

## Integrating Education into Product Diversification: A Value Chain Analysis of Brick and Wall Shops

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### ABSTRACT

Indonesia's economic development from the early 1980s to the mid-1990s showed a positive trend, with average growth reaching approximately 6.4% per year. However, periods of economic instability have also contributed to trade deficits, creating additional challenges for business sustainability. In such conditions, business diversification becomes an important strategy to strengthen competitiveness. Diversification can be considered successful if it increases revenue, expands market share, and creates synergy among various business lines, enabling companies to survive and compete more effectively in an increasingly competitive industry. The Brick and Lost Wall Shop in Bekasi, West Java, is a business that focuses on providing decorative building materials, particularly brick and loster wall products. Toko Bata Tempel and Loster has also followed technological developments by utilizing digital platforms to promote its products. One of the platforms used is Google Maps, where the shop is registered not only as a business location but also as a source of detailed information about products, services, and customer reviews. Currently, the shop still concentrates on brick and loster products. However, to enhance competitiveness and respond to increasingly diverse consumer demands, it is necessary to consider product diversification strategies. From an educational perspective, diversification efforts can also be supported through knowledge transfer, training, and managerial learning related to value chain analysis, digital marketing, and innovation. Integrating educational elements into business development will help business owners improve strategic decision-making, optimize resources, and strengthen long-term sustainability.

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### 1. INTRODUCTION

Indonesia's economic development from the early 1980s to the mid-1990s showed a strong positive trend. During this period, economic growth averaged around 6.4% per year. At that time, Indonesia no longer relied solely on natural resources but also began to strengthen the manufacturing sector, which contributed significantly to national economic growth. Non-oil and gas sectors such as

electronics and textiles experienced rapid development and even outperformed several neighboring countries in Southeast Asia [20].

However, this condition changed drastically when the global economic crisis struck in 1997–1998. The crisis was characterized by declining investment, reduced purchasing power, rising unemployment, and a significant increase in inflation [22]. In such uncertain economic conditions, companies are required to develop adaptive strategies to maintain sustainability and competitiveness.

One strategic effort that can be implemented is product diversification. According to Kotler (2009), diversification is a strategy to improve business performance by adding new product lines or business units that may or may not be related to existing products [13]. Education plays a crucial role in strengthening business capacity, innovation, and strategic decision-making, especially for small and medium-sized enterprises (SMEs). In the modern economic environment, business sustainability is not only determined by capital and resources but also by the knowledge and skills possessed by business actors. Education and training help entrepreneurs improve managerial competence, digital literacy, and strategic thinking, enabling them to respond to market changes and competition more effectively. Recent studies emphasize that entrepreneurial education significantly improves innovation capability, adaptability, and long-term business performance [16].

From a strategic management perspective, education supports the implementation of analytical tools such as value chain analysis and product diversification strategies. Business actors who possess adequate knowledge and learning experience are more capable of identifying value-creating activities, improving operational efficiency, and developing new products that match market demand. According to Kotler et al. (2022), continuous learning and knowledge development are essential for companies to maintain competitiveness and respond to evolving consumer preferences [10]. In addition, digital-based education and training have been shown to improve the ability of SMEs to utilize technology for marketing, production, and distribution processes [27].

In the context of building material retail businesses, educational support in the form of training, knowledge transfer, and managerial learning can help business owners understand consumer trends, optimize the value chain, and design appropriate diversification strategies. Education enables business actors to make data-based decisions and adopt innovation in products and services. Therefore, integrating an educational perspective into business development becomes an important foundation for increasing competitiveness, efficiency, and sustainability in the long term [8] [16].

Based on pre-research conducted on October 2, 2024, Toko Bata Tempel dan Loster in Bekasi, West Java, is a business engaged in decorative building materials, particularly brick veneer (bata tempel) and loster wall products. These products are widely used to enhance the aesthetics of building interiors and exteriors, including residential houses, offices, and commercial buildings. The store is located on a strategic main road in Bekasi with high traffic flow, making it easily accessible to customers from various areas. This strategic location provides added value, as customers can directly view products and consult about their building decoration needs.

