Trend Timing Challenge:** The CEO noted that the brand, despite its strong performance, had missed the optimal timing for certain macro trends, such as the leopard print resurgence. This serves as a case study for analyzing the need for enhanced trend validation mechanisms via Lead Users (von Hippel, 1986).
- **Integrating Lead User Insights:** Specific and persistent market demands, such as the consistent request for the 'White EB' (white European Beige) bra in the Swedish market, point to valuable Lead User feedback that presents an opportunity for higher-precision assortment planning (von Hippel, 1986; Lilien et al., 2002).
- **Validating Concepts:** The Chairman emphasized the strategic value of testing new concepts (like the Xmas market line) in smaller, more controlled channels (for ex: e-commerce or specific categories like Intimates) to validate their market potential before full-scale resource commitment. This approach aligns with a Lean Startup philosophy designed to de-risk seasonal investment (Ries, 2011).

2.2 Problem Statement

In a competitive and trend-sensitive market, Change Lingerie faces a fundamental dilemma: The tension between the need for early, significant resource commitment (manufacturing/sourcing) and the inherent uncertainty of predicting future market trends (Christopher, 2016). The company seeks to enhance its ability to efficiently translate creative concepts and validated market feedback into a finalized product assortment (Barnes and Lea-Greenwood, 2006).

The core challenge is: How can Change Lingerie optimize its product creation process to move from experience-based decisions to data-validated learning, ensuring that design concepts are commercially viable before heavy investment, while simultaneously leveraging a diversifying supply chain to expand product scope and mitigate risk through co-creation? (Chesbrough, 2003; Prahalad and Ramaswamy, 2004).

2.3 Research Questions

Based on these strategic challenges and the theoretical frameworks of Open Innovation, Lead User Theory, and Co-creation, the project is guided by the following questions:

Main Research Question (RQ): How does Change Lingerie strategically integrate market intelligence, predictive capabilities, and supply chain diversification to optimize the design and introduction of future seasonal product assortments?

Secondary Research Questions (SRQs):

1. Validating Product-Market Fit: How can the combination of Lead User feedback, internal sales data, and trend analysis be leveraged to reduce uncertainty and validate style/color requirements for subsequent seasons?
2. Sourcing as Innovation: How does the pursuit of Open Innovation through the strategic diversification of outsourced manufacturing influence Change Lingerie's ability to broaden its scope of products and mitigate geopolitical risk?

Chapter 3

Methodology

This project employs a qualitative, single-case study approach focused on the Change Lingerie organization. The methodology is primarily inductive, seeking to build theoretical insights from empirical data collected during the internship period. The research design is structured to directly address the operational and strategic challenges of the product creation process and innovation strategy outlined in the research questions, through a participatory and analytical lens.

3.1 Research Design: Participatory Action Research

The research strategy is grounded in participatory Action Research (PAR). Unlike traditional observational case studies where the researcher remains a detached observer, PAR involves the researcher actively collaborating with the organization to identify problems and develop solutions from within (Slack et al., 2013). During the internship, the researcher was an active participant within the Technical, Design & Sourcing teams. This participatory status allowed for a unique ‘insider’ perspective, allowing for deep immersion in the daily workflows enabling the identification of tacit barriers to innovation, such as the specific way store feedback is filtered, that would likely be invisible to an external researcher. The study iterates between action (participating in fit sessions and design reviews) and reflection (analyzing the decision-making logic against academic theories).

3.2 Data Collection Methods

A combination of primary and secondary data is utilized to ensure a comprehensive understanding of the product development ecosystem.

3.2.1 Primary Data Collection

Primary data was gathered through direct immersion at the headquarters in Farum. This included semi-structured interviews and informal discussions with key personnel to uncover the strategic logic behind assortment planning.

Attending and documenting these internal meetings provided direct insight into how strategic assortment decisions are made, compromises are negotiated, and external feedback is processed.

- **Design Team:** Interviews with the Senior Design Lead provided insights into how trend inspiration is gathered and how Category Management data influences creative decisions. This was crucial given the limited availability of the Category Manager due to her busy schedule.
- **Technical Team:** Discussions with the Technical Product Development Manager revealed the current status of digital tool adoption (CLO3D, Lectra) and specific case examples of product failure.
- **Executive Level:** Insights from the Chairman and CEO regarding strategic benchmarking were captured to understand the macro-strategic view on market timing.

Participatory Observation: The researcher attended critical decision-making meetings, including the AW26 Design Review and SS27 Proto Review. These sessions were treated as fieldwork sites to observe the real-time negotiation between ‘commercial certainty’ (sales data) and ‘innovation potential’ (new trends). Attending and documenting these internal meetings provided direct insight into how strategic assortment decisions are made, compromises are negotiated, and external feedback is processed.

Secondary data provided the necessary context and validation for the primary observations. This involved the analysis of internal SharePoint records, historical sales data structures, and return reason reports. A focused literature review was also

conducted to ground the empirical findings in the academic paradigms of Open Innovation and Lead User Theory (Chesbrough, 2003; von Hippel, 1986).

3.2.2 Secondary Data Collection

Secondary data provided the necessary context and validation for the primary observations.

- **Internal Data:** Analysis of SharePoint records, historical sales data structures, and return reason reports provided quantitative context to the qualitative findings. Change Lingerie' website assisted in understanding product categorization, positioning, and customer.
- **Literature:** A focused review of academic literature on Open Innovation, Lead User Theory, and Value Co-creation was conducted to frame the empirical findings.

