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Triple-Layered Business Model Canvas Environment Based in the Fashion Industry

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Abstract

This qualitative study aims to investigate the Triple Layered Business Model Canvas (TLBMC) strategy to drive environmental progress within the Indonesian fashion industry. Employing the descriptive phenomenological method, the research focuses on applying the TLBMC model to enhance the environmental sustainability of Micro, Small, and Medium Enterprises (MSMEs) in Yan An. The Yan An case study serves as a practical illustration, demonstrating the successful implementation of the TLBMC model and offering valuable insights into sustainable solutions for challenges faced by the Indonesian fashion industry. In contributing to the existing literature, this study introduces and applies the TLBMC strategy as an innovative approach to address environmental and competitiveness challenges within the Indonesian fashion industry. The research emphasizes the urgent need for a cost-effective and environmentally friendly business strategy, considering the industry's substantial contribution to environmental issues, accounting for 20% of global wastewater production. The changing consumer perceptions, where fashion is seen as a symbol of social status, have fueled rapid industry growth and intensified challenges for local fashion products, especially those from small and medium-sized enterprises (SMEs). The study underscores the critical importance of embracing sustainable business practices in the dynamic landscape of the Indonesian fashion industry.

Keywords: Triple Layered Business Model Canvas; Fashion Industry; Rapid Fashion; Environmental Impacts; MSMEs.

1. Introduction

The development of fashion businesses in Indonesia is riddled with challenges, encompassing heightened competition, financing intricacies, product-related uncertainties, limited networking opportunities, and a notable lack of entrepreneurial insight. A crucial contributing factor to these challenges is the pervasive absence of short-term and long-term planning among Micro, Small, and Medium Enterprises (MSME) business actors. Many entrepreneurs in the MSME sector venture into fashion entrepreneurship without meticulous preparation, often concentrating solely on the products they aim to sell [1]. This lack of strategic planning poses a formidable obstacle to the country's sustainable development of fashion businesses.

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Entrepreneurs in the MSME sector, particularly those new to the business landscape, frequently grapple with failures in their ventures. The root cause of these failures can be traced back to the absence of initial planning and comprehensive preparation [1]. Individuals venturing into entrepreneurship often commence by selling or trading as a means of livelihood or as a last resort in the face of a lack of permanent employment. However, the absence of a well-thought-out plan and calculated decisions at the onset can lead to a series of choices without a clear foundation.

In establishing a new business, irrespective of its scale, formulating a comprehensive business plan emerges as the most crucial element. Previous studies underline the significance of planning in guiding business actors beyond mere imagination [2–4]. A well-constructed plan provides a structured framework for entrepreneurs to document and articulate their thoughts. Even a simple plan proves instrumental in assisting business actors in defining their target consumers, determining the optimal business location, estimating costs, and predicting potential profits.

Moreover, robust planning is a roadmap for navigating challenges and uncertainties in the highly competitive fashion industry [5, 6]. Research indicates that businesses with effective planning mechanisms are better equipped to adapt to changing market conditions and exhibit higher resilience in facing challenges [2]. The fashion business sector in Indonesia is intricately linked to the ability of MSME actors to engage in effective planning, and the absence of comprehensive planning contributes to challenges such as competition, financial constraints, and limited product development.

Despite the initiatives and support for MSMEs by the Indonesian government, persistent obstacles exist, especially in sectors like textiles and apparel. The government intervenes by aiding MSME players, particularly in the textile and apparel industry, through tax relief, streamlined licensing processes, and assistance with business loans [1]. Noteworthy initiatives, like the Modest Fashion Project (MOFP) and programs highlighted by the Director General of Small and Medium Industries and Multifarious Industries (IKMA) at the Ministry of Industry, Gati Wibawaningsih, aim to foster the growth of the fashion industry, including training and guidance for MSME actors in Muslim fashion.

The fundamental issue among business actors is inadequate business planning [7–9]. Many actors cannot articulate their business plans and use big data analytics effectively. For any business to thrive, well-defined strategies, systems, and management must facilitate effective work and realize goals [10]. One widely acknowledged and frequently employed business model to address these challenges is the Business Model Canvas (BMC) [10, 11].

Furthermore, a well-crafted business plan is a navigational tool in the labyrinth of challenges and uncertainties within the fiercely competitive fashion industry. It empowers entrepreneurs to proactively identify potential obstacles and formulate effective strategies to surmount them. This strategic planning approach significantly enhances business development insight and foresight. Numerous studies underscore the pivotal role of robust planning mechanisms for businesses, revealing that those with well-defined planning strategies are better poised to adapt to evolving market conditions and demonstrate heightened resilience to various challenges [2]. The crucial link between strategic planning and business success underscores the need for entrepreneurs to align their business goals with a clearly defined and robust strategy [3, 4].

In the context of the fashion business sector in Indonesia, the efficacy of Micro, Small, and Medium Enterprises (MSME) actors is intricately tied to their proficiency in effective planning. The lack of comprehensive planning exacerbates challenges such as heightened competition, financial constraints, and constrained product development. Entrepreneurs in this sector must acknowledge the indispensable role that planning plays in mitigating risks, identifying lucrative opportunities, and nurturing sustainable growth within the dynamic landscape of the fashion industry. Through a strategic emphasis on planning, MSME actors can fortify their resilience, make well-informed decisions, and significantly contribute to the enduring success of their fashion enterprises. This assertion aligns with the findings of various studies, highlighting the direct correlation between strategic planning and business prosperity in the fashion industry.

