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Comparative Study of Product Development Processes in MSME Merchandise Through the Double Diamond Process Model

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ABSTRACT

This research focuses on a comparison of the product development process in the MSME (Micro, Small and Medium Enterprise) merchandise industry in the city of Bandung, especially in the apparel sector, which shows great potential for innovation. The lack of the designer's role in some MSMEs has led to a lack of product innovation and uniqueness. This study aims to analyze the differences between design-oriented and production-oriented approaches in the development of merchandise products with the aim of increasing the efficiency, added value, and competitiveness of MSMEs in the market through the application of the Double Diamond process model. By using a qualitative approach through observation and in-depth interviews, this study chose Company A and Company B as the objects of study to compare the implementation of the Double Diamond model in the development of merchandise products. The research findings reveal significant differences in objectives, key stakeholders, and key activities at each stage of the Double Diamond model between Company A, which focuses on new product innovation, and Company B, which tends to take an iterative approach to improving existing products. This research provides valuable insights into the role of the designer and the integration of the Double Diamond model in increasing the effectiveness of MSME merchandising product development in a competitive market.

KEYWORDS

Design process, Double Diamond Model, MSME Industry, Design Thinking, Product Development

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1. INTRODUCTION

1.1 Bandung Micro, Small and Medium Enterprise

In recent years, the MSMEs apparel industry in Bandung has seen rapid innovation, with data from the Bandung Department of Tourism and Culture indicating a 14.15% annual growth in MSMEs within the fashion sector in 2022. This underscores substantial market potential and opportunities for innovation. This growth has led to the emergence of MSMEs fashion, including merchandise, which has evolved from merely commercial goods to symbols of style and identity.

Yet, some areas of the fashion industry, particularly MSMEs merchandise, lack dedicated designers. Many tend to focus on mass production without paying attention to product innovation and uniqueness of design. The lack of awareness of the importance of innovative product design can hinder innovation and business growth, where ultimately can drive the business out of the market if this persists. Conversely, product innovation not only enhances aesthetics but also differentiates products from competitors. This is supported by the findings of Irnanda (2024) on the impact of product innovation and entrepreneurial orientation on the marketing performance of MSME fashion businesses in Medan, which showed that both factors have a positive effect on marketing performance.

To explore this, the study delves into the product development process, particularly in MSMEs merchandise, using the Double Diamond model of Design Thinking. This model, proposed by Brown (2009), offers a robust framework for creative and responsive product development.

1.2 Objectives

In this research, two main issues are the primary focus:

1. The impact of product development results and processes within MSMEs merchandise on innovation, product identity, and business growth has not been adequately identified.
2. The variations in the design and development processes of MSMEs merchandise, which rely on key individuals within the core team, have not been clearly delineated in order to derive an optimal product development process for MSMEs merchandise.

In line with the research questions outlined, the following research objectives have been formulated:

1. To ascertain the roles of individuals or key persons within the core team involved throughout the MSME merchandise product development process, spanning from the initial stages to the activities undertaken and ultimately the outcomes achieved.
2. To analyze the differences in product development processes implemented by MSMEs with distinct process orientations, employing the Double Diamond model within the Design Thinking framework.

1.3 Object and Subject

The study focuses on companies specializing in souvenir products. Two B2B (business-to-business) companies have been selected as research subjects, where these companies offer souvenirs to corporate clients and are briefly profiled below:

1. Company A: Based in Bandung, Company A specializes in crafting souvenirs for corporations, weddings, merchandise, and seminar kits. Founded in 2017, it operates under a B2B model and releases an annual product catalog for client reference and customized orders.
2. Company B: Established in 2022, Company B produces souvenirs, promotional merchandise, and gifts. Functioning as a B2B business, Company B offers a catalog of customizable products, including bags and tote bags, catering to clients' varied needs for promotional events and special occasions.

These companies fit the criteria discussed in this paper: They are MSMEs operating in the fashion industry, specifically merchandising. Both companies are prominent players in the field, and the relative ease of gathering data from them makes them ideal subjects for this paper.

The subjects of this study encompass all individuals engaged in product development within both companies. This research's primary focus lies on the company founders and the core team involved in decision-making and exploratory processes at each stage of product development. These individuals serve as the primary sources of information through observations and interviews that center on their roles and contributions throughout the process.

2. LITERATURE REVIEW

2.1 Double Diamond

To understand user needs in creating relevant innovative solutions, the Design Thinking framework is used. However, in the process, Design Thinking which emphasizes problem disclosure through observation and empathy does not have specific procedures or tools in defining problems and the design process (Brown, 2008), so it is easy for designers to be limited by prejudice and interpret problems from a personal perspective (Thomsen, 2013). Therefore, the Double Diamond Model can be used as a helping tool.

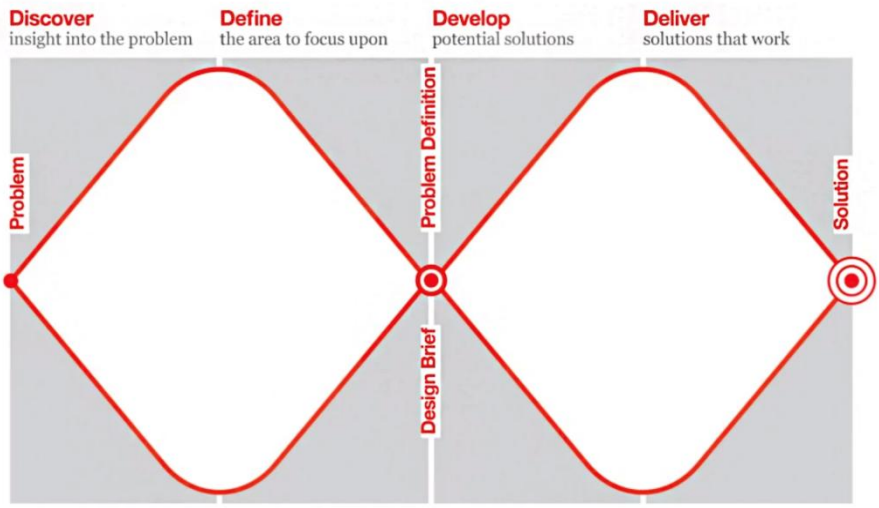

Figure 1. Double Diamond Design Council (Design Council, 2003)