3.3 Methodologies Followed

This section outlines the specific theoretical frameworks applied as active methodologies to analyze the problem clusters.

3.3.1 Applying Lead User Methodology

To analyze market validation, the study adopts the Lead User Methodology (von Hippel, 1986). In the context of this report, specific Store Managers in fashion-forward markets, such as Sweden, are operationalized as 'proxy' Lead Users. The research methodology treats their qualitative feedback not merely as customer service complaints, but as early-warning innovation signals (von Hippel, 2005). The analysis traces the path of this feedback to identify precisely where it is blocked by internal processes, allowing for a critique of how the organization validates predictive market data.

3.3.2 Applying Co-creation Logic

To analyze the supply chain strategy, Co-creation Logic is applied (Prahalad and Ramaswamy, 2004; Ramaswamy and Ozcan, 2014). The move to new suppliers in India and Sri Lanka is analyzed through the lens of value co-creation rather than simple outsourcing. The methodology distinguishes between Transactional Sourcing (unilateral instruction), which involves unilateral instruction giving, and Co-creative Sourcing (bilateral dialogue of technical exchange), which involves a bilateral dialogue of technical exchange (Ramaswamy and Ozcan, 2014). This lens is used to evaluate the potential for product scope expansion and identifying the risks associated with failing to engage in deep technical co-creation.

3.4 Data Analysis and Validation

This section details the analytical procedures used to interpret the collected data and ensure the reliability of the findings.

3.4.1 Analysis Methods

The analysis primarily utilizes Thematic Analysis for qualitative data (Slack et al., 2013). Transcripts from interviews and notes from meetings were analyzed to identify recurring themes, pain points, and critical decision-making factors related to style and color selection. Key themes included market timing constraints, the balance between creativity and commercial viability, the adoption rate of digital tools, and the influence of specific market feedback (SRQ 1) (Barnes and Lea-Greenwood, 2006). Additionally, Strategic Mapping was employed for sourcing data to analyze the drivers and expected outcomes of the supply chain diversification strategy (SRQ 2), mapping geopolitical risks against the potential for product scope broadening offered by new suppliers (Christopher, 2016).

3.4.2 Validation Methods

To ensure the reliability of the findings, Triangulation was used extensively (Slack et al., 2013). Findings derived from one source, such as executive feedback, were cross-validated against other sources, including documented sales figures or internal policies, to ensure consistency. Furthermore, the research adhered to strict Academic Rigor,

where the research structure and preliminary findings were continuously reviewed to ensure alignment with the report's objectives and academic standards.

3.4 Limitations of the Study

The research acknowledges certain limitations inherent to the single-case study design and the internship timeframe:

- **Time Constraints:** The internship duration (4.5 months) is shorter than a full fashion product lifecycle (often 12-18 months from concept to store). Consequently, while the *Proto* and *Design* stages (AW26/SS27) were observed, the final commercial performance of these specific products cannot be measured within the report period.
- **Data Access:** While the researcher had significant access, direct engagement with the Category Manager was not possible due to her busy schedule. Consequently, insights into category management processes were derived from interviews with the Design Team and observations of cross-functional meetings. Additionally, certain high-level strategic financial data or sensitive supplier negotiation details (regarding the India/Sri Lanka move) may be restricted, limiting the depth of the financial feasibility analysis.
- **Generalizability:** As a single-case study focused on Change Lingerie's unique business model (vertical integration, high SKU count), the findings may not be fully generalizable to retailers with different operating models.
- **Subjectivity:** Qualitative data collected through observation and semi-structured interviews is subject to observer bias. This is mitigated through data triangulation (comparing interview statements with sales data), but a degree of subjectivity remains (Slack et al., 2013).

Chapter 4

Literature Review, Theory & Research Model

This chapter establishes the theoretical lens through which Change Lingerie's innovation strategy and product creation process challenges will be analyzed. This section focuses on three core pillars: the Open Innovation paradigm, Lead User Theory, and the Theory of Value Co-creation (Chesbrough, 2003; von Hippel, 1986; Prahalad and Ramaswamy, 2004). These theories are integrated to form a coherent framework for analyzing how a firm can transition from a reactive to a predictive market strategy through business model reconfiguration (Taran, Boer and Nielsen, 2022).

4.1 Literature Review: Open Innovation

The traditional model of innovation, often termed 'Closed Innovation', relies on the belief that successful innovation requires total internal control; companies must generate their own ideas and then develop, manufacture, market, distribute, and service them on their own (Chesbrough, 2003). Henry Chesbrough (2003) challenged this with the paradigm of Open Innovation, which posits that valuable ideas can come from inside or outside the company and can go to market from inside or outside the company. This paradigm suggests that firms cannot rely entirely on their own research, but should instead buy or license processes or inventions from other companies (Chesbrough, 2003).

Open innovation systems actively scan environments for external knowledge, technologies and capabilities, integrating these into development processes (Chesbrough, 2006). For fashion retailers facing rapid trend cycles, this openness becomes critical for market relevance (Chesbrough, 2003).

4.1.1 Inbound (Outside-In) vs. Outbound (Inside-Out) Innovation

Chesbrough distinguishes between two primary knowledge flows; inbound (outside-in) from outbound (inside-out) modes (Chesbrough, 2003). Inbound Open Innovation (Outside-In) involves enriching the company's own knowledge base through the integration of suppliers, customers, and external knowledge sources (Dahlander and Gann, 2010). This is the primary focus for Change Lingerie as they seek to source trends from customers (SRQ 1) and technical capabilities from new manufacturing partners (SRQ 2). Outbound Open Innovation (Inside-Out) involves earning profits by bringing ideas to market, selling IP, or multiplying technology by transferring it to the outside environment (Chesbrough, 2006).