In the current digital era, Toko Bata Tempel dan Loster has also adopted technological developments by utilizing digital platforms for promotion. One platform used is Google Maps, where the store is registered as a business location and provides detailed information about products, services, photos, and customer reviews. Through this platform, potential customers can easily find the store, evaluate its reputation based on ratings and reviews, and obtain directions to the location. This digital presence helps increase consumer trust and interest.

In addition to digital promotion, the store offers flexible purchasing services, both for small-scale individual buyers and large-scale orders from contractors or companies. The store also provides delivery services covering local, intercity, and nationwide areas in Indonesia. This service allows

customers from outside Bekasi to obtain products easily without transportation constraints. The store maintains delivery punctuality and product quality during shipping to ensure customer satisfaction.

Despite these advantages, Toko Bata Tempel dan Loster faces challenges due to evolving consumer demands. Consumers are increasingly interested not only in brick veneer and luster but also in other decorative building materials such as paving blocks, natural stone, guiding blocks, and ceramic tiles. This trend indicates changing preferences in the building materials market, encouraging retailers to expand product lines to remain competitive. Currently, the store still focuses on brick veneer and luster products. However, to increase competitiveness and meet diverse consumer demands, product diversification needs to be considered.

Product diversification is expected to enhance the store's attractiveness to a broader market segment and help the business adapt to industry trends. Based on this background, the main problems identified at Toko Bata Tempel dan Loster are sales fluctuations and the need for product diversification. Therefore, product development must be based on a deep understanding of consumer needs to ensure long-term competitiveness.

Previous studies have widely discussed product diversification as a strategy to improve business performance and competitiveness, particularly in manufacturing and large-scale industries. Research has also examined the importance of value chain analysis in identifying value-creating activities and improving operational efficiency. However, most existing studies focus on large companies or industrial sectors, while limited attention has been given to small and medium-sized retail businesses, especially in the building materials sector. In addition, although recent literature highlights the importance of education and managerial learning in improving business capabilities, few studies integrate educational perspectives with value chain analysis to support product diversification strategies at the micro-business level.

Specifically, there is still a lack of research that examines how value chain analysis can be used as a practical tool for identifying diversification opportunities in small retail businesses while simultaneously considering the role of education, knowledge transfer, and managerial learning in supporting strategic decision-making. Studies on building material shops in Indonesia, particularly those focusing on decorative construction materials, remain limited. Therefore, this study fills the gap by analyzing product diversification strategies at Toko Bata Tempel dan Loster using a value chain analysis approach and integrating an educational perspective to strengthen managerial capability and business sustainability.

This study offers novelty by integrating an educational perspective into value chain analysis to support product diversification in small retail businesses. Previous studies on product diversification and value chain analysis generally focus on large-scale industries or manufacturing companies. Meanwhile, research that examines micro and small retail businesses, particularly building material shops, remains limited. In addition, although several studies highlight the importance of entrepreneurial education, few studies combine value chain analysis with educational capability development to support diversification strategies.

Therefore, this study fills the gap by providing a practical framework that integrates value chain analysis and educational learning to strengthen managerial capability, digital literacy, and strategic decision-making in small retail businesses. This integration is expected to contribute both theoretically and practically by offering a model of product diversification based on value chain mapping and educational improvement for sustainable business development.

## 2. METHOD

This study employs a qualitative research design with a case study approach to obtain in-depth and concrete information about existing phenomena, identify problems, and describe ongoing conditions and activities within the business. The aim is to understand how the research subject responds to and solves business problems so that the findings can be used as a basis for planning and

future decision-making. The case study method allows the researcher to explore real conditions comprehensively and contextually within the selected business environment.