Figure 1 shows that three major factors are obstacles for MSME actors, where these factors can be overcome if MSME actors carry out business planning in advance. For example, if there is a lack of demand for goods, we cannot immediately post our products on the marketplace or social media. We need to market our products and have the right marketing strategy based on market research results to market them to the right people. This is also related to the constraint of a lack of capital. If we have short-term or long-term planning, we can know that our capital is suitable for the right marketing strategy.

Typically, Micro, Small, and Medium Enterprises (MSMEs) often neglect the crucial aspect of business planning, primarily due to a lack of awareness among the participants. Many MSME owners, typically possessing a high school diploma or equivalent, are not exposed to the significance of business planning during their education. Yet, Indonesia reaffirms the value of education in nurturing valuable citizens [12]. Unlike colleges in Indonesia that offer entrepreneurship or business courses, only a few vocational institutions provide such programs. Purposeful education is often emphasized in many government education sector initiatives [13].

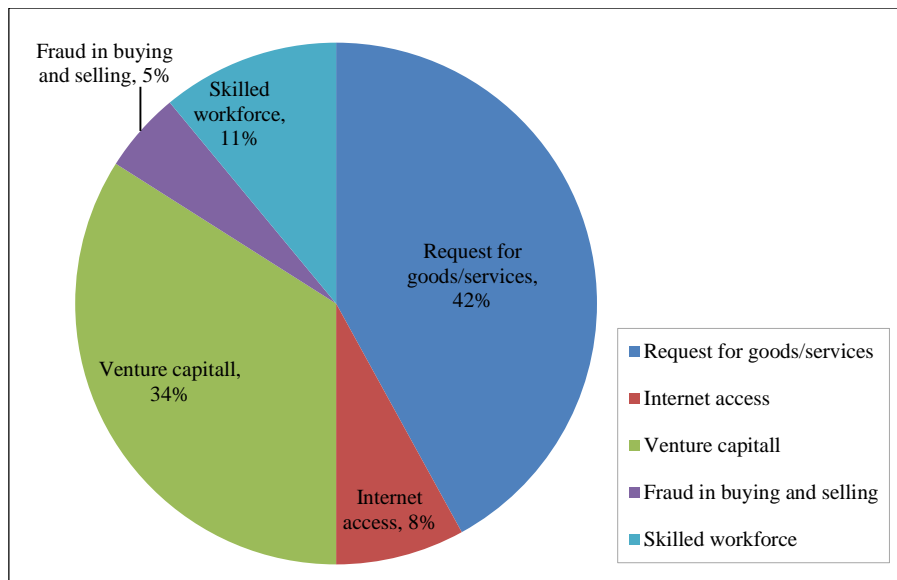


Figure 1. E-Commerce Business Obstacles

Despite some government initiatives and support for MSMEs, there is a recognition that obstacles persist in sectors like textiles and apparel. The government intervenes by aiding MSME players, particularly in the textile and apparel industry, through tax relief, streamlined licensing processes, and assistance with business loans. A noteworthy initiative is the Modest Fashion Project (MOFP), which aims to position Indonesia as a global fashion center by 2020. Additionally, the Director General of Small and Medium Industries and Multifarious Industries (IKMA) at the Ministry of Industry, Gati Wibawaningsih, highlighted ongoing programs to foster the fashion industry's growth. These programs involve training and guidance, particularly in capacity building for MSME actors in a Muslim fashion [14].

Among the various challenges business actors face, the fundamental issue lies in inadequate business planning. A majority of these actors lack the comprehension and skills to articulate their business plans and make good use of big data analytics [7]. For any business to thrive, it necessitates well-defined strategies, systems, and management that facilitate effective work and achieving goals [10]. One widely acknowledged and frequently employed business model is the Business Model Canvas (BMC). This method offers a straightforward analysis of a company's current state, encompassing consumer segments, value propositions, channels for value delivery, customer relationships, revenue streams, critical assets, collaboration partners, and cost structures [10, 11].

MSMEs must adopt effective strategies and management practices to address the inherent challenges of poor business planning. The BMC emerges as a valuable tool in this context, offering a comprehensive analysis of various facets crucial to a business's success. The method is characterized by its simplicity and ability to provide a holistic view of a company's operations. It features key components such as consumer segments, outlining the specific groups of customers a business aims to serve. Value propositions are identified, detailing a company's unique customer value. Channels for delivering this value, whether through direct sales, partnerships, or other means, are strategically outlined.

The triple-layered business model canvas is an improved version of the traditional one, considering environmental and social factors. This model provides a comprehensive framework for sustainable business model development by adding two additional layers, one focusing on environmental aspects from a lifecycle perspective and the other addressing social factors from stakeholder perspectives [15, 16]. This broader approach allows organizations to examine how they create value economically, environmentally, and socially [17].