4.1.1.1 Relevance to the Case

For Change Lingerie, the shift to Inbound (Outside-In) Open Innovation is critical. The move to diversify manufacturing (sourcing shift) to India and Sri Lanka represents a strategic effort to access external technical competencies such as the advanced R&D capabilities found in major regional manufacturers like MAS Holdings that do not exist internally (Chesbrough, 2003). This aligns with the 'Outside-In' process of sourcing external knowledge to broaden product scope (Dahlander and Gann, 2010; Taran, Boer and Nielsen, 2022).

4.1.2 Pecuniary vs. Non-Pecuniary Innovation Flows

Dahlander and Gann (2010) further refine Open Innovation by distinguishing between the nature of the exchange. Pecuniary flows involve market-based transactions, such as buying manufacturing capacity or licensing a specific technology. Non-Pecuniary flows involve the exchange of knowledge and collaborative learning without direct monetary payment, such as absorbing tacit market insights from customers (Dahlander and Gann, 2010). Change Lingerie currently relies heavily on pecuniary sourcing (buying factory time) but lacks the infrastructure for non-pecuniary knowledge absorption, the capability required to stay ahead of market trends. For truly innovate, it must move toward non-pecuniary knowledge sourcing, integrating the tacit insights of trend-setting managers and factory engineers into the earliest stages of design (Dahlander and Gann, 2010; Taran, Boer and Nielsen, 2022).

4.2 Customer-Driven Innovation: Lead User Theory

Within the Open Innovation framework, the question arises: *Who* is the external source of innovation? Eric von Hippel (1986) provides the answer with Lead User Theory, which provides the primary framework for analyzing market validation. Lead Users are defined as individuals or organizations that face needs months or years before the bulk of the marketplace encounters them. Crucially, they are positioned to benefit significantly by obtaining a solution to those needs (von Hippel, 1986).

4.2.1 The 'Signal-to-Noise' Problem

In the fast-moving fashion industry, trends accelerate quickly. Traditional market research (surveys, historical sales analysis) analyzes the 'average' user, which often results in data that describes the past rather than predicting the future (von Hippel, 2005). This leads to being 'late' on trends (ex: the Leopard Print lag). Lead Users provide the 'early warning system' necessary for predictive innovation. However, identifying these users creates a 'signal-to-noise' problem: their needs are often outliers that can easily be dismissed as noise by mass-market validation metrics (Lüthje and Herstatt, 2004).

4.2.2 Operationalization at Change

In this study, 'Lead Users' are operationalized as Trend-Setting Store Managers or Vocal Customers in specific, fashion-forward markets (for ex: Sweden, urban centers). These individuals experience the demand for a specific trend (for ex: request for bras in 'White EB') long before it registers in the aggregate sales data of the mass market. The analysis will examine how their specific feedback can be treated as *innovation inputs* rather than just sales complaints. Their feedback becomes Inbound Innovation Signals when systematically captured (von Hippel, 1986; Chesbrough, 2003).

However, Lead User signals require organizational routines distinguishing them from general complaints and protecting them from mass-market filtering, challenges addressed through co-creation mechanisms (von Hippel, 1986).

4.3 Theory of Value Co-creation

While Lead User Theory identifies the *source* of ideas, Co-creation Theory (Prahalad & Ramaswamy, 2004) defines the *mechanism* of collaboration. Co-creation is the joint creation of value by the company and its stakeholders. It requires a shift from a firm-centric view ('we design, you buy') to an interaction-centric view ('we design together').

4.3.1 Collaborative vs. Transactional Engagement

Linking this to Lead User Theory, the firm can move beyond simply 'listening' to feedback. Instead, it engages in a collaborative dialogue with Lead Users to iterate on new concepts (like specific fits, prints, silhouette or emerging technologies) before mass commitment. This same logic applies to the supplier relationship; true co-creation involves leveraging a supplier's unique technical machinery and material knowledge to define the products' technical specifications, moving away from a transactional 'copy-paste' (cross developing) sourcing model (Ramaswamy and Ozcan, 2014).

Similarly, working with new suppliers in India and Sri Lanka requires a co-creation mindset. Instead of sending a tech pack to be copied or cross developed (transactional sourcing), the firm must engage in a dialogue to leverage the supplier's unique expertise and material science knowledge (co-creative sourcing) (Prahalad and Ramaswamy, 2004). This collaborative approach shifts the sourcing relationship from a transactional 'Cut-Make-Trim' model to a 'Technical Partnership' model which shares material/process expertise early (Prahalad and Ramaswamy, 2004), which is essential for broadening product scope and mitigating technical risks (Ramaswamy and Ozcan, 2014; Taran, Boer and Nielsen, 2022).

4.4 Theoretical Synthesis

The analysis proceeds with a unified model: Open Innovation is the overarching strategy (Chesbrough, 2003). Lead User Theory provides the external source of trend intelligence for inbound innovation (SRQ 1) (von Hippel, 1986), and Value Co-creation is the active method used to validate and execute these insights with both customers and suppliers (SRQ 2).