The data analysis tool used in this study is value chain analysis. Value chain analysis consists of two categories of business activities, namely primary activities and support activities. According to David (2012), value chain analysis is a strategic tool used to identify areas where competitive advantages or disadvantages occur along the value chain, starting from raw material procurement to customer service activities [18]. This approach enables companies to evaluate which activities create value and which require improvement in order to enhance competitiveness and efficiency. The primary activities include inbound logistics, operations, outbound logistics, marketing and sales, and service, while the support activities include procurement, human resource management, technological development, and firm infrastructure.

The respondents in this study are the owners of Toko Bata Tempel dan Loster. The business owners were selected as key informants because they possess comprehensive knowledge of the company's operations, challenges, and strategic decisions. Data were collected through in-depth interviews using prepared questions to obtain information relevant to the research objectives. The interview results serve as the main source of data to support the analysis of the company's value chain and to identify appropriate product diversification strategies for improving business competitiveness and sustainability.

### 3. RESULTS AND DISCUSSION

Toko Bata Tempel and Loster is a company engaged in the field of building materials, four on Jl. Sultan Agung Rawa Pasung GG. H Ibrahim RT 05 RW 01 No. 10, Kota Baru, West Bekasi, West Java. Toko Bata Tempel and Loster was founded in 2010 by Mr. Muhtar. One of the superior products of Toko Bata Tempel and Loster is the adhesive brick. Adhesive brick is made of clay material that is processed through several stages and has a thinner size. The planning of the creation of Toko Bata Tempel and Loster is because of the most requests from close friends who want to renovate their homes, with the relationships that Mr. Mukhtar has, he has succeeded in finding a supplier of adhesive bricks with high quality and relatively cheap prices. In one month of work, Toko Bata Tempel can produce 15,000-25,000/pcs of adhesive bricks.

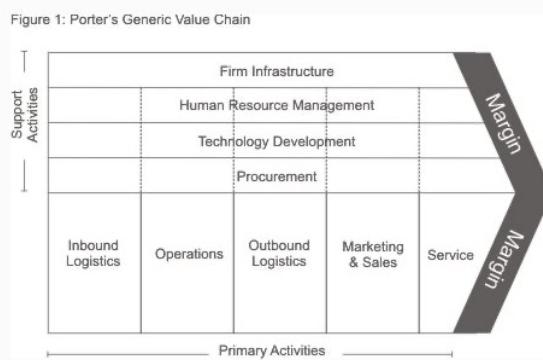


Figure 1. Logo of the Bata Tempel and Loster Shop as an Educational Result of Value Chain Analysis

The focus of the ongoing activities of the Toko Bata Tempel and Loster products is to meet the demands of existing consumers. In addition, in terms of product quality, the company provides quality raw materials so that the products produced are also of high quality. Not only producing bata tempel and Loster, Toko Bata Tempel and Loster also produces various types of bricks such as batako, hebel bricks, concrete bricks, limestone bricks, etc. So the company still needs further development of its products so that there are many variants in each product. One of the problems that is often faced is the price of raw materials which increases at any time. So the company must be more competitive in providing market prices for its customers so that the soul competes with other companies.

The process of identifying the value chain analysis at Toko Bata Tempel Loster was carried out by analyzing the results of interviews obtained from sources. The results of this analysis were then grouped into blocks contained in the value chain analysis as a description of product diversification

in the current company conditions. The following is a description of the value chain analysis that can be seen in the following image:



**Figure 2. Porter's Value Chain for Competitive Advantage Analysis**

In this study, the analysis focuses specifically on the product aspect; therefore, only six value chain blocks are examined in the interview process. These include Inbound Logistics, Operations, Outbound Logistics, Marketing and Sales, Services, and Procurement (Purchasing). These components were selected because they are directly related to product management, distribution, and customer value creation, and thus are considered the most relevant for identifying opportunities for product diversification and improving business performance.

### 3.1 Primary Activities

#### a. Inbound Logistics

Inbound logistics at Toko Bata Tempel and Loster involves the process of receiving, storing, and distributing raw materials used for the production of bata tempel and loster. This process is important to ensure the continuity of the company's operations through a consistent and quality supply of raw materials. Based on interviews with shop owners, the company uses the following strategies: "We get our raw materials from three different suppliers. With these suppliers, we can maintain continuity of raw material supply. So, if one supplier has a problem, we can still get raw materials from other suppliers."