TLBMC, which aims to support organizational creativity in sustainable change while still having a competitive level to overcome the challenges we face today, is a bridging business model innovation [18] and a sustainable business model development [19].

The existing literature identifies a research gap in the comprehensive examination and practical analysis of business models, particularly within Micro, Small, and Medium Enterprises (MSMEs) in the Indonesian fashion industry. While acknowledging the importance of business planning and the utilization of models like the Business Model Canvas (BMC) and the triple-layered business model canvas, there is a lack of practical insights into how MSMEs in the Indonesian fashion sector can successfully adopt and execute these models. This lack of clarity on the tangible implementation of business models to address unique challenges entrepreneurs face underscores a critical knowledge gap. Consequently, this study aims to enhance insights into the hands-on application of the BMC and triple-layered business model canvas, specifically focusing on MSMEs in the Indonesian fashion industry.

The novelty of this research lies in its distinct focus on bridging the gap in the existing literature by providing practical insights into the adoption and implementation of business models, specifically the BMC and triple-layered business model canvas, within MSMEs in the Indonesian fashion industry. While prior studies acknowledge the importance of business planning and the theoretical aspects of these models, this research contributes a unique dimension by offering a detailed exploration of how MSMEs in the Indonesian fashion sector can effectively utilize and integrate these models into their operational strategies.

Addressing the concrete application of business models in the context of MSMEs, the study aims to provide tangible guidance for entrepreneurs facing challenges such as heightened competition, financial constraints, and limited product development. The novelty of the research also extends to investigating how these models can navigate uncertainties and foster resilience within the dynamic and competitive landscape of the Indonesian fashion industry. This practical orientation distinguishes the study, positioning it as a valuable resource for MSMEs seeking actionable strategies for sustainable growth.

In summary, the unique contribution of this research lies in its hands-on examination of business model implementation, filling a gap in the literature and providing practical insights that can significantly benefit MSMEs in the Indonesian fashion sector.

2. Methods

This study employs a qualitative approach to analyze social phenomena comprehensively [20] within the context of sustainable business models in the women's fashion industry. The qualitative method allows for an in-depth exploration of events, activities, processes, and programs related to Micro, Small, and Medium Enterprises (MSMEs), specifically focusing on Yan An, a participant in the women's fashion sector. Figure 2 shows the flowchart of the research methodology.

2.1. Case Selection Criteria

The selection of Yan An as a case study is based on its significance in the women's fashion industry, considering factors such as market representation, sustainability initiatives, and collaboration with residents for waste processing from convection production.

2.2. Data Collection

The primary data collection method involves in-depth interviews with key stakeholders, including Yan An representatives and collaborators. The selection of interviewees follows a purposive sampling approach, ensuring participants possess valuable insights into the sustainability practices and challenges Yan An faces. The interviews will be semi-structured, allowing flexibility for probing into specific areas of interest.

Additionally, documentary analysis will complement the interviews. Relevant documents, such as official reports, financial statements, and sustainability policies, will be analyzed to comprehensively understand Yan An's business model and environmental and social impact.

2.3. Ethical Considerations

Ethical considerations include obtaining informed consent from all participants, ensuring confidentiality of sensitive business information, and presenting findings aggregated to prevent identifying specific individuals or business strategies.

2.4. Pilot Study

A pilot study was conducted with a small sample of participants to test the effectiveness of the interview questions and refine the data collection instruments. Feedback from the pilot study will be used to enhance the quality and relevance of the interview process.

2.5. Data Analysis

The thematic analysis identifies patterns and themes within the qualitative data. The analysis's rigor was ensured through systematic coding, triangulation of data sources, and using qualitative analysis software, such as NVivo.

2.6. Triple Layered Business Model Canvas (TLBMC)

The TLBMC will serve as the central analytical tool, applying a three-tiered framework—economic, environmental, and social dimensions. Drawing inspiration from Osterwalder & Pigneur [21] and Joyce & Paquin [17], this approach ensures a holistic examination of Yan An's business model, aligning with the growing trend of integrating eco-conscious initiatives into standard business practices.

2.7. Reporting and Documentation

Following the data analysis, the next step involves reporting and documenting the findings. This phase includes summarizing the key themes, patterns, and insights derived from the data. The documentation involves creating a detailed report outlining the research methodology, presenting the analyzed data, and interpreting the findings' implications.

2.8. Interpretation and Discussion

After the initial reporting, the researcher interprets and discusses the results. This step involves critically analyzing the data in the context of existing literature, theoretical frameworks, and research objectives. The interpretation aims to provide deeper insights into the implications of the findings, contributing to the existing knowledge in the field.

2.9. Conclusions and Recommendations

The study summarizes the key conclusions drawn from the data analysis and interpretation. Recommendations for future research or practical applications are also based on the identified patterns and challenges.