The Double Diamond Model is a design thinking process model used to map the design process through four phases: Discover, Define, Develop, and Deliver (Design Council, 2005). It simplifies design thinking into two key phases: broad exploration (divergent thinking) and focused action (convergent thinking). This model guides designers through exploratory and focused thinking, ensuring ideation growth and effectiveness. It involves:

1. Discover: Initiating a project with initial ideas derived from various research methods, creating a diverse knowledge base for inspiration.
2. Define: Interpreting findings and aligning them with project objectives, refining key components for successful ideation.
3. Develop: Collaboratively addressing identified challenges, progressing through prototyping and testing for design enhancement.
4. Deliver: The final phase involves testing, production, and approval, fostering insights for future improvements.

These stages blend divergent and convergent thinking, fostering a systematic and impactful design process.

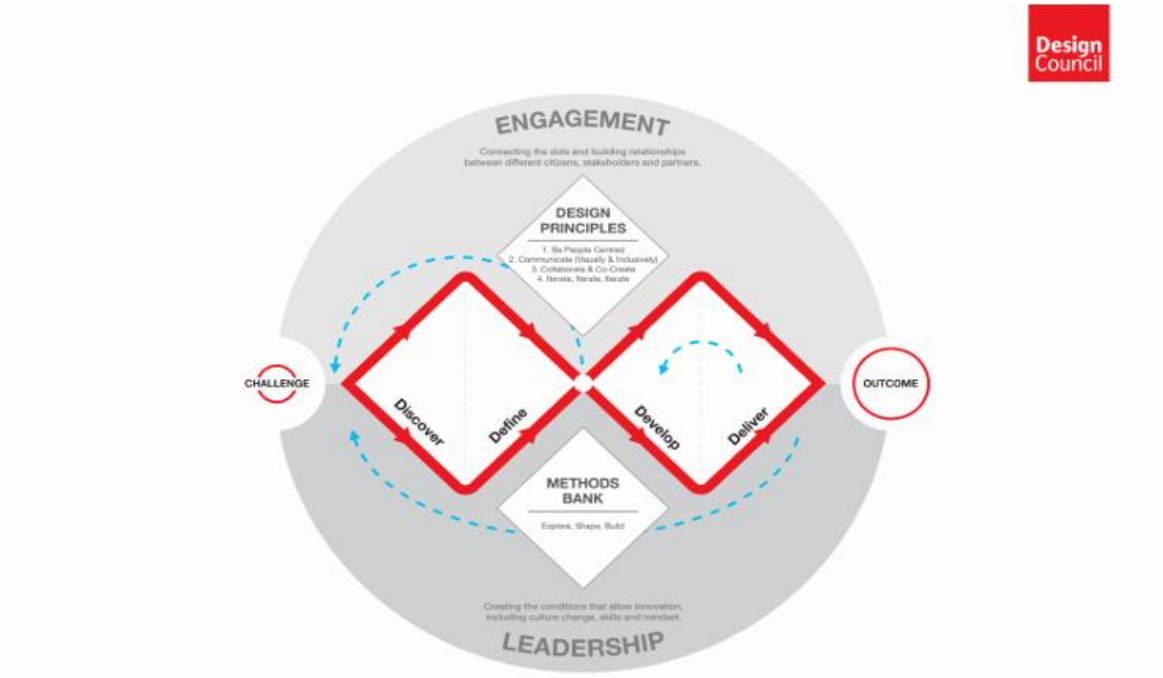

Figure 2. The Double Diamond Model of Design (Design Council, 2005)

The British Design Council explained the Double Diamond Model in more detail, by starting the initial stage by introducing a set of challenges to an idea, which are then continued into the first diamond. At this point, a Design Principle and Methods Bank are applied during this centralized thinking process.

Design Principles include four core principles for problem solvers to work as effectively as possible, namely:

1. Put people first by understanding the people who use a service, their needs, strengths and aspirations.
2. Communicate visually and inclusively by helping people gain a shared understanding of problems and ideas.
3. Collaborate and co-create by working together and getting inspired by what others are doing.
4. Iterate to catch mistakes early, avoid risks and build confidence in your ideas.

While Methods Bank include the following three areas to help identify and address challenges and achieve successful outcomes:

1. Explore: challenges, needs, and opportunities
2. Shape: prototypes, insights, and visions
3. Build: ideas, plans, and expertise

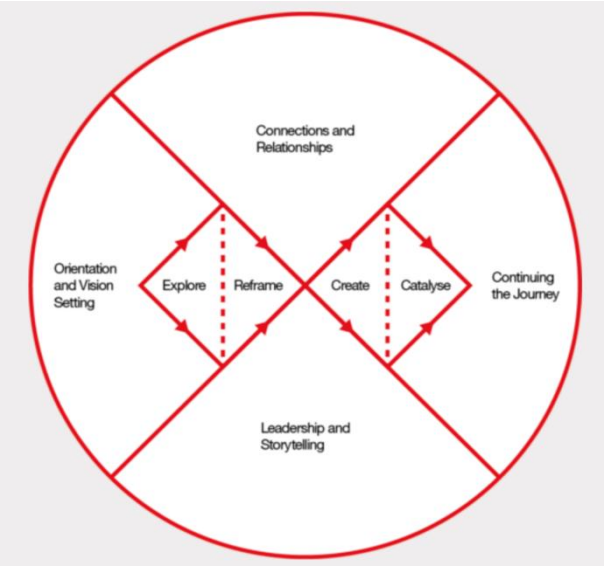

Figure 3. The Double-diamond Model of Systemic Design Framework (Design Council, 2021)

In the Double Diamond Model, as outlined by the British Design Council, two crucial factors influence the cycle of this process: Leadership and Engagement. Leadership is essential to drive innovation, build skills and capabilities, permit experimentation, and foster learning. Strong leadership also enables projects to be open, agile, showcase results along the way, and adapt. Engagement is necessary not only with those generating ideas and receiving them but also with other partners who may bring different perspectives. Building connections and relationships are equally vital as generating ideas. Here, designers play a crucial role.