Together, these theories suggest that Change Lingerie’s timing and technical risks can be mitigated by transitioning from a ‘Closed’ model of historical validation to an ‘Open’ model of predictive collaboration (Chesbrough, 2006; Dahlander and Gann, 2010; Taran, Boer and Nielsen, 2022).

4.5 Research Design Model

In response to the strategic challenges identified at Change Lingerie, the following research model (Figure 4.1) illustrates the integration of the three core theories. This model serves as the analytical map for the report, demonstrating how market uncertainty is reduced through a structured process of identification, co-creation, and validation.

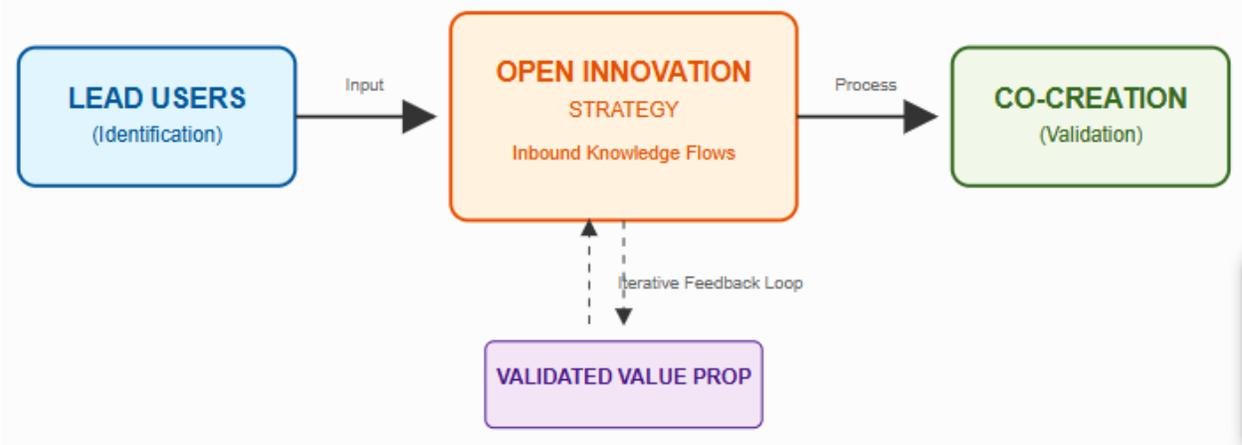


Figure 4.1: Integrated Innovation Research Model

Note: The figure above represents the iterative flow of the research model. Lead User signals (Identification) enter the Open Innovation framework, triggering Co-creation (Process). Crucially, the arrow between Co-creation and the Validated Value Proposition is bidirectional, indicating that validation is not a one-time event but a continuous loop of testing and refinement. If a concept fails validation, it loops back to the Co-creation phase for adjustment.

Chapter 5

Data Analysis and Findings

This chapter presents a comprehensive analytical exposition of the findings derived from the participatory research period at Change Lingerie (Slack et al., 2013). This section moves beyond a summary of data to provide a detailed account of the analytical journey. It explicitly details the process through which raw empirical evidence was gathered, coded, and synthesized into core themes. By applying the frameworks of Open Innovation, Lead User Theory, and Co-creation, this chapter explores the systemic barriers and opportunities within the firm's product creation lifecycle (Chesbrough, 2003; von Hippel, 1986; Prahalad and Ramaswamy, 2004).

5.1 The Analytical Journey: From Participatory Observation to Thematic Synthesis

The findings in this report are the result of Participatory Action Research (PAR), where the researcher was embedded as an active contributor within the technical and design teams (Slack et al., 2013). This methodology allowed for the collection of 'tacit knowledge', insights shared during informal fit sessions and technical reviews that are often obscured in traditional interviews.

The analytical process followed a three-stage structured thematic approach. First, data from semi-structured interviews with the Senior Design Lead (Sara) and the Technical Product Development Manager (Louise) was cross-referenced with field notes from the AW26 Design Review and SS27 Proto Review.

Second, specific organizational behaviors were coded, such as 'Historical Data Dominance', 'historical commercial performance (lagging indicators) over predictive market signals (leading indicators)', and 'sourcing as a transactional execution'. These codes were aggregated into a dominant theme: 'Historical Data Dominance'. This refers to the organizational culture that prioritizes lagging commercial performance over predictive market signals (Chesbrough, 2003). Next, these themes were mapped against

the theoretical framework to identify where the ‘Open Innovation’ flow was being blocked. This analytical process directly tests the relationships proposed in Figure 4.1, examining whether the ‘Input’ from Lead Users successfully reaches the ‘Co-creation’ phase.

Finally, these themes were tested against the Research Questions. For SRQ 1, the analysis utilized Lead User Theory to explain the ‘signal-to-noise’ problem in market validation (von Hippel, 1986). For SRQ 2, the analysis applied Co-creation and Open Innovation logic to the supply chain diversification strategy (Prahalad and Ramaswamy, 2004; Dahlander and Gann, 2010). The following sections provide a full analytical exposition of these findings.

5.2 Analysis of SRQ 1: Market Validation and the Lead User Signal Barrier

SRQ 1: How can the combination of Lead User feedback, internal sales data, and trend analysis be leveraged to reduce uncertainty and validate style/color requirements for subsequent seasons?