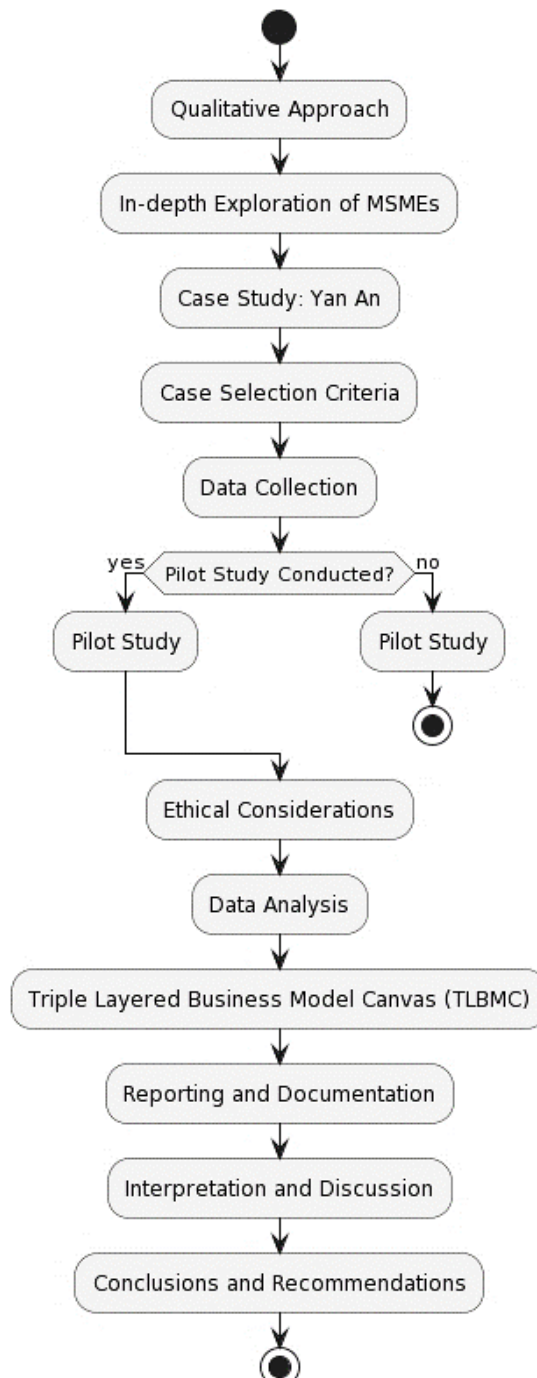


Figure 2. Flowchart of the research methodology

3. Results and Discussion

Yan An is a business unit of CV. Yan Sejahtera specializes in the convection business and has operated at the Micro, Small, and Medium Enterprises (MSMEs) scale since its establishment in mid-2019. Yan An employs a life cycle perspective to comprehensively evaluate its environmental impact, a methodology derived from life cycle assessments (LCAs) [22]. This approach calculates Yan An's goods or services' environmental impact throughout their life cycle.

The Triple Layered Business Model Canvas (TLBMC) developed for Yan An incorporates a novel environmental layer distinct from the traditional business model canvas. While the first layer of TLBMC aligns with the conventional canvas by focusing on revenue-cost dynamics within the organization, the environmental layer introduces a crucial dimension. This added layer facilitates a detailed assessment of how Yan An contributes to environmental benefits versus its environmental impacts.

By utilizing the TLBMC's environmental layer, users gain insights into the areas where Yan An's business model has the most significant environmental impact. This information is invaluable for prioritizing efforts and resources toward developing environmentally conscious innovations. Strategic allocation of resources based on this understanding enables Yan An to reduce environmental impacts and promote sustainable practices proactively.

The proposal generated from the environmental canvas layer of TLBMC serves as a guiding framework for Yan An's environmental initiatives. This framework is aligned with the principles outlined by Joyce and Paquin [17] and Arman et al. [10], allowing organizations to strategically address environmental concerns and foster a more sustainable approach to their operations.

3.1. Functional Value

The functional value of Yan An's products, as observed by researchers, revolves around the main purpose of offering women's clothing designed for extended use, typically lasting up to a year, depending on individual usage and proper care practices. Beyond providing functional apparel, Yan An integrates eco-fashion and sustainable fashion concepts into its product offerings. Sustainable fashion, recognized as a prominent trend in the industry, represents a movement towards environmentally friendly clothing and fashion products that prioritize respect for the communities involved in the production process [23].

Yan An's commitment to sustainable fashion is exemplified through its color block and patchwork designs, which are aligned with recycling principles. Notably, fabric waste generated during the production process is repurposed through a dedicated recycling initiative. By processing and incorporating these fabric remnants into their products, Yan An embraces a zero-waste approach, contributing to the broader waste reduction goal in the fashion industry.

Furthermore, Yan An has implemented innovative sewing techniques at the production stage that minimize fabric waste, aligning with zero-waste principles. This approach demonstrates their dedication to sustainable practices and underscores their commitment to minimizing environmental impact throughout the production cycle.

Beyond the product itself, Yan An extends its sustainability efforts to packaging. The company adopts a "reuse" concept by designing packaging materials that consumers can easily reuse. This thoughtful approach aligns with environmentally conscious practices and encourages consumers to actively participate in minimizing waste by reusing packaging materials.

Yan An's functional value extends beyond providing quality clothing; it embraces a holistic and sustainable approach that considers the entire product lifecycle, from design and production to packaging and consumption. This commitment aligns with contemporary trends in eco-conscious and socially responsible fashion, positioning Yan An as a notable contributor to a more sustainable future in the fashion industry.