The pivotal role of designers in the Double Diamond Model and their contribution to product innovation is well-documented in design literature. Designers are integral in navigating the phases of the Double Diamond Model—Discover, Define, Develop, and Deliver—by deeply understanding user needs, ideating creative solutions, and iterating prototypes to achieve user-centered products. This process not only fosters innovation but also ensures that the final product aligns with market demands and enhances user experience.

The Double Diamond Model offers several benefits for project teams. It aligns seamlessly with the four-step Design Thinking approach, making it a tailored fit. However, its applicability is not confined to Design Thinking alone. The Double Diamond Model can be applied to any project where a team seeks solutions to a problem.

On the other hand, the drawback of this framework lies in its linear rigidity. By placing the execution and delivery process at the very back, this creates an imbalance with the deep-thinking process that occurs at the beginning. The process will focus more on why a product should be made, when in fact the iteration process is no less important to ensure optimal product delivery.

2.2 Product Development Cycle

The New Product Development process is a series of activities carried out by a company when developing and launching a new product. New products introduced to the market evolve through a series of stages, starting from the initial product concept or idea that is evaluated, developed, tested, and launched to the market (Booz, Allen & Hamilton, 1982).

In the Industrial Engineering Management journal entitled "A Framework for Successful New Product Development", the author discusses the successful product development process through the Product Development Cycle. The journal emphasizes the importance of the stages in

the product development cycle such as product idea selection, market analysis, concept development, product development, and product testing. The framework follows the stage gate model shown in the figure below.

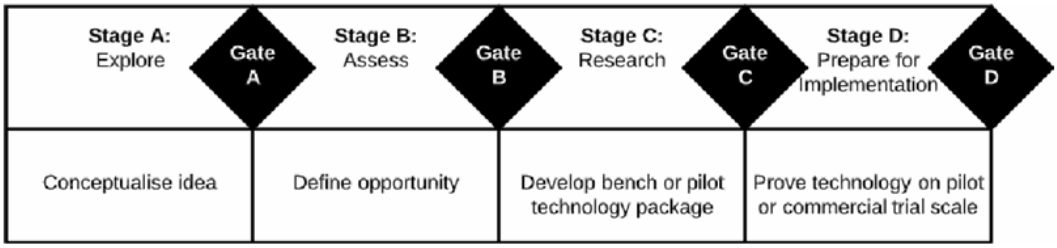

Figure 4. New Product Development (Pienaar et al., 2019)

As new products evolve, management becomes more knowledgeable (or less uncertain) about the product and can reevaluate the initial decision to develop or launch. Following this information gathering and evaluation process can result in better new product decisions for the company by limiting the level of risk and minimizing the resources committed to products that ultimately fail.

The New Product Development (NPD) model developed by Booz, Allen & Hamilton identifies seven stages that encompass the new product development process from start to finish (Pienaar et al., 2019; Booz et al., 1982).

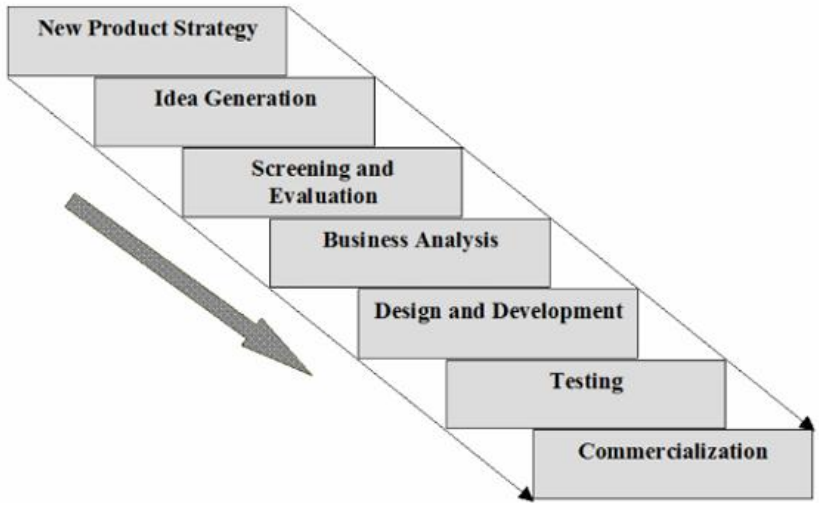

Figure 5. Stage of New Product Development (NPD) (Booz et al., 1982)

The stages of the model are as follows:

1. New Product Strategy: This is the initial stage where the organization defines the objectives and strategies for new product development. This stage requires a deep understanding of the business objectives and overall strategy of the organization.
2. Idea Generation: This stage involves the active process of searching for new ideas for products which can be done through various means, such as brainstorming, market research, industry trend observation, and idea sessions. The goal of this stage is to generate a large number of ideas that can then be evaluated and filtered in the next stage.
3. Screening and Evaluation: Once a large number of ideas have been collected, this stage involves the initial evaluation and screening of these ideas. This process aims to ensure that the ideas selected for further development are in line with the company's new product strategy and business objectives, have good market potential, and can be realized with existing technology and resources.