"Before working together, we ask for samples of raw materials from suppliers to ensure that the quality meets our standards. If the samples are in accordance, then the supplier can send raw materials in large quantities. However, even after receiving them, we still check the incoming raw materials to ensure that everything meets our requirements."

"We deliberately work with several suppliers so that there are alternatives if there are problems with one of the suppliers. This really helps us to ensure that raw materials are always available without hampering the production process."

Based on the interview results obtained, Toko Bata Tempel and Loster have a strategic inbound logistics system. The company works with three suppliers to maintain the continuity of raw material supply. Before receiving a shipment, the company requests a sample of raw materials to ensure that the quality meets standards. After delivery, the raw materials are also re-checked. With several suppliers, the company can overcome supply constraints from one supplier, so that operations continue to run smoothly.

#### b. Operation

At the operational stage, Toko Bata Tempel and Loster carry out the process of converting raw materials into finished products that are ready to be sold to customers. This process includes processing raw materials, making products, to the final stages of drying and finishing products. Based on the results of interviews with shop owners, some important information was obtained regarding the operational aspects as follows:

"The raw materials we obtain can certainly make it possible to produce new products. Because the raw materials that are commonly used are also used for various kinds of products."

"Our product manufacturing process is efficient enough to produce quality products. We place great importance on the quality and sturdiness of our products."

"In the process of making products, of course there are challenges, one of which is the weather factor. The weather factor greatly influences the brick-making process because the product is very dependent on air and sun heat to speed up the drying process."

Based on the interview results obtained, the company has the potential to produce new products by utilizing flexible raw materials. Efficiency in the production process is one of the advantages, ensuring optimal use of raw materials and producing quality products. However, the main challenge faced by the company is dependence on the weather, which affects the smoothness of the drying process. To overcome this challenge, mitigation strategies are needed such as the use of additional drying technology so that the production process is not too dependent on weather conditions.

#### c. Outbound Logistics

The outbound logistics process at Toko Bata Tempel and Loster includes the delivery of finished products to customers, including handling schedules, delivery priorities, and steps to handle potential problems during delivery. Based on the results of interviews with shop owners, the following information was obtained:

"In every purchase transaction we use a note as a purchase order to make it easier for the shipping department to send products according to the note."

"In the delivery process, we are also flexible, because some places have special delivery hours. For example, delivery within the city of Jakarta must be done after 10 pm to 5 am."

"When delivering, we also bring excess products from what consumers order and leave early to avoid traffic jams."

Based on the interview results obtained, the outbound logistics system at Toko Bata Tempel and Loster is designed to ensure efficient and timely product delivery. The use of notes as a reference for delivery, schedule flexibility, and anticipatory steps such as bringing backup products are the company's main strategies in maintaining the quality of service to customers. Despite challenges such as traffic conditions or delivery time constraints, the company managed to overcome them with careful planning.

#### d. Marketing & Sales

Marketing and sales activities at Toko Bata Tempel and Loster focus on product promotion and building relationships with customers to drive sales. Based on interviews with shop owners, here are some strategies implemented:

"We do promotions through social media and broadcasts to old customers. But there are still many customers who don't know our social media, most consumers see our store through Google Business and most old customers repeat orders."

"We started using Google Business since COVID and we always update information about new products or installed products."

Based on the interview results obtained, the marketing strategy of Toko Bata Tempel and Loster focuses on the use of digital marketing such as Google Business and social media to promote products and maintain customer loyalty. Although there are still challenges such as low customer awareness of the store's social media, this step has helped the company maintain relationships with old customers and increase sales during the pandemic. This strategy can continue to be developed with a more structured promotional campaign to reach a wider audience.