3.2. Materials

In line with the environmental considerations emphasized by Joyce & Paquin [17], the materials component is a crucial extension of the environmental layer, expanding upon the primary resource component initially outlined in the business model canvas. Detailed observations of Yan An's manufacturing processes show that cloth is the primary and fundamental material, acting as the essential building block in creating Yan An products.

Yan An is committed to sustainable practices by incorporating various fabrics into its production, including new materials and waste fabrics from previous production cycles. Notably, the utilization of waste fabrics aligns with the practice commonly referred to as patchwork. Patchwork involves repurposing remaining pieces of textile production that are no longer deemed usable in their original form, transforming them into valuable components of new creations [24].

This strategic integration of patchwork demonstrates Yan An's commitment to minimizing waste and adds a distinctive and artistic dimension to its products. By reusing materials that might otherwise be discarded, Yan An contributes to reducing the environmental impact of textile waste and creates unique and visually appealing patterns in their clothing.

Incorporating patchwork into Yan An's material strategy embodies a sustainable ethos beyond using new materials. It reflects an awareness of the environmental footprint associated with textile production and a conscious effort to repurpose and breathe new life into existing materials. This approach resonates with contemporary trends in eco-conscious fashion and positions Yan An as a responsible and innovative contributor to the evolving landscape of sustainable apparel.

3.3. Production Techniques and Material Application

The production component, a pivotal element capturing an organization's endeavors to create value, undergoes a significant expansion, reaching beyond the primary components outlined in the original business model canvas to encompass the environment layer [17]. Through both observation and interviews with Yan An, it has been ascertained that the production processes adopted by Yan An involve the meticulous sewing of women's clothing utilizing the zero-waste technique. To enhance their products' aesthetic appeal and intrinsic value, Yan An incorporates sweeteners or accents through the artful application of patchwork during the later stages of production.

As employed by Yan An, the patchwork technique involves utilizing pieces of sheet cloth material, as highlighted by Harjani [25]. While applying this technique, a deliberate choice is made to maintain a consistent pattern. The pattern becomes visually apparent through the contrast of colors employed, contributing to a distinct and intentional appearance. The intention behind this approach is to imbue Yan An's products with a heightened sense of value, surpassing the mere utility of the items themselves.

The careful selection of color contrast during patchwork application serves a dual purpose. Firstly, it aims to create an illusion of intricate patterns within the patchwork design. This intentional color contrast contributes to a visually appealing and aesthetically pleasing final product. Conversely, if matching colors were used in the application, it could result in an impression of uniformity without discernible patterns, diminishing the overall impact of the patchwork technique.

Yan An's production techniques go beyond the functional aspects of creating clothing; they serve as a deliberate strategy to add value and uniqueness to each product. Fusing the zero-waste technique with the patchwork artistry reflects Yan An's commitment to sustainable practices. It elevates their products to a level where aesthetic appeal converges with environmental consciousness. This strategic approach aligns with contemporary trends in eco-conscious fashion and positions Yan An as a notable player in the evolving landscape of sustainable and visually captivating apparel.

3.4. Supplies and Outsourcing

The realm of supplies and outsourcing within Yan An's operational framework represents a crucial facet encompassing all production tasks and materials essential for functional value. As delineated by Joyce & Paquin [17], these functions, while integral to the overall production process, are not classified as the organization's "core" functions. The factors influencing this intricate process are organization-specific and are identified through insightful interviews, strategically aligning with elements that can potentially confer a competitive advantage in the future.

A consistent and fundamental requirement for Yan An's production is the need for patchwork supplies. Given that patchwork is one of the primary materials in their product line, securing a stable and quality patchwork supply is imperative for maintaining production efficiency and the unique aesthetic appeal of Yan An's offerings.

In outsourcing, Yan An has strategically collaborated with local convections led by residents, women, and communities specializing in crafting with waste cloth. This collaborative approach aligns with broader objectives, including supporting local economies, empowering women, and engaging with communities involved in waste cloth craftsmanship. The symbiotic relationship between Yan An and these external entities is designed to leverage mutual strengths, creating a value proposition that extends beyond the conventional production paradigm.

The decision to collaborate with convections built by residents and involve women or communities of waste cloth craftsmen is strategic and multifaceted. Firstly, it introduces patchwork—a unique and less commonly utilized material in the Indonesian fashion landscape—as a distinguishing feature in Yan An's products, potentially setting them apart from competitors. Concurrently, by engaging with convections built by residents, Yan An can manage production costs effectively, a crucial consideration in the competitive fashion industry.

Moreover, the involvement of women in family welfare programs adds a social dimension to Yan An's outsourcing strategy. This collaboration not only supports women's economic empowerment but also contributes to the production of high-quality products. This dual impact, where quality meets social responsibility, can attract a younger demographic, drawn to both the innovative designs resulting from patchwork and the socially conscious ethos embedded in Yan An's production practices.

Essentially, the strategic alignment of supplies and outsourcing in Yan An's operations underscores a nuanced approach beyond mere functional requirements. It reflects a holistic vision that integrates sustainability, social impact, and innovation into the fabric of its business model, positioning Yan An as a distinctive player in the fashion industry with a compelling narrative of responsible and forward-thinking production.