4. Business Analysis: Ideas that have gone through the screening and evaluation process are then further evaluated based on business and quantitative criteria. This may include factors such as revenue projections, profit potential, estimated return-on-investment (ROI), and expected sales volume.
5. Development: At this stage, the approved product idea begins to be transformed into a physical product. This may involve creating a prototype of the product, conducting trials and adjustments, and planning for full-scale production.
6. Testing: Testing is the stage where the final product or prototype is introduced to a small group of consumers in the form of a market test. The goal is to get direct feedback from consumers before the product is launched widely.
7. Commercialization: The final stage in the NPD process is commercialization, where the new product is launched to the wider market. This involves many activities including mass production of the product, distribution to retailers or consumers, and promotion of the product through various marketing channels.

Throughout this process, Design Thinking principles are applied to each stage of New Product Development above to ensure that the product being developed truly focuses on users and meets their needs in an innovative and effective way.

The role of designers in the design process has great significance. According to Rowe (1987), designers have an important function in understanding user needs, seeking inspiration, creating concepts, building prototypes, and evaluating solutions.

The implementation of the Double Diamond Model can be observed in the following research conducted by Gloria (2023) where the study looked into the integration of the Double Diamond Model in designing zero-waste outerwear incorporating traditional batik motifs. The process involved:

- **Discover:** Identifying the need for sustainable fashion solutions and the potential of zero-waste designs.
- **Define:** Setting mood boards and design criteria that align with zero-waste principles and cultural aesthetics.
- **Develop:** Prototyping garments that utilize zero-waste patterns while incorporating batik motifs.
- **Deliver:** Conducting market tests to validate the designs with consumers

This approach led to the creation of culturally rich, sustainable fashion items that resonated with environmentally conscious consumers. The Double Diamond Model provides a clear framework that guides MSMEs through systematic problem-solving and creative processes, while emphasizing on User-Centric Design to ensure that products and services align with customer needs and preferences, leading to higher satisfaction. By implementing the Double Diamond Model, Indonesian fashion MSMEs have successfully developed innovative, user-centered products that honor cultural traditions while meeting contemporary market demands.

2.3 Micro, Small and Medium Enterprises (MSMEs)

In the journal entitled "Dynamics of Small and Medium Enterprises in Emerging Economies" by Khan et al. (2018), Small and Micro Enterprises (MSMEs) are defined as business entities that have a smaller scale of operation and turnover compared to large companies. According to "Small and Medium-sized Enterprises: Local Strength, Global Reach" published by the World Bank (2020), there are various criteria used to classify MSMEs. In many countries, parameters such as number of employees, annual turnover, and assets are used to distinguish between micro, small, and medium.

In Indonesia, MSMEs play an important role in the economy as a supporter of economic growth, job creation, and poverty alleviation. Based on Law No. 20 of 2008 concerning Micro, Small, and Medium Enterprises, MSMEs are defined based on the criteria of the amount of assets and annual income, Micro businesses have assets of up to IDR 50 million and/or income of up to IDR 300 million, while small businesses have assets of more than IDR 50 million to IDR 500 million and/or income of more than IDR 300 million to IDR 2.5 billion.

2.4 Merchandising Industry

In the Indonesian fashion industry, MSMEs play an important role as a pillar in increasing the reputation and influence of the industry. The merchandise industry is considered a subsector of the fashion industry, according to the classification widely accepted in the literature (Smith, 2015). This is based on essential similarities in terms of business processes, from design conception to production (Brown & Lopez, 2017). Merchandising is part of the retail mix where the company carries out activities to procure products that are in accordance with the business run by the store to be provided in the appropriate quantity, time and price to achieve the store or retail company's targets (Hendri, 2005).

The production and manufacturing process in the fashion industry involves various stages including material selection, pattern making, sewing, and finishing (Goworek, 2011). Material selection involves an understanding of the characteristics and qualities of different materials, and how they can impact the appearance and function of the final product. Knowledge of production and manufacturing technology is also important, including an understanding of sewing and finishing processes, and the ability to manage large-scale production. Efficient and effective manufacturing techniques are key to producing high-quality products at competitive costs (Goworek, 2011).

In the merchandising industry in Indonesia, the brand SukkhaCitta is a prime example of integrated product design in the merchandising/fashion industry. Founded by Denica Riadini-Flesch, it is an Indonesian social enterprise that integrates traditional craftsmanship with contemporary fashion. By working directly with rural women artisans, SukkhaCitta ensures fair wages and preserves indigenous techniques. This integrated approach allows the brand to control the entire production process—from sourcing raw materials to final garment creation—ensuring quality and authenticity. Such integration not only empowers local communities but also appeals to consumers seeking sustainable and ethically made products. By adopting integrated product development strategies, MSMEs like SukkhaCitta can effectively combine traditional craftsmanship with modern fashion demands, resulting in sustainable growth and a unique market position.

3. METHODOLOGY

This research adopts a qualitative research approach through a case study. The fundamental premise of using qualitative methods is rooted in understanding experiences and individual interpretations. This aligns with Creswell's (2013) perspective that qualitative research is an appropriate approach for studying complex phenomena within specific contexts. The primary focus is to understand the interplay of all variables throughout the entirety of the product development process.

The study employs a qualitative approach using purposive sampling, involving in-depth interviews and observations, along with case studies within MSME merchandise product development teams. The companies being interviewed, here stated as Company A and Company B, are selected due to its ease in obtaining data and their prominence in the merchandising industry, allowing the author to complete this paper without any significant challenges.

The sample criteria of the survey were the production team and company stakeholders who actively participated in the production process. Respondents interviewed included designers, product developers, and company management, where they were asked about their understanding of design processes, challenges, and potential benefits of using the Double Diamond Model in their product development process. Shown below is the subjects of this research, summarized in Table 1:

Table 1. Research Subject

No	*Company*	Subject	Description
1	Company A	Board of Directors	The BoD (Board of Directors) or founder of Company A is also responsible for the overall product development process.
		Designer	One designer is assigned to the task of designing the product. The designer is responsible for the design process of the fifth catalog.
		Production Team	The Production Team consists of four individuals and is responsible for both creating the catalog of products and mass production of the products.
2	Company B	Founder	The Founder of Company B is responsible for overseeing the sales and product ordering processes, as well as serving as a bridge between customer design requests and the designer.
		Designer	Company B has one designer, who, in addition to carrying out design activities, also holds responsibility for the entire production process.
		Production Team	Company B has a sewing team consisting of five individuals. This sewing team operates within an in-house production or sewing space.