#### e. Services

The services at Bata Tempel and Loster Stores are designed to ensure that customers receive support after purchase, while minimizing dissatisfaction. Based on interviews with store owners, the following are the efforts made by the company:

"Every time we make a delivery, we increase the quantity ordered, for example, for every purchase of 100 pcs we will increase 3 pcs."

"So far, we have not received too many complaints. However, if consumers want to make a complaint, we ask consumers to send photo evidence, so that if there is true damage from the trip, we will immediately replace the damaged product with a new product. However, if damage occurs Due to the consumer's fault, we do not know, but we will help by providing input on how to install the product properly."

"After making a delivery, I also often ask consumers to find out how the product is installed and ask for photos of the installed product to be placed on Google Business. If consumers have difficulty in installing, I will share some tips so that it can make it easier for consumers."

Based on the interview results obtained, Toko Bata Tempel and Loster services focus on anticipating product damage, handling complaints quickly and transparently, and supporting product installation. This strategy not only helps maintain customer satisfaction but also strengthens long-term relationships with consumers.

### 3.2 Support Activities

#### a. Procurement (Purchasing)

The procurement process at Toko Bata Tempel and Loster aims to ensure the continuity of business operations by securing quality raw materials at competitive prices. Based on the results of interviews with shop owners, the following are the strategies implemented:

"I always update information about raw materials and supporting production factors that can maintain and increase product quality."

"With more than 10 years of experience, I can tell the quality of raw materials and good products so I can give the best price to consumers."

"In the face of rising raw material prices, we will provide information about new prices to consumers 1 week before the increase. Regarding disruptions in the supply chain, the company is trying to find alternative suppliers who have products with the same quality." Based on the interview results obtained, Toko Bata Tempel and Loster implement an adaptive and quality-oriented procurement strategy. With careful monitoring of raw materials, supplier selection based on experience, and mitigation steps against price increases and supply disruptions, the company is able to maintain the continuity of the production process and provide the best value to consumers.

### 3.3 Application of Value Chain Analysis Approach for Product Diversification in Brick and Wall Shops

The Value Chain Analysis approach serves as a strategic tool to analyze business activities that provide added value to Toko Bata Tempel and Loster products. This analysis allows the identification of product diversification opportunities in a systematic manner, so that each business activity, both primary and supporting, can be optimized to create competitive advantage. The following are the implementation steps taken:

#### Primary Activities

##### a. Inbound Logistics

The activities of receiving, storing, and distributing raw materials are the main foundation for ensuring operational continuity and product quality. In the context of product diversification, the following steps can be applied:

- Diversification of raw material suppliers. Companies need to work with new suppliers who are able to provide quality raw materials according to the needs of new products, such as paving blocks, guiding blocks, or tiles. With diverse suppliers, the risk of supply disruptions can be minimized.
- Monitoring the quality of raw materials. To maintain product standards, regular inspections of raw materials must be carried out. This includes thorough quality testing of materials before they are used in production. For diversified products that have different technical specifications, this step is very important to maintain quality consistency.
- Efficient stock management. With a technology-based inventory management system, companies can monitor the amount of raw materials in real time. This system allows

companies to avoid stock shortages that can hamper production or excess stock that can increase storage costs.

#### b. Outbound Logistics

Outbound logistics involves delivering finished products to customers. Strategies that can be implemented to improve performance include:

- Increase delivery flexibility. Offer delivery services tailored to customer needs, including delivery for large projects. This can increase customer satisfaction and trust in the company's services.
- Providing product reserves. Companies can carry additional stock in each shipment to anticipate damage during transportation. This step helps reduce complaints from customers.
- Extensive distribution chain management. To reach consumers outside the main operational area, companies can work with logistics partners. This allows product distribution to other major cities outside Bekasi.

#### c. Marketing & Sales

Marketing and sales activities are key in introducing new products to the market. Strategy implementation includes:

- Data-based digital marketing. Currently, company marketing is still limited to Google Business and WhatsApp, which are more focused on old customers. To reach a wider market, companies need to utilize social media such as Instagram, Facebook, and TikTok. Interesting promotional content, such as product installation videos, can also increase attraction and sales.
- Adjusting pricing strategy. In entering a new market, competitive pricing is the main attraction. Companies need to conduct market price analysis to determine profit margins that remain attractive to consumers without sacrificing profitability.