3.5. Distributions

Drawing insights from discussions and careful considerations of Yan An's product handling and distribution processes, a pivotal aspect of its operational strategy is the reliance on third-party logistics and expedition services. In the journey from raw materials to finished goods, Yan An has strategically partnered with prominent courier services, namely JNE, J&T, Sicepat, and Anteraja.

The engagement of third-party expedition services plays a crucial role in optimizing the efficiency and reliability of Yan An's distribution network. By entrusting the transportation and delivery aspects to well-established courier companies, Yan An benefits from their expertise, established infrastructure, and nationwide reach. This strategic decision ensures that Yan An's products are transported seamlessly, meet delivery timelines, and reach customers across various regions.

The choice of specific courier services, including JNE, J&T, Sicepat, and Anteraja, reflects careful consideration of reliability, speed, and coverage factors. These courier services are renowned for their track records in the industry, offering reliable and timely delivery services. This aligns with Yan An's commitment to providing a positive customer experience by ensuring that products are delivered on time and in pristine condition.

Additionally, leveraging third-party distribution services allows Yan An to focus on its core competencies, such as design, production, and sustainability initiatives, without the burden of managing intricate logistics and transportation networks. This strategic outsourcing enables Yan An to streamline its operations, enhance efficiency, and concentrate on delivering high-quality, eco-conscious fashion products to its customer base.

Using multiple courier services further exemplifies Yan An's dedication to flexibility and adaptability in its distribution strategy. By collaborating with various service providers, Yan An can tailor its distribution approach based on specific requirements, geographic considerations, and evolving market dynamics. This dynamic approach enhances Yan An's responsiveness to the ever-changing demands of the fashion industry.

Yan An's distribution strategy, anchored by partnerships with esteemed courier services, reflects a thoughtful and strategic approach to ensure the seamless and efficient flow of products from production to the hands of its customers. This aligns with Yan An's commitment to delivering fashionable and sustainable products and an exceptional customer experience throughout the supply chain.

3.6. Use Phase

As Joyce & Paquin [17] outlined, the use phase delves into how the client's participation influences the organization or the functional value of its primary services and products. In the context of Yan An, the use phase encompasses the maintenance and care of the goods sold, a crucial aspect that considers the impact on customer material resources and energy needs.

To ensure the longevity and sustained functionality of Yan An's products, customers are provided with specific maintenance procedures, each designed to preserve the integrity of the clothing items and align with the brand's commitment to sustainability. The following maintenance guidelines are recommended for Yan An products:

- *Washing by Hand:* This procedure emphasizes a gentle approach to cleaning, promoting handwashing as an environmentally friendly alternative to machine washing. Handwashing not only conserves energy but also minimizes the environmental impact associated with machine washes.
- *Dry Normally and Dry in the Shade:* Yan An encourages customers to use air drying methods rather than energy-intensive drying machines. This practice aligns with the brand's commitment to reducing energy consumption and contributes to a more sustainable approach to clothing care.
- *Iron at Any Temperature:* Flexibility in ironing temperature recommendations reflects Yan An's adaptability to various ironing preferences. This caters to customer convenience and underscores the brand's commitment to accommodating diverse lifestyles.
- *Do Not Use Bleach:* The exclusion of bleach in maintenance guidelines aligns with Yan An's eco-conscious approach. By discouraging the use of bleach, the brand emphasizes the importance of environmentally friendly practices and avoiding harsh chemicals that can harm the clothing and the environment.

These maintenance instructions guide customers in caring for their Yan An products and underscore the brand's dedication to sustainable practices throughout the product lifecycle. By providing clear and environmentally conscious guidelines, Yan An encourages customers to participate in the brand's commitment to reducing environmental impact, extending the life of their products, and fostering a culture of responsible consumption.

In essence, the use phase for Yan An extends beyond mere product functionality; it symbolizes a shared responsibility between the brand and its customers in championing sustainable practices, minimizing environmental impact, and ensuring the longevity of fashion items through conscientious care.

3.7. End-of-life

As elucidated by Joyce & Paquin [17], the end-of-life phase marks a critical juncture involving considerations of material reuse encompassing remanufacturing, reuse, recycling, disassembly, incineration, or product disposal. This phase arises when a client ceases to derive functional value from a product. In the context of Yan An, this stage not only aligns with ethical considerations but also serves as a proactive measure to reduce environmental impact, extending beyond mere moral obligations.

Yan An's approach to end-of-life situations, as gleaned from interview results, involves a thoughtful and innovative method—exchanging product packaging with returned products. This strategic initiative demonstrates the brand's commitment to sustainability and circular economy principles. Instead of merely disposing of returned products or their packaging, Yan An has implemented a system where the packaging materials can be reused or reprocessed into packaging for new products.

By introducing this exchange mechanism, Yan An achieves several key objectives. Firstly, it promotes material reuse, contributing to the reduction of waste and the conservation of resources. Repurposing packaging materials aligns with circular economy principles, emphasizing a closed-loop system where materials are continually utilized, minimizing the need for virgin resources.