Data collection techniques used in this study are divided into 2, namely secondary data and primary data. Secondary data consists of literature data, while primary data consists of observation and interviews.

For primary data collection techniques through observation, the observation instrument used is the Service Blueprint framework which allows for a deeper understanding of each aspect of the process which will then be analyzed into the Double Diamond model in the Design Thinking method. While the variables include the implementation of the Design Thinking process that is being carried out, analysis of activities, characteristics, and work processes of the team and each individual involved in the product development process. In addition, the analysis was also carried out using the Double Diamond model as a recommendation to support public organizations in creating products or services, with the following details:

1. General description of activities, work processes and activities carried out in product development.
2. Analysis of activities, characteristics, and work processes of each individual / key person in the main team (core team) in the product development process.
3. Further analysis was carried out using the Framework for Innovation approach: Design Council's evolved Double Diamond.
4. Research and Development Team (core team) involved in the implementation of product development that is being carried out in merchandise MSMEs.
5. Individuals involved in each product or project in each process, which is then mapped into each Design Thinking process.
6. Form of framework / tool used in each stage of Design Thinking by the Research and Development team in the process of designing MMSMEs merchandise products.
7. Activities, characteristics, and work processes of each individual involved in product development in MSMEs merchandise at each stage of Design Thinking through the Double Diamond model that is carried out.

As for primary data gathering through interviews, the instrument used is discussion deck with components encompassing:

1. Interviewee Profile: This information includes the interviewee's name, title or position, and background, which helps in understanding the interviewee's perspective and context.
2. Time and Place: Including details of the time and place of the interview helps in setting up and organizing.
3. Interview Objective: This section explains the purpose of the interview or discussion, which helps in keeping the focus on the research objectives.
4. List of Main Questions: These are the questions you want to ask the interviewee. These questions should be carefully designed to help achieve the research objectives.
5. List of Derivative Questions or Feedback Questions: Additional or follow-up questions that may be needed based on the interviewee's response to the main questions.
6. Documentation (Meeting Record): Documentation in the form of a meeting record in the form of an audio or video recording, or written notes from the discussion or interview. Meeting records are used in this study to review the discussion or interview for details that may have been missed during the live session so that they can be re-examined and used for further verification or analysis.

In conducting interviews, the variables cover various organizational aspects and business processes, including:

1. Profile of merchandise MSMEs, products, and organizational structure, including the company's vision, mission, and history.
2. Business processes carried out in merchandise MSMEs.
3. An in-depth description of the process that will be dissected through the Service Blueprint Framework, related to activities, work processes, tools used, and stakeholders involved in product development at each stage. This also includes the duration of product design and development in one iteration, resources in each activity in the stage, the role of individuals involved in each stage, and documentation or artifacts for each stage carried out
4. The process of product development carried out between actors / individuals (key persons) and the teams involved
5. The product development management process in the company, including organizational structure, decision-making processes, and human resources.
6. Implementation carried out by the product development team or designer during the design and production process.

The methods used to analyze the gathered data are:

1. Transcription: Transcription is done by copying the interview recording into written form to facilitate the subsequent data analysis process.
2. Coding: Done by labelling or coding each unit of data contained in the interview transcript. These codes can be words or phrases that represent certain processes or concepts that appear in the interview.
3. Categorization: After coding, categorization is then carried out by grouping similar codes into broader process categories.
4. Thematic analysis: Done by identifying themes or patterns that emerge from the data that has been categorized. This process is done by reading and analyzing the entire interview in depth to understand and find the entire process in the data.
5. Interpretation: Done by interpreting the meaning contained in the data. This process aims to develop understanding and draw conclusions about the process being studied based on the data that has been analyzed.

The data gathering process occurred from April to August of 2023.

4. RESULTS & DISCUSSION

The integration of the Double Diamond model and Design Thinking principles holds substantial promise for the merchandise product development industry, especially within the MSME merchandise sector. Through qualitative research, this illuminates the impact of this integration on design processes, competitiveness, and innovation within MSMEs. The findings highlight the pivotal role of designers and the potential of this approach to elevate the effectiveness of merchandise product development in a competitive market.

Double Diamond process—comprising the Discover, Define, Develop, and Deliver phases—serves as a structured innovation framework that helps break down challenges into manageable stages. In Company A's New Product Catalog development, this model is applied annually to introduce new products, ensuring a broader product range that aligns with market demands. The Discover phase includes project briefing and market analysis, followed by defining trends and user needs. Development then transitions into product sketching, 3D modelling, detailing, and prototyping before testing and launching the catalog.

Meanwhile, Company B employs the Double Diamond process for product customization, emphasizing tailored merchandise solutions. The process begins with customer design requests in the Discover phase, followed by defining references and specific design concepts. Development then focuses on product design and mass production, ultimately leading to packaging and delivery. By streamlining customization workflows, this approach ensures both efficiency and responsiveness to consumer preferences.