#### d. Service

Customer service is an important element in creating long-term loyalty. Strategies implemented include:

- Fast replacement service. Providing replacement services for damaged products during shipping without complicated procedures will increase customer confidence in the quality of the company's services.
- Improved communication with customers. Follow up after purchase to ensure customer satisfaction and collect product testimonials.
- Support Activities

#### e. Procurement (Purchasing)

Procurement is a supporting activity that ensures the supply of raw materials for smooth production. Some important steps in product diversification include:

- Diversification of supplier sources. Adding new suppliers who can provide quality raw materials for diversified products at competitive prices.
- Negotiating long-term contracts. Establishing long-term contracts with key suppliers to ensure the availability of sufficient raw materials. This step also allows the company to obtain more consistent prices despite market fluctuations.

The results of the value chain analysis are summarized in Table 1, which identifies the strengths, weaknesses, and opportunities in each activity related to product diversification.

**Table 1. Value Chain Analysis for Product Diversification**

| Activity          | Strength  | Weakness                                       | Opportunity  |
|-------------------|---|--|--|
| Inbound Logistics | Multiple suppliers ensure continuity of raw materials       | Fluctuating raw material prices                | Opportunity to expand supplier network and negotiate long-term contracts |
| Operations        | Flexible raw materials allow production of various products | High dependence on weather for drying process  | Adoption of drying machine technology to improve efficiency              |
| Marketing         | Active use of Google Business for promotion                 | Limited optimization of social media platforms | Expansion into digital marketing (Instagram, TikTok, Facebook)           |
| Service           | Fast response to customer complaints and replacement        | Service system not yet standardized            | Implementation of Customer Relationship Management (CRM) system          |

Source: Processed research data (2025)

To obtain a comprehensive understanding of the current business condition and identify opportunities for product diversification, a value chain analysis was conducted at Toko Bata Tempel dan Loster. This analysis focuses on key activities directly related to product development, distribution, and customer value creation. Through in-depth interviews with the business owner, the study examines strengths, weaknesses, and potential opportunities within each value chain component. The results are then mapped into strategic categories to support managerial decision-making and provide an educational perspective on improving business capabilities. The findings of this analysis are summarized in Table 2, which presents a strategic overview of the value chain activities and their implications for product diversification and business development.

**Table 2. Strategic Value Chain Analysis for Product Diversification**

| Value Chain Activity | Current Strengths  | Identified Weaknesses   | Strategic Opportunities  | Recommended Educational & Managerial Actions                                |
|----------------------|--|---|--|---|
| Inbound Logistics    | Multiple suppliers ensure raw material availability and continuity             | Fluctuating raw material prices and dependence on traditional suppliers | Supplier diversification and long-term procurement contracts         | Training in supplier management, cost analysis, and inventory planning      |
| Operations           | Flexible raw materials enable production of various building material products | Production highly dependent on weather conditions (drying process)      | Adoption of mechanical drying technology and process standardization | Technical training on production efficiency and technology adoption         |
| Outbound Logistics   | Flexible delivery scheduling and wide delivery coverage                        | Delivery system still manual and not fully documented                   | Collaboration with logistics partners and digital tracking system    | Training in logistics planning and distribution management                  |
| Marketing & Sales    | Use of Google Business and repeat customers                                    | Limited social media optimization and digital branding                  | Expansion to social media marketing and online promotion             | Digital marketing education, content strategy training, and branding skills |

| Value Chain Activity | Current Strengths                                    | Identified Weaknesses                                  | Strategic Opportunities                               | Recommended Educational & Managerial Actions            |
|----------------------|--|--|---|---|
| Service              | Quick response to complaints and product replacement | Service procedures not yet standardized                | Implementation of CRM system and after-sales tracking | Customer service training and CRM utilization           |
| Procurement          | Strong supplier relationships and quality control    | Vulnerable to price fluctuations and supply disruption | Supplier contract management and alternative sourcing | Training in procurement strategy and negotiation skills |