Secondly, exchanging product packaging demonstrates Yan An's dedication to responsible and environmentally conscious business practices. This initiative goes beyond meeting regulatory requirements or societal expectations; it exemplifies a proactive effort to minimize the brand's ecological footprint and actively contribute to a more sustainable fashion industry.

Additionally, the purpose behind implementing this method is to facilitate Yan An's ability to reprocess its products. By ensuring that returned product packaging can be reintegrated into the production cycle, Yan An reduces waste and fosters a sense of accountability for the entire lifecycle of its products.

In summary, Yan An's approach to the end-of-life phase reflects a sophisticated understanding of sustainability, incorporating innovative practices that extend beyond conventional norms. By implementing the exchange of product packaging, Yan An positions itself as a trailblazer in sustainable fashion, showcasing a commitment to environmental stewardship, resource conservation, and a holistic approach to product lifecycle management.

3.8. Environmental Impacts

Examining environmental impacts marks a crucial stage in delving into the ecological costs incurred by an organization's actions. Unlike traditional business models that focus on financial costs when assessing organizational impacts, the environmental impact component encompasses a broader spectrum of organizational ecological costs [17]. Within the context of Yan An, this stage not only represents a comprehensive evaluation but also highlights a paradigm shift in understanding and addressing the environmental consequences of business operations.

Traditionally, business models prioritize financial costs, often overlooking or underestimating the ecological costs associated with production processes. Yan An, however, takes a progressive approach by incorporating environmental considerations directly into its operational framework. This forward-thinking strategy recognizes that environmental impacts are integral components that should be meticulously analyzed and managed alongside financial considerations.

Upon closer examination, implementing environmentally conscious practices, such as collaboration with fostered convections and women on family welfare programs, has observable implications for Yan An's production costs. The extended production timelines and the necessity to reimburse partners involved in these collaborations contribute to increased production costs. This indicates a potential trade-off between financial efficiency and environmental sustainability.

It is essential to note that the observed negative impact on production costs underscores Yan An's genuine commitment to its environmental proposal. Rather than prioritizing short-term financial gains, Yan An is willing to invest in sustainable and socially responsible practices, even if it entails higher production costs. This strategic decision reflects a conscious effort to align business practices with environmental values and contribute to fostering sustainable and ethical fashion.

Moreover, the environmental impact assessment conducted by Yan An serves as a crucial tool for transparency and accountability. By acknowledging the potential drawbacks, such as increased production costs, the brand demonstrates a commitment to honest reporting and continuous improvement in minimizing its environmental footprint. This level of transparency is crucial for building trust among environmentally conscious consumers who prioritize brands that actively address and mitigate their ecological impact.

In summary, Yan An's approach to assessing environmental impacts is not just a compliance measure but a proactive and integral part of its business ethos. By openly acknowledging and addressing the potential negative impacts, Yan An positions itself as a trailblazer in the fashion industry, setting new standards for environmentally conscious and socially responsible business practices (see Figure 3).

3.9. Environmental Benefits

As delineated by Joyce & Paquin [17], the triple-layered business model canvas's (TLBMC) environmental layer is instrumental in evaluating an organization's ecological value. Unlike traditional approaches to minimizing negative environmental impacts, the TLBMC's environmental layer introduces a transformative perspective. It advocates for actively creating regenerative positive ecological value, thereby ushering in a paradigm shift in how organizations perceive and contribute to their environmental surroundings.

The conventional business models often limit their environmental considerations to reducing negative impacts, embracing a defensive stance against ecological harm. In contrast, the TLBMC's environmental layer challenges organizations to adopt a proactive and regenerative approach. This means going beyond mere sustainability by actively contributing to the restoration and enhancement of ecosystems. For Yan An, this approach implies more than just minimizing the potential negative impacts associated with its operations. It requires a strategic and deliberate effort to generate positive ecological value, contributing to environmental well-being. By incorporating regenerative practices, Yan An seeks to play a role in ecological restoration, resource replenishment, and overall environmental improvement.

The notion of creating positive ecological value involves various initiatives that extend beyond compliance with environmental regulations. It encompasses sustainable sourcing, waste reduction, carbon footprint mitigation, and ecosystem restoration. Yan An's commitment to these initiatives reflects a holistic understanding of its role in the broader environmental context. Moreover, the emphasis on positive ecological value aligns with the growing global awareness that businesses need to be active contributors to environmental solutions. Consumers increasingly seek brands that not only minimize harm but actively engage in activities that enhance the health and resilience of the planet.

In essence, the TLBMC's environmental layer, as applied by Yan An, represents a pioneering approach to environmental stewardship. By actively creating regenerative positive ecological value, Yan An positions itself as a leader in the sustainable fashion landscape. This commitment sets a new standard for eco-conscious practices and contributes to building a more resilient and thriving environment for present and future generations.















