



Faculty of Technology Management and Technopreneurship



NEW PRODUCT DEVELOPMENT ON SKINCARE AND COSMETICS:

CASE STUDY IN MM COSMETIC SDN BHD

LOW HUI SIN

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

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NEW PRODUCT DEVELOPMENT ON SKINCARE AND COSMETICS:

CASE STUDY IN MM COSMETIC SDN BHD

LOW HUI SIN

**A thesis submitted in fulfilment of the requirements for the degree of Bachelor
of Technopreneurship with Honours**



UNIVERSITI TEKNIKAL MALAYSIA MELAKA

Faculty of Technology Management and Technopreneurship

UNIVERSITI TEKNIKAL MALAYSIA MELAKA

2023

DECLARATION

I declare that thesis entitled “New Product Development in Skincare and Cosmetics: Case Study in MM Cosmetic Sdn Bhd” is the result of my research except as cited in the reference. The thesis has not been accepted for any degree and is not concurrently submitted in the candidature of any other degree.



Signature: *LOW HUI SIN*

Name: LOW HUI SIN

Date: 18 January 2023

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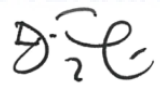
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APPROVAL

I hereby declare that I had read through this thesis and in my opinion that this thesis is adequate in terms of scope and quality which fulfil the requirements for the award of Bachelor of Technopreneurship with Honours.

Signature: 
Supervisor Name: ASSOCIATE PROFESSOR TS. DR. CHEW BOON CHEONG
Date: 18 January 2023

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Signature: 
Panel Name: DR. ISMA ADDI BIN JUMBRI
Date: 26 January 2023

DEDICATION

I would like to sincerely express my appreciation towards my supervisor, Associate Professor Ts. Dr. Chew Boon Cheong, who has guided me along this research journey. I would also like to convey my most profound appreciation towards my family members and friends, who have provided me with moral and emotional support throughout this research. Before I finish, I also appreciate all the participants who assisted me in completing my study.



ABSTRACT

New product development is a driving force that impacts the success of a business. New product development has a process that provides a clear roadmap for developing new products. These processes can ensure the company process a structured and well-planned set of procedures and increase the chance of product success. New product development has been a strategy that enables companies to organize product planning. Currently, the skincare and cosmetic industry has been gaining popularity in Malaysia. Therefore, this study aimed to examine the new product development process in MM Cosmetic Sdn Bhd and investigate the strategy used to render successful commercialization in MM Cosmetic Sdn Bhd. Exploratory research design and qualitative research method were adopted in this study because it allowed the researcher to better comprehend the existing problem by gaining information from respondents in the MM Cosmetic Sdn Bhd through interview sessions. The first research objective was achieved as the new product development process in the MM Cosmetic Sdn Bhd are idea generation, idea screening, concept development, and testing, market strategy and business analysis, test marketing, and commercialization. The second research objective had also been achieved as the strategy used to render successful commercialization in MM Cosmetic Sdn Bhd are portfolio strategy, inter-firm collaboration/cross-over partnership, and market strategy. By gaining insights into each process of new product development and strategy used to be considered when developing a new product, this research is beneficial to the researcher in order to develop a case study to furthermore that the process of a new product or the success of an organization.

ABSTRAK

Pembangunan produk baharu merupakan daya penggerak yang memberi kesan kepada kejayaan sesebuah perniagaan. Pembangunan produk baharu mempunyai proses yang menyediakan peta jalan yang jelas untuk pembangunan produk baharu dan proses ini boleh memastikan proses syarikat melalui set prosedur yang berstruktur dan terancang, serta meningkatkan peluang kejayaan produk. Pembangunan produk baharu telah menjadi strategi yang membolehkan syarikat mengatur perancangan produk. Sehingga kini, industri penjagaan kulit dan kosmetik semakin popular di Malaysia. Oleh itu, kajian ini bertujuan untuk mengkaji proses pembangunan produk baharu dalam MM Cosmetic Sdn Bhd serta untuk menyiasat strategi yang digunakan untuk menjayakan pengkomersilan dalam MM Cosmetic Sdn Bhd. Reka bentuk penyelidikan penerokaan dan kaedah penyelidikan kualitatif telah diguna pakai dalam kajian ini kerana ia membolehkan pengkaji mengembangkan kefahaman yang lebih baik terhadap masalah sedia ada dengan mendapatkan maklumat daripada responden di MM Cosmetic Sdn Bhd melalui sesi temu bual. Objektif penyelidikan yang pertama telah dicapai kerana proses pembangunan produk baharu yang wujud dalam MM Cosmetic Sdn Bhd ialah penjanaan idea, penyaringan idea, pembangunan dan pengujian konsep, strategi pasaran dan analisis perniagaan, ujian pemasaran, dan pengkomersilan. Objektif penyelidikan kedua juga telah dicapai kerana strategi yang digunakan untuk menjayakan pengkomersialan MM Cosmetic Sdn Bhd ialah strategi portfolio, kerjasama antara firma/perkongsian silang dan strategi pasaran. Dengan mendapatkan gambaran tentang setiap proses pembangunan produk baru dan strategi yang digunakan untuk dipertimbangkan semasa membangunkan produk baru, penyelidikan ini memberi manfaat kepada penyelidik untuk membangunkan kajian kes untuk seterusnya proses produk baru atau kejayaan sesebuah organisasi.