The analysis of SRQ 1 reveals a fundamental conflict between Change Lingerie’s strategic desire to be trend-relevant and its internal validation process, which is optimized for risk mitigation based on past success. A primary finding from the interview with the Senior Design Lead is that the primary input for the design process is ‘Mainly Sales data’ from the Planning and Category Management teams. This data, which focuses on historical colors, fits, and silhouettes, represents a ‘Closed’ approach to the Value Proposition (Chesbrough, 2006). By the time this data reaches the design team, it is already a lagging indicator, describing what *was* successful rather than predicting what *will be* successful. This reliance on historical performance creates a ‘Validation Barrier’ that silences Inbound Innovation (Dahlander and Gann, 2010). Sara explicitly confirmed that the decision to drop a design is primarily driven by historical performance rather than creative intuition alone. She stated: “Never design team. It is based on sales data”. While technical feasibility, such as a specific lace failing to meet

fit expectations, can stop a project, the primary strategic filter remains the sales spreadsheet.

From the perspective of Inbound Open Innovation, the firm is failing to capture Non-Pecuniary knowledge flows; the free, predictive information available from trend-setters, because the internal system is not designed to value data that lacks a financial transaction history. This explains the ‘Leopard Print Lag’, a specific incident highlighted by the CEO where the brand was 1-2 years late to the leopard print trend because it waited for mass-market sales proof before committing. Referring back to Figure 4.1, this finding indicates a breakdown in the ‘Input’ stage. The Lead User signals are present, but the organization’s filter prevents them from entering the innovation process.

Furthermore, the analysis indicates a systemic misidentification of Lead Users (Lilien et al., 2002). As defined by von Hippel, Lead Users provide an early warning system for the market. When asked about listening to ‘trend-setter’ stores, the design lead explained the standard validation process: “Prioritize highly performing stores and compare with numbers. For example, although store Manager says something, if it doesn’t show in numbers, no point of considering it.” This finding illustrates a structural barrier to applying Lead User Theory. A ‘highly performing store’ represents the Mass Market, whereas a true Lead User store might be a smaller, niche location whose needs are outliers that do not yet appear in the high-volume numbers of the mass market (Lüthje and Herstatt, 2004).

The case of the ‘White EB’ bra serves as empirical proof of this barrier. In the Swedish market, store managers persistently requested a white version of the ‘European Beige’ bra model based on local demand. However, because this specific SKU did not exist in the historical ‘Cash Cow’ sales data, the request was deemed non-commercial and neutralized. This demonstrates that specific, high-value needs signaled by Lead Users are being discarded because they cannot be validated by aggregate sales figures. The organization is currently confusing ‘High Volume Users’ (the mass market) with ‘Lead Users’ (the trend-setters), thereby silencing the very predictive data needed to reduce market uncertainty (von Hippel, 1986).

5.3 Technical Agility and the ‘Digital Deficit’

A critical component of the validation process is the company’s technical infrastructure. The Technical Product Development Manager, Louise, identified a deeper operational bottleneck: the ‘Digital Deficit’. The organization does not yet fully utilize digital tools like CLO3D for pre-sample validation, meaning every trend hypothesis must be tested through an expensive and slow physical sampling round. This lack of agility reinforces the reliance on historical data because the cost of testing a new idea is too high.

However, the findings also show proactive organizational responsiveness. Louise has championed the implementation of CLO3D and the integration of Lectra pattern-making software. By allowing the HQ team to make direct pattern amendments rather than just passing comments to China, the firm is attempting to reduce the ‘Communication Chasm’ (Choi and Guo, 2008). This shift is essential for enabling the rapid, low-cost hypothesis testing required to validate Lead User insights before mass investment. This aligns with the ‘Process’ phase in Figure 4.1, enabling faster iterations for validation (von Hippel, 2005).

5.4 Analysis of SRQ 2: Sourcing Strategy and Technical Co-creation

SRQ 2: How does the pursuit of Open Innovation through the strategic diversification of outsourced manufacturing influence Change Lingerie’s ability to broaden its scope of products and mitigate geopolitical risk?

The analysis of SRQ 2 explores whether the move to Sri Lanka and India is a strategic move toward Open Innovation. The findings suggest a strong strategic intent to transition from ‘Transactional Sourcing’ to ‘Co-creative Partnerships’ (Prahalad and Ramaswamy, 2004). Sara highlighted the “Muse Range which is a collection developed with *Asdet* factory with their bonding capabilities, as a successful case study where the company moved production specifically to use their techniques.” This range leveraged the supplier’s unique technical capabilities to create a product scope that did not previously exist within the company’s portfolio, confirming a precedent for Outside-In Open Innovation (Chesbrough, 2006). This validates the strategic potential of the India and Sri Lanka move, particularly when engaging with innovation-heavy partners like

MAS Holdings, who serve as primary innovation vendors for global leaders like Victoria's Secret.

However, the daily operational reality reveals a 'Co-creation Barrier.' While the design team seeks new fabric ideas from suppliers, Sara noted that they frequently fall back into a transactional model: "ask them to source material based on what they found (Copy fabric)." This process is further obscured by the mediation of merchandisers in China, which prevents the direct, high-quality dialogue required for true co-creation.