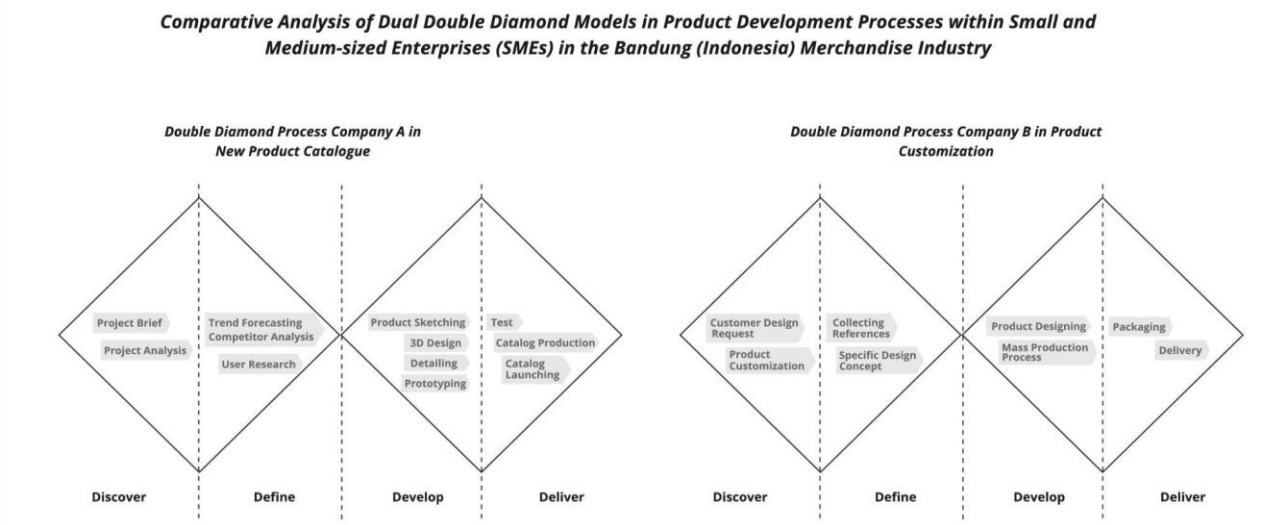

Figure 6. Comparative Analysis of Dual Double Diamond Models in Product Development Processes within Small and Medium-sized Enterprises (SMEs) in the Bandung (Indonesia) Merchandise Industry

In the comparative analysis of the Double Diamond model in the product development process between Company A and Company B, differences were identified that reflect each company's unique approach throughout the product development sequence.

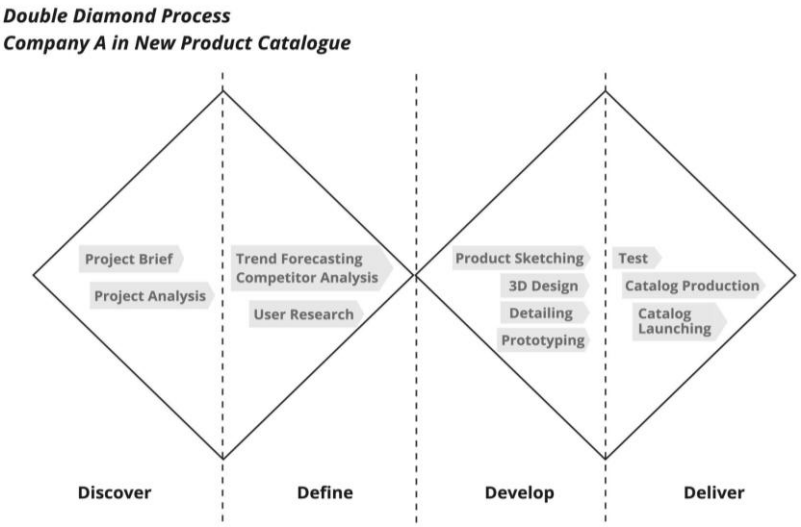

Figure 7. Double Diamond Process of Company A in New Product Catalog

Company A adopts the New Product Development model, focusing on designing new products presented in an annual catalog. This process aims to broaden product variety, enhance the company's scale, and respond to diverse market demands. Through the catalog, customers can select products aligned with the customization guidelines offered.

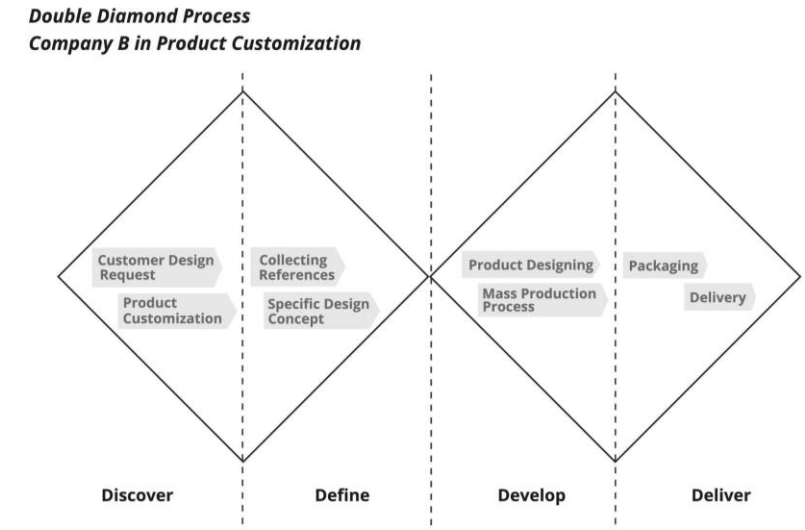

Figure 8. Double Diamond Process Company B in Product Customization

On the other hand, Company B emphasizes the Customization Product Development model, highlighting the customization of product designs from the catalog's price list. This process accommodates design requests made by customers, and new products can be added to the price list based on demand. Company B's primary focus lies in the operational process and business flow involved in fulfilling product orders based on customer customization or design requests. This approach enables Company B to offer a wider array of choices to customers, allowing them to tailor product details according to their preferences.

Both of these companies showcase how the implementation of the Double Diamond model can be adapted according to a company's characteristics and needs. Company A focuses on product expansion and branding through its catalog, while Company B emphasizes flexibility in product orders based on customer requests. In conclusion, both companies effectively utilize the Double Diamond model to develop products with unique approaches aligned with their respective visions and strategies.

4.1 Double Diamond Process Focus Factor

Differences in practices between Company A and Company B have been identified in their approach and focus on each stage of the Double Diamond Model in product development. In the Discover stage, Company A places a greater emphasis on developing new product designs and design quality, showcasing an orientation towards innovation and idea exploration. In contrast, Company B concentrates more on sales aspects and product quantity, prioritizing customer demand fulfillment and leading to convergence based on specific requests.