Source: Processed interview data (2025)

The results presented in Table 2 show that the value chain analysis provides a systematic overview of the strengths, weaknesses, and opportunities in each business activity at Toko Bata Tempel dan Loster. Value chain analysis is widely used to identify activities that create value and to determine areas where efficiency improvements and strategic development can be implemented to achieve competitive advantage [18]. Through this approach, companies can evaluate internal processes and align them with market demands and long-term business strategies.

The findings of this study demonstrate that value chain analysis is not only useful for identifying operational strengths and weaknesses but also serves as a strategic learning tool for business development. The analysis reveals that Toko Bata Tempel dan Loster has strong capabilities in inbound logistics, operations, and service activities, particularly in maintaining product quality and supplier relationships. However, the business still faces challenges in marketing optimization, technology adoption, and product variation. These findings indicate that product diversification requires not only operational improvement but also educational support for managerial development.

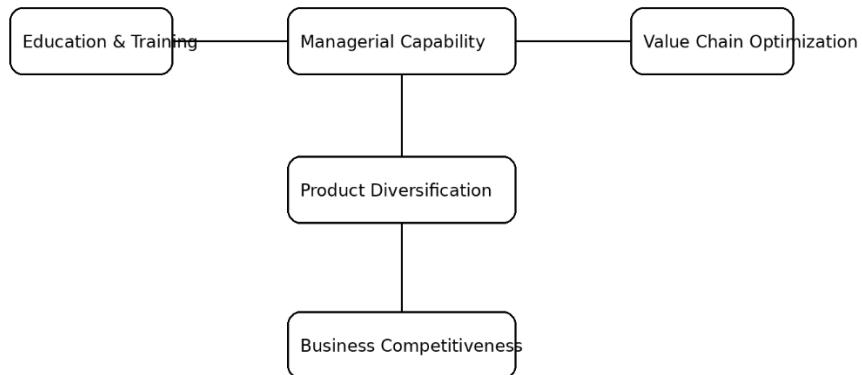
### 3.4 Educational Framework for Product Diversification

This study proposes an educational framework that integrates value chain analysis with entrepreneurial learning to support product diversification in small retail businesses. The framework emphasizes that diversification success is not only determined by operational capability but also by the managerial knowledge and learning capacity of business owners. Education in digital marketing, supplier management, production efficiency, and customer service strengthens the ability of SMEs to analyze value-creating activities and respond to market changes.

The proposed framework consists of three main components. First, knowledge development, which includes training in value chain mapping, cost analysis, and market analysis to improve decision-making quality. Second, skill enhancement, focusing on digital marketing, logistics planning, and product innovation to support diversification. Third, continuous learning, where business actors evaluate business performance and adapt strategies based on market feedback. This framework positions education as a strategic enabler that enhances the effectiveness of value chain implementation and improves competitiveness.

Previous research shows that entrepreneurial education significantly improves innovation capability, adaptability, and strategic thinking among SMEs [6] [14]. In addition, digital literacy and managerial training play a crucial role in supporting diversification and business sustainability [16] [27]. Therefore, integrating educational development into value chain-based strategies provides a comprehensive approach for improving SME competitiveness and long-term growth.

The integration of education into value chain activities provides a structured learning process for business owners. Through training and experiential learning, entrepreneurs can better understand supplier management, production efficiency, and digital marketing strategies. This supports previous findings that education enhances innovation capability and strategic decision-making in SMEs [1] [23]. Thus, education becomes a key driver in implementing sustainable product diversification strategies.



**Figure 3. Education-Based Value Chain Framework for Product Diversification in SMEs.**

The figure illustrates the education-based framework for product diversification and business competitiveness in small retail businesses. The model shows that education and training function as the initial driving force that enhances managerial capability. Through education, business owners gain knowledge related to digital marketing, supplier management, cost efficiency, and value chain mapping. This improved managerial capability enables them to understand business processes more systematically and make strategic decisions based on market conditions and internal resources.