The failure of the 'Rosie Swim' range provides a diagnostic negative case study. This collection utilized a novel 2-layer fabric (polyamide with elastane) that failed in Southern European markets due to layer separation when exposed to high UV and Chlorine levels. From the perspective of Co-creation Theory and the iterative loop in Figure 4.1, the 'Rosie Swim' failure demonstrates a broken feedback loop (Prahalad and Ramaswamy, 2004). The development remained 'Closed,' and the supplier was treated as an executor rather than a partner. True co-creation would have involved the supplier's engineers earlier in the process, allowing them to flag the technical risk of fabric separation before mass commitment. It proves that Inbound Open Innovation requires not just sharing design ideas, but rigorous technical knowledge transfer and the inclusion of the supplier's technical expertise in the validation gate. This case demonstrates that the strategic move to Sri Lanka and/or India will only succeed if the relationship shifts from 'Pecuniary Sourcing' (buying capacity) to 'Technical Co-creation' (collaborative engineering) (Dahlander and Gann, 2010).

5.5 Synthesis: Bridging the Gap

The synthesis of these findings suggests that Change Lingerie is currently caught in an 'Innovation Trap'. Strategically, the firm recognizes the necessity of Inbound Open Innovation and Collaborative Co-creation (Chesbrough, 2003; Taran, Boer and Nielsen, 2022). However, the operational reality is governed by 'Historical Data Dominance'. Addressing the research questions, the findings suggest that validating product-market fit (SRQ 1) requires a transition from historical validation to predictive validation using

Lead User signals. For SRQ 2, the organization must shift from pecuniary sourcing to technical co-creation (Prahalad and Ramaswamy, 2004). The ongoing digital transformation via CLO3D and Lectra serves as the essential bridge, providing the speed and accuracy necessary to connect external market signals to physical products.

The analysis concludes that validating product-market fit (SRQ 1) requires a transition from 'Pecuniary Sourcing' (buying manufacturing capacity) to 'Non-Pecuniary Co-creation' (integrating supplier and customer knowledge). The move to Sri Lanka and India provides a critical opportunity for this shift in the Value Network, provided that the relationship is managed as a technical partnership rather than a transactional one. Ultimately, Change Lingerie must reconcile the tension between the Category Manager's need for commercial certainty and the Designer's need for trend accuracy by building a 'Predictive Validation Gate' that values Lead User outliers and utilizes digital tools to reduce the cost of uncertainty (Chesbrough, 2006). Without this architectural shift, the company will remain a 'Fast Follower,' perpetually catching trends only after they have been validated by competitors' sales figures (Chesbrough, 2006).

Chapter 6

Discussion

This chapter interprets the analytical findings presented in Chapter 5, moving beyond the empirical evidence to discuss their broader implications for Change Lingerie and the theoretical fields of Open Innovation and Lead User theory (Chesbrough, 2003; von Hippel, 1986). The discussion critically reflects on the patterns of ‘Historical Data Dominance’ and ‘Transactional Sourcing’, explaining what these results mean in relation to the main research question (Taran, Boer and Nielsen, 2022).

6.1 Synthesizing the Innovation Model

The analysis of SRQ 1 revealed a paradox: the organization desires trend leadership but enforces a validation system that guarantees ‘fast-follower’ status (Chesbrough, 2003). This finding confirms the theoretical tension in Open Innovation literature between exploration (seeking new trends) and exploitation (optimizing current assets) (Chesbrough, 2006).

6.1.1 The Theoretical Implication of Historical Data Dominance

The dominance of historical sales data is not merely a procedural issue; it is a cultural artifact of risk aversion (Taran, Boer and Nielsen, 2022).. In theoretical terms, the organization is trapped in a ‘Realization’ loop (Taran et al., 2022), where the focus is entirely on executing known value propositions. The rejection of Lead User signals (like the ‘White EB’ request) interprets qualitative data as ‘noise’ rather than ‘signal’ (von Hippel, 1986). This challenges the standard application of Lead User Theory, which assumes firms will naturally value superior functional solutions. This case suggests that without a specific ‘Translation Mechanism’ (like a digital prototype), Lead User insights are incompatible with the language of a commercially driven organization. The implication is that ‘Lead User’ identity is insufficient on its own; the *format* of their feedback must be converted from qualitative requests into quantitative predictions to be actionable.

6.1.2 Reconfiguring the Validation Process with Lead Users

To resolve the ‘Historical Data Dominance,’ the discussion proposes a fundamental reconfiguration of how market signals are validated. The ‘Lead User’ must be formalized not just as a source of ideas, but as a partner in the validation gate itself (von Hippel, 1986). Establishing a ‘Lead User Council’ creates a structured channel for Non-Pecuniary Inbound Signals, predictive insights that do not yet have sales data attached.

This mechanism allows the firm to ‘identify’ trends during the early phases of the design cycle, effectively decoupling the validation of novelty items from the validation of core replenishment items. This interpretation extends the theory by suggesting that Lead Users play a dual role: initiating the trend (Identification) and, potentially, validating it through early commitment (Lilien et al., 2002). By creating a ‘fast track’ for these signals, the organization bypasses the need for mass-market proof, allowing it to act on predictive intelligence rather than reactive history.

6.2 The Digital Deficit as a Strategic Blockade

The findings regarding the lack of CLO3D and Lectra adoption (the ‘Digital Deficit’) have profound implications for the firm’s ability to practice Open Innovation.

6.2.1 From Efficiency to Agility

Traditionally, digital tools in fashion are viewed as efficiency drivers (cost reduction). However, this research interprets them as Strategic Enablers of Open Innovation (Choi and Guo, 2008). Without the ability to rapidly prototype, the cost of testing an external hypothesis is too high. The reliance on physical sampling forces the firm to be ‘certain’ before it acts, which reinforces the reliance on historical data. By operationalizing Digital Seizing, the firm lowers the cost of failure. This allows for a ‘Trial-and-Error’ approach to innovation that aligns with the agility required in a volatile global market. The implication is that digital transformation is not a support function but a prerequisite for shifting from a Closed to an Open business model (Chesbrough, 2006).