Moving to the Define stage, Company A demonstrates a deeper and strategic approach, focusing on trend and competitor analysis to define the product's market position. On the other hand, Company B leans towards time efficiency, prioritizing the implementation of customer requests, with designers acting as implementers to fulfill desired customer demands.

In the Develop stage, Company A prioritizes quality control in design that aligns with the initial concept and design brief. They ensure the produced products remain aligned with the initial vision and specified requirements. Conversely, Company B concentrates on designs that suit customer reviews and the technical process of mass production, adhering to predetermined timelines.

In the Deliver stage, Company A highlights branding in new catalogs using engaging social media content. They provide detailed explanations for each product to attract buyers. Company B prioritizes reliable delivery of mass-produced items with stringent quality control, emphasizing customer satisfaction.

Table 2. Activity Focus for all Double Diamond Model stages

Factors	Company A	Company B
First Phase - Discover		
Activities Focus	• Formulate an effective design brief by BoD and designers. • In-depth analysis of previous products and competitors to determine the focus of unique and competitive product design.	• Direct communication with customers: gain insight into design preferences and requests. • Coordination with designers: bridge customer requests and produce appropriate designs.
Second Phase - Define		
Activities Focus	• The final design creation process is in accordance with the concept brief and provides DNA in the design. • The production process goes through an evaluation stage on the prototype so that the product details are in accordance with the design.	All design elements, namely product design, pattern design, illustration / graphic design and technical operations of the production process.
Third Phase - Develop		
Activities Focus	• Designers analyze current fashion trends to understand shifts and preferences in product design. • Designers conduct in-depth analysis of the visual form of competitor products to assess competitors' strengths and weaknesses. • Designers formulate product concepts and detailed product requirements based on the analysis results to create unique and market-relevant products.	• Designers select references that can be worked on according to the designer's capabilities. • Designers communicate intensively with customers regarding the references that have been selected to ensure the suitability and clarity of the design concept desired by the customer. • Designers formulate specific and detailed design concepts based on

Factors	Company A	Company B
		the references that have been selected and customer feedback.
Fourth Phase - Deliver		
Activities Focus	• Product testing with potential customers to ensure quality before launch. • Detailed planning for catalog creation and photoshoots and utilizing social media as a promotional medium.	• Packaging process for all products that have been completed. • Shipping process according to requests and agreements with customers. • Shipping information, including tracking numbers, will be provided to customers.

4.2 Stakeholder Mapping

The analysis regarding team and individual roles in the product development process at Company A and Company B illustrates significant differences in team structure, involvement, and the role of business owners or founders in the process.

At Company A, the Board of Directors (BoD) or business owner plays a strong role in the initial stages, especially in crafting design briefs and supervising the entire project. This underscores the owner's importance in steering product vision and ensuring overall quality. The product design team holds a central role throughout the process, from design to launch. The production team, including tailors and operational staff, is pivotal in creating the physical products. The marketing and social media teams provide information and promotional support.

Conversely, Company B showcases a simpler structure. The founder is involved in the initial stages of customer interaction, ensuring designs and order details meet customer needs. The lone designer in the team acts as the bridge between customers and the production team, also serving as the head of production. The production team encompasses production heads, quality control, and finishing. The founder is also part of the financial team, dealing with pricing offers and presenting price list catalogs to customers.

Table 3. Stakeholder Mapping comparison of Company A and Company B

No	Stakeholder	Company A	Company B
1	*Business Owner*	Business Owner or Board of Director (BoD) as an Involved team especially in the early stages of compiling the design brief. In addition, the BoD also takes on the role of supervisor in the entire project series.	Business Owner or the Founder as an Involved Team at the initial ordering interaction stage with customers to ensure the design of the order and detailed requirements for the order.
2	*Designer*	Product Designer: (2 People) Product Designer is part of the core team in the entire process series. Designers play a direct role in every series of activities in the entire process carried out. Catalog Designer Team: Catalog Designer Team, namely photographers, graphic designers, copywriters, social media teams are included in the Involved team involved in the final stages of product launch.	Designer (1 person) • Designers are part of the core team in the entire series of processes. • Designers act as a liaison between customer design requests and the production team • Designers act as the head of the production team and are responsible for the quality of design results in mass production

No	Stakeholder	Company A	Company B
3	*Production Team*	The Production Team (tailors, operations, production) at the convention is an involved team in the process of making product prototypes and the entire product series.	The Production Team (head of production/designer, quality control, and finishing) at the convention is an involved team in the mass production process of the product.
4	*Financial Team*	The financial team is an involved team in the process of determining the Cost of Goods Sold of a product and pricing each item in the catalog.	The Financial Team, namely the founder, is the front stage in dealing with orders and prices by offering catalog price lists to customers.
5	*Others*	• Bamboo weaving craftsmen (regional craftsman community) become a team involved in the process of working on the main material in the product, namely weaving • The Marketing and social media Teams are included in the informed team that provides information related to engagement on a product launched on social media.	Admin is included in the informed party which provides information related to customer responses in e-commerce.

These differences indicate that Company A has a more complex team structure with broader involvement from various teams and individuals, including the business owner. This suggests a more systematic and scalable approach to product development, where responsibilities are distributed across specialized roles, potentially leading to greater efficiency and innovation. On the other hand, Company B takes a more centralized approach, with the founder directly involved in customer interaction and strategic decision-making. While this can ensure agility and a strong founder-led vision, it may also pose challenges in scalability and delegation as the company grows. This comparison highlights how team structures shape product development efficiency and strategic focus, underscoring the trade-offs between a decentralized versus a founder-driven approach.

5. CONCLUSION

Innovation within the Small and Micro Enterprises (MSMEs) apparel industry in Bandung has rapidly evolved in recent years, showcasing the considerable market potential and wide-open innovation opportunities in this sector. Product innovation can be achieved by focusing on the product development processes employed by each industry. This process serves as a benchmark for creating novel products and establishing a company's identity. With this context in mind, the analysis delves into comprehending the product development processes within MSMEs, specifically in the merchandise field, with Company A and Company B as the research objects. The investigation utilizes the Double Diamond model from Design Thinking to explore the product development processes in both companies.