Managerial capability then influences the optimization of value chain activities, including inbound logistics, operations, marketing, services, and procurement. By optimizing these activities, businesses can identify value-creating processes, reduce inefficiencies, and develop new product opportunities. Value chain optimization serves as the foundation for implementing product diversification strategies that align with market demand and organizational capacity.

The next stage of the framework shows that effective product diversification leads to increased business competitiveness. When businesses are able to develop new products, improve service quality, and expand market reach, they strengthen their competitive advantage and sustainability. Thus, the model emphasizes that education plays a crucial role as a strategic enabler that supports managerial capability, improves value chain performance, and ultimately drives successful product diversification and long-term business competitiveness.

From a strategic perspective, the ability of business owners to understand value-creating activities plays a crucial role in identifying diversification opportunities. Education and training related to digital marketing, supplier management, and production efficiency can enhance the owner's capability to make informed decisions. This supports previous research stating that entrepreneurial education and continuous learning significantly improve innovation capability and competitiveness among small businesses [16] [8]. Thus, education functions as an enabling factor that strengthens the effectiveness of value chain implementation in diversification strategies.

Furthermore, the results suggest that diversification opportunities such as paving blocks, natural stone, and ceramic tiles can be developed by optimizing existing resources. Flexible raw materials and strong supplier networks provide a foundation for new product development. However, the success of diversification depends on the business owner's knowledge and ability to manage

production, marketing, and procurement effectively. Therefore, integrating educational programs such as digital marketing training, supply chain management training, and customer service development can significantly improve business performance and sustainability.

From an educational standpoint, this study highlights that value chain analysis can be used as a practical learning tool for small business actors. By mapping business activities and identifying value-creating processes, entrepreneurs can develop analytical thinking and strategic planning skills. This approach aligns with the concept of experiential learning in entrepreneurship, where business actors learn through real operational analysis and decision-making. Consequently, the integration of education into value chain-based diversification strategies can strengthen innovation capability, improve competitiveness, and support long-term business sustainability.

Overall, this study confirms that product diversification in small retail businesses should be supported by both strategic analysis and educational development. The combination of value chain analysis and managerial learning provides a comprehensive framework for improving operational efficiency, expanding product lines, and strengthening competitive advantage. Therefore, education becomes a key supporting factor in implementing sustainable diversification strategies in micro and small enterprises.

This study contributes to the literature by integrating value chain analysis with an educational perspective in the context of product diversification for small retail businesses. While previous studies have examined diversification strategies and value chain frameworks separately, this research combines both approaches to provide a more comprehensive understanding of how managerial learning and knowledge development influence strategic decision-making. The findings provide a conceptual contribution by positioning education as a supporting factor in optimizing value chain activities and enhancing diversification capability in SMEs.

#### 4. CONCLUSION

The operational stage includes the process of transforming raw materials into finished products ready for marketing. In product diversification, Optimizing the production process. Currently, companies face challenges in the drying process due to weather dependence. With modern technology such as machine-based dryers, companies can reduce their dependence on weather conditions, thereby increasing production efficiency and consistency, New product development. The flexibility of the company's raw materials allows the development of new product variations that are in line with market trends and consumer needs. For example, paving blocks for roads and guiding blocks for public accessibility, Increased efficiency. Every stage of production needs to be analyzed in depth to identify waste. Thus, companies can maximize productivity while reducing production costs, thereby increasing competitiveness.

Practically, this study provides a simple framework for small business owners to analyze their value chain and identify diversification opportunities. The results can be used as a guideline for improving supplier management, production efficiency, digital marketing, and customer service. In addition, the study highlights the importance of education and training in strengthening business capability and sustainability.

This study is limited to a single case study and relies primarily on interview data from the business owner. Future research may involve multiple businesses and use mixed methods approaches to provide broader generalization and deeper analysis of diversification strategies in small retail industries.

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