6.3 Interpreting the Co-creation Gap: Risk vs. Partnership

The analysis of SRQ 2 and the *Rosie Swim* failure highlights the risks of a ‘Hybrid’ sourcing model that is neither fully transactional nor fully co-creative (Prahalad and Ramaswamy, 2004).

6.3.1 The Limits of Pecuniary Sourcing

The failure of the *Rosie Swim* fabric demonstrates the limitations of Pecuniary Sourcing (buying capacity) (Dahlander and Gann, 2010). When the firm treats a supplier purely as an executor, it cuts off the flow of ‘Inside-Out’ technical knowledge that could prevent failure. The theoretical implication is that Co-creation is not just a value-add for new products (like the Muse range); it is a risk-mitigation strategy for complex environments (Ramaswamy and Ozcan, 2014).

6.3.2 Reconfiguring the Value Network

The discussion suggests that the move to Sri Lanka and India offers a unique opportunity to reset this dynamic. By establishing a Technical Co-creation framework, the firm can move from ‘Instruction’ to ‘Dialogue’. This requires a shift in the role of the HQ technical team from ‘Gatekeepers’ to ‘Knowledge Brokers’ who facilitate direct interaction with supplier engineers. This redefines the Value Network from a linear supply chain to a collaborative ecosystem, essential for broadening product scope without incurring technical debt (Ramaswamy and Ozcan, 2014; Taran, Boer and Nielsen, 2022).

6.4 Strategic Synthesis: Responsiveness as a Survival Trait

Ultimately, the findings challenge the notion that ‘strongest’ means ‘biggest’. In the context of the Darwinian observation referenced in the introduction, survival belongs to the most responsive (Darwin, 1859). The interpretation of the findings confirms that Change Lingerie’s current ‘Closed’ model creates a latency that threatens its competitive position (Chesbrough, 2003). The strategic implication is that the firm must build a Collaborative Innovation Model that treats external signals (Lead Users) and external capabilities (Suppliers) as core assets. This requires a cultural shift where ‘Predictive Validity’ (what might work) is valued as highly as ‘Historical Validity’ (what

worked before), enabled by the digital tools that make this prediction testable and scalable (Taran, Boer and Nielsen, 2022).

Chapter 7

Recommendations and Conclusion

7.1 Strategic Recommendations for Organizational Renewal

To effectively transition Change Lingerie from reactive, which optimizes past successes, to a proactive model capable of anticipating future market shifts, the following strategic recommendations are proposed (Chesbrough, 2003). These recommendations are structured as a comprehensive implementation roadmap designed to reconfigure the firm's innovation drivers. They translate the theoretical findings of this participatory research into actionable steps for the daily operational workflow, directly addressing the identified barriers of 'Historical Data Dominance' and the 'Digital Deficit'.

7.1.1 Implementation of the Lead User Validation Protocol

The first and most critical recommendation is the formalization of a mechanism to capture predictive market signals (von Hippel, 1986; Lilien et al., 2002). The organization should establish a 'Trend-Setter Council' consisting of 10-15 store managers selected from key fashion-forward hubs such as Sweden and Poland. This council will serve as the primary external identification mechanism for the design department, providing a direct conduit for Lead User insights that are currently lost in aggregate reporting.

To facilitate this, the firm should create a dedicated 'Innovation Channel' within its internal communication platform. This digital space would allow council members to upload photos, customer requests, competitor observations, and local trend data in real-time. This ensures that Non-Pecuniary knowledge flows, valuable qualitative insights, are captured before they are drowned out by the noise of daily operations

(Dahlander and Gann, 2010). Operationally, these signals must be reviewed bi-weekly by the Design Lead and Category Manager in a combined session. Crucially, a request from this council should be assigned a specific ‘Innovation Weight’. This weighting would allow a high-potential concept to proceed directly to the digital prototyping phase even if it currently lacks historical sales volume. This structural change effectively bypasses the barrier of Historical Data Dominance by treating qualitative outliers as legitimate predictive intelligence (von Hippel, 2005).

7.1.2 Full Operationalization of Digital Prototyping

To support the rapid validation of Lead User signals, the Technical and Design teams must be empowered to lead the transition to a ‘Digital-First’ development cycle. This shift is essential for reducing the firm’s reliance on slow, expensive, and environmentally impactful physical sampling. The immediate actionable step is to prioritize the completion of scheduled advanced training for CLO3D and Lectra software. These tools must be integrated directly with the existing PLM (Product Lifecycle Management) system to ensure a seamless data flow from the initial design concept to the final technical specification.

Furthermore, the organization should implement a ‘Digital-Only’ Proto Review gate for all novelty items and trend-sensitive collections. Instead of waiting weeks for physical samples to arrive from China, the Design team should utilize CLO3D digital twins to validate aesthetic appeal, style, and fit in a matter of days. These digital assets can then be leveraged for early B2C (Business-to-Consumer) testing, such as social media polls or ‘Coming Soon’ pre-order mechanisms on the e-commerce platform. This process generates ‘Predictive Sales Numbers’; real-time demand data that can satisfy the commercial requirements of the Planning team. This allows for data-validated commitment without the pecuniary risk associated with purchasing physical inventory based on guesswork.