SUPPLY AND OUT SOURCING 	PRODUCTION 	FUNCTIONAL VALUE 	END-OF-LIFE 	USE PHASE 
Raw material fabric, Waste fabric, production equipment Place for processing fabric waste 	Sewing of products and processing of fabric waste MATERIALS  Sewing machine, fabric cutting machine, and manual waste fabric selection	The zero-waste sewing technique is a way to reduce waste fabric during production Purchased products and also patchwork are ways to reuse waste that no longer has value (recycling) Reusable product packaging is a way for packaging to have a function other than the packaging itself.	Exchange of packaging with other products with packaging materials that can be recovered into goods that have value DISTRIBUTION  Delivery services 	Wash by hand, dry normally and place in the shade, iron at any temperature, do not use bleach. 
ENVIRONMENTAL IMPACT  The production process is longer due to the process of sorting waste, processing waste and combining waste with products Production costs are getting higher because they need to pay the wages of the convection workers from the PKK 			ENVIRONMENTAL BENEFIT  Handling fabric waste and reducing the use of excess plastic 	

Figure 3. Yan An's business practices with a regenerative focus

This stage, particularly within the context of Yan An, serves as a pivotal juncture for businesses and organizations to explore innovative approaches to product, service, and business model development. It provides a platform for experimenting with strategies that effectively reduce negative environmental impacts and contribute positively to the local environment. This stage presents a significant opportunity for Yan An to demonstrate its commitment to sustainability through tangible actions and transformative initiatives.

Yan An, as an exemplary case, has the potential to spearhead transformative changes in its industry by addressing key environmental challenges. One notable avenue for positive impact is in the reduction of cloth waste. By implementing advanced methods for treating cloth waste, Yan An can contribute to the circular economy, where materials are recycled, repurposed, or reused, minimizing the environmental burden of textile waste. This strategic approach aligns with global efforts to combat textile waste and positions Yan An as a sustainable and responsible fashion leader.

Another impactful initiative that Yan An can undertake at this stage is the adoption of reusable packaging. This move can potentially revolutionize the traditional packaging practices in the fashion industry. By minimizing or eliminating single-use plastics in its packaging, Yan An can significantly reduce its environmental footprint. The shift towards reusable packaging addresses concerns related to plastic pollution and resonates with environmentally conscious consumers who prioritize brands committed to minimizing their ecological impact.

Furthermore, Yan An's exploration of new approaches could extend to incorporating sustainable materials in its product design and manufacturing processes. This might involve sourcing organic or recycled materials, further contributing to the brand's positive environmental footprint. The use of sustainable materials not only aligns with the global shift towards responsible consumption and positions Yan An as a forward-thinking and environmentally responsible fashion brand.

In interpreting Yan An's potential strides in reducing cloth waste, minimizing plastic usage, and adopting reusable packaging, it is evident that the brand is actively embracing a more sustainable approach to its operations. This forward-looking perspective addresses current environmental challenges and positions Yan An as a catalyst for positive change within the fashion industry. By leveraging this stage for experimentation and innovation, Yan An has the potential to set industry benchmarks and inspire other businesses to adopt more environmentally conscious practices.

4. Conclusion

In conclusion, the environment-based development approach adopted by Yan An strategically centers functional value around the principles of reduction, recycling, and reuse. The implementation of the zero-waste sewing technique exemplifies the commitment to reduction by minimizing wasted fabric during the production process. This approach aligns with sustainability goals and effectively reduces clothing production waste, showcasing Yan An's dedication to minimizing its environmental footprint. Additionally, the incorporation and processing of patchwork represent a commitment to recycling and transforming waste materials into valuable components in fashion design. This recycling initiative adds unique aesthetic elements to Yan An's products and contributes to the broader goal of resource conservation and circular economy principles.

Moreover, the emphasis on reuse is evident in Yan An's innovative approach to product packaging. By designing packaging that can be reused for purposes beyond its initial function, Yan An goes beyond traditional packaging norms. This practice aligns with the ethos of creating multifunctional and sustainable solutions, further exemplifying Yan An's commitment to environmentally conscious practices. The interplay of reduction, recycling, and reuse within Yan An's operational framework underscores a holistic and forward-thinking approach to sustainable fashion.

In essence, Yan An's environment-based development not only redefines functional value in the context of fashion but also sets a precedent for responsible and innovative practices within the industry. By strategically incorporating reduction, recycling, and reuse into its business model, Yan An enhances its environmental stewardship and positions itself as a trailblazer in the evolving landscape of sustainable and eco-conscious fashion. This comprehensive and integrated approach to functional value underscores Yan An's commitment to style and sustainability, contributing to a paradigm shift in how fashion brands can actively contribute to a more environmentally responsible and ethical industry.

5. Declarations

5.1. Author Contributions

Conceptualization, R.H. and S.S.; methodology, D.G.; software, D.G.; validation, R.H., D.G., and A.S.; formal analysis, R.H.; investigation, R.H.; resources, R.H.; data curation, R.H.; writing—original draft preparation, R.H.; writing—review and editing, R.H.; visualization, R.H.; supervision, R.H.; project administration, L.L. and S.S. All authors have read and agreed to the published version of the manuscript.

5.2. Data Availability Statement

The data presented in this study are available on request from the corresponding author.

5.3. Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

5.4. Institutional Review Board Statement

Not applicable.

5.5. Informed Consent Statement

Not applicable.

5.6. Declaration of Competing Interest

The authors declare that there is no conflict of interests regarding the publication of this manuscript. In addition, the ethical issues, including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, and redundancies have been completely observed by the authors.

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