The product development process involves three crucial aspects. Firstly, the roles of individuals and key personnel within the teams are pivotal factors to consider, given their backgrounds and skills that can influence the process's course. Secondly, the differing objectives of the applied Double Diamond Model in the two companies lead to variations in the undertaken activities. Lastly, the distinct characteristics of each company impact the unfolding of the product development process at each stage of the Double Diamond—Discover, Define, Develop, and Deliver—contributing to the diversity of the product development pathways.

5.1 Individual Roles and Key Personnel in the Team

Significant variations in decision-making and design approaches between Company A Gift and Company B during the Discover stage have a ripple effect throughout their processes. Company A prioritizes annual design innovation, involving design-oriented Boards of Directors or founders. In contrast, Company B leans towards sales and customization, led by a founder with a business background, resulting in a customer-centered approach.

Analyzing the roles of individuals in the core teams of these MSMEs merchandise businesses, Company A's core team includes Business owners and BoDs, product designers, and supporting teams such as catalog designers, craftsmen, production, and finance. Company B's core team comprises the Business Owner/Founder, a Designer bridging customers and production, and production-related teams like Production, Quality Control, and Finishing, alongside the finance team. This difference reflects Company A's emphasis on design and creativity, while Company B prioritizes founder-customer interaction and efficient production responses.

Despite these differences, both models emphasize the crucial role of a well-structured core team in executing their respective strategies. Successful implementation of both models relies on a core team that drives the execution process by ensuring strategic decision-making, effective product development, and seamless collaboration between involved stakeholders. With the Business Owner and Product Designer at the center, supported by the Promotion Team and Support Team, this structured approach enables efficient operations, sustainable innovation, and strong market positioning.

5.2 Objective Differences in the Double Diamond Model

The analysis reveals two distinct Double Diamond models with differing processes and characteristics. The fundamental contrast between the functions and process focus of the Double Diamond model in Company A Gift's New Product Catalog and Company B's Customization Product strongly reflects their unique approaches to product development. Company A prioritizes the creation of new products that are consistently launched through their annual catalog. Their primary function is to expand product variety and enhance company scalability, with a focus on customizable product design as guided by the catalog. On the other hand, Company B emphasizes iterative development of design from the price list catalog, which is periodically updated with new products launched based on customer design requests. Their function is more oriented towards overall operational and business flow in product ordering, particularly catering to customer customization and design requests. These overall differences mirror the distinct approaches to product development that accommodate each company's business strategies and customer needs.

5.3 Company Characteristics and Process Differences

Company A and Company B differ significantly in their approach and focus during the Double Diamond process. In the Discover phase, Company A emphasizes new design development and quality, while Company B prioritizes sales and customer demands. In Define, Company A takes a strategic approach with trend analysis, while Company B focuses on efficient customer-request implementation. In Develop, Company A emphasizes quality control, whereas Company B focuses on design reviews and mass production. Lastly, in Deliver, Company A emphasizes branding and marketing, while Company B prioritizes delivery and quality control. These differences reflect distinct business focuses: Company A on uniqueness and quality, Company B on customer demand and efficiency.

In conclusion, the differences between Company A and Company B in their product development processes highlight the impact of team structure, strategic objectives, and business characteristics on their approaches to the Double Diamond Model. Company A’s emphasis on design innovation, structured product launches, and quality control demonstrates a long-term

strategy aimed at product diversification and brand positioning. In contrast, Company B's customer-driven approach, iterative design process, and operational efficiency reflect a business model that prioritizes responsiveness to customer demands and streamlined production. These variations illustrate how product development strategies are shaped by each company's priorities, with Company A focusing on creativity and scalability, while Company B centers on adaptability and customer-driven customization. Ultimately, these distinctions underscore the importance of aligning product development approaches with business goals to optimize growth and competitiveness in the merchandise industry.

5.4 Suggestion

This study provides valuable insights into the application of the Double Diamond model in the product development processes of MSMEs merchandise businesses, specifically in Company A and Company B. The findings highlight how differences in company structure, strategic objectives, and business models influence their innovation approaches. However, a key limitation of this study is its small sample size, which restricts the generalizability of the findings to the broader MSMEs merchandise sector. While Company A and Company B provide contrasting perspectives, a larger sample including businesses with diverse market orientations, such as mass-market vs. niche brands, or online vs. offline businesses, would enable a more comprehensive analysis of product development strategies. Expanding the research to cover different scales and operational models would provide richer insights into how MSMEs navigate innovation and competition.

Another critical limitation lies in the depth of stakeholder engagement. The study primarily focused on the perspectives of the core teams within Company A and Company B, but product development involves a broader network of stakeholders, including suppliers, distributors, and customers. Conducting in-depth interviews and ethnographic research with production staff, marketing teams, and end consumers would offer a more holistic view of how product development strategies are formulated and executed. Additionally, external factors such as shifting consumer behaviour, technological advancements, and regulatory influences play a significant role in shaping product innovation. Future research should incorporate market analysis and competitive benchmarking to understand how external dynamics impact each stage of the Double Diamond model.

Lastly, future research should examine the long-term effects of different product development strategies on business growth and sustainability. While this study identifies the contrasting approaches of Company A (innovation-driven) and Company B (customer-centric), tracking their long-term outcomes, such as profitability, brand equity, and customer loyalty, would offer practical insights into which strategies provide sustainable competitive advantages. A longitudinal study could assess how MSMEs refine their approaches over time and adapt to market changes. Despite its limitations, this study serves as an essential foundation for future research, providing valuable knowledge for MSME businesses seeking to optimize their product development processes, enhance innovation capabilities, and maintain competitiveness in an evolving market landscape.

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