7.1.3 Transition to Technical Co-creation in the Value Network

The strategic diversification of the supply chain into Sri Lanka and India should be treated as a partnership opportunity to acquire new technical competencies, rather than merely a cost-reduction exercise. The firm should initiate formal technical

workshops with regional partners like MAS Holdings to map their unique R&D capabilities, such as advanced knitting technologies, sustainable material processing, emerging technologies or seamless construction methods. This engagement transforms the sourcing workflow from ‘Transactional Tech Packs’ to ‘Capability Briefs’.

When developing novel ranges for new markets, such as the *Lilly* range for the newly acquired Palmers brand, the Technical team should provide the supplier with performance criteria and use-case contexts (for ex: specific durability requirements for high-UV environments for swimwear) alongside the design vision. This empowers the supplier to use their Inside-Out technical knowledge to flag potential risks, as seen in the *Rosie Swim* failure, and propose material innovations that broaden the product scope (Dahlander and Gann, 2010). By fostering this collaborative environment, Change Lingerie can ensure its supply chain becomes a source of innovation that enhances the overall technical excellence of the brand, rather than a passive executor of instructions.

7.1.4 Change Management: Addressing the Cultural Barrier

Finally, the transition to an Open Innovation model requires a significant shift in organizational culture, particularly among the Business Team (CEO and Planning) who currently act as the gatekeepers of commercial risk. It is recommended that Change Lingerie adopts a Dual-Process validation model. While core ‘Cash Cow’ products should remain governed by historical sales data to ensure commercial stability, a dedicated ‘Innovation Budget’ and a separate ‘Innovation Gate’ should be established for novelty and trend-led ranges.

This innovation process should be governed by Learning Metrics, such as the speed of trend adoption, digital validation accuracy, and lead-user feedback scores, rather than just immediate sales volume (Taran, Boer and Nielsen, 2022).. Establishing these distinct metrics provides the Design and Technical teams with the psychological and financial safety required to take the creative risks necessary for true trend leadership. This cultural shift is the final requirement for moving the organization into a Renewal Model that can thrive in a volatile, Darwinian global market.

7.2 Answer to the Main Research Question

The main research question of this study investigated: ‘How does Change Lingerie strategically integrate market intelligence, predictive capabilities, and supply chain diversification to optimize the design and introduction of future seasonal product assortments?’

The research concludes that the strategic integration of these elements requires a fundamental shift from a Closed/Reactive business model to an Open/Predictive business model (Taran, Boer and Nielsen, 2022). Specifically, the answer lies in a tripartite reconfiguration of the value creation process:

1. Market Intelligence (Identification): Must be integrated by actively filtering for Lead User signals (predictive outliers) rather than aggregate mass-market data (historical averages) (von Hippel, 1986). This effectively moves the organization from listening to ‘noise’ to detecting the ‘signal’ of future trends.
2. Predictive Capabilities (Validation): Must be enabled by the operationalization of digital prototyping (CLO3D). This allows the firm to validate identified signals instantly and test them without pecuniary risk, creating a validated data bridge between creative intuition and commercial requirements (Choi and Guo, 2008).
3. Supply Chain Diversification (Co-creation): Must be leveraged through Technical Co-creation. New partners in Sri Lanka and India should be engaged not as transactional capacity, but as innovation partners who co-engineer solutions to broaden product scope and mitigate technical failure (Prahalad and Ramaswamy, 2004).

7.3 Conclusion

The research findings conclude that while Change Lingerie possesses exceptionally strong operational capabilities, its innovation speed is structurally hampered by a reliance on lagging sales data, a phenomenon identified in this report as Historical Data Dominance. This dominance creates a critical latency in the product creation cycle, forcing the organization into a ‘Fast Follower’ position where trend adoption only occurs

after mass-market validation is visible in competitor data (Chesbrough, 2006). By applying the theories of Open Innovation, Lead User Theory, and Co-creation, this report demonstrates that the solution lies not in working faster, but in working differently: shifting from a 'Closed' model of historical validation to an 'Open' model of predictive collaboration (Chesbrough, 2003; von Hippel, 1986; Prahalad and Ramaswamy, 2004).

The integration of Lead User signals allows the firm to sense the future market environment before it fully manifests, providing the early intelligence necessary for trend leadership. However, sensing alone is insufficient without the capability to act. The full operationalization of digital tools like CLO3D provides the necessary capability, allowing the firm to test these hypotheses rapidly and affordably. Furthermore, the strategic diversification of the supply chain transforms the value network from a cost center into an innovation engine, where technical co-creation mitigates the risks inherent in new product development.

This study challenges the traditional notion that risk aversion leads to safety in the fashion industry; instead, it argues that in a volatile global market, the greatest risk lies in the inability to validate the future. As tariffs reshape trade and consumer preferences evolve at digital speed, static efficiency is no longer a guarantee of survival. Ultimately, as global market volatility increases and agility becomes the defining characteristic of fashion winners, Change Lingerie's ability to remain 'responsive to change' will depend on its capacity to value predictive outliers as much as historical averages (Darwin, 1859; Taran, Boer and Nielsen, 2022). By formalizing the Lead User signal and deepening technical co-creation with global partners, the organization can reconcile the tension between early resource commitment and market uncertainty. This ensures that its product assortments are not only technically superior but also perfectly timed for the evolving global marketplace, securing the brand's position as a dynamic leader rather than a static follower.

Chapter 8

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