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I want to take this opportunity to express my gratitude to everyone who has helped me along this research journey. First, I express my special gratitude to my supervisor, Associate Professor Ts. Dr. Chew Boon Cheong, for his definite and tactful guidance in my research study. Without him, I will not be able to complete my research study smoothly and successfully. I sincerely thank him for letting me learn from him and explore his research strategies. Also, I sincerely appreciate and thank Dr. Isma Addi Bin Jumbri as my panel researcher, for sharing his knowledge and experience in Research Methodology. His suggestions have been helpful for me to proceed well with this research project.

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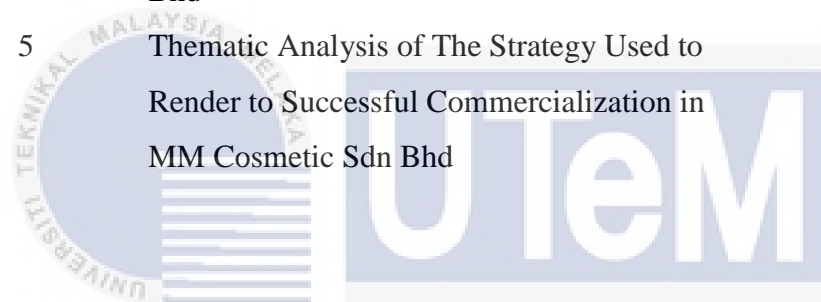
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CHAPTER 1

INTRODUCTION

1.1 Background of Study

New product development is a ready-to-use innovation method that elaborates the relevant factors such as production and development cost, time to market, and product value to possess a higher level of technical, logical, and organizational uncertainty than simply redesigning a product to attract customers (Lubis et al., 2020). New product development is 'the series of activities that begins with identifying a market opportunity and ends in manufacturing, selling, and delivering a product (Karl T et al., 2020). The activities of the firm that result in a stream of new or revised product-market offers throughout time are referred to as new product development (NPD).

A company must create and manufacture increasingly complex products in a shorter period and at a lower cost to meet new customers' requirements and maintain the organization's commercial objectives. To succeed, businesses must maintain control over their New Product Development (NPD) processes and associated resources and receive, create, and transmit data. NPD is the critical process that converts a market opportunity into a product that can be sold (Bibaud-Alves et al., 2018).

A new product development process can manage and measure success in a business and win the business with improved performance from sales. If having an exemplary method of new product development in an industry, an improvement in the company's reputation for quality can exist. It can identify the risks in the process of NPD. Many businesses have set their sights on new goods as a source of competitiveness, and the product development process has become increasingly crucial to them (Gao & Bernard, 2017). Companies and entrepreneurs compete on product quality and the time required to bring new items to market.

In this research, the researcher focuses on the new product development in MM Cosmetics Bhd. Sdn. Since 2004, MM COSMETIC has been a distributor of facial masks. It successfully changed into a trader after two years. It began importing various skincare items from multiple nations to supply valued customers such as beauty salons, spa hotels, internet retailers, and others. In 2011, MM COSMETIC established a small factory to tailor its brand and provide customers with a one-stop OEM-ODM service. MM Cosmetic Sdn Bhd is dedicated to establishing a world-class innovative halal beauty supply chain company in Malaysia and a leading service provider integrating explosive product research and development, high-quality product supply, APP output, and Internet technology operation and development. The aim of MM Cosmetic Sdn Bhd is "Quality Creates Future" the company is vital to the quality of its products and services. From that case, the researcher studies this company's new product development in skincare and cosmetics to gather more information about it.

1.2 Problem Statement/Research Questions

Nowadays, producing new products is essential for a company to improve the market's needs and increase the business's sales. The term "Product" has various meanings, but it often refers to a bundle of consumer satisfaction they purchase or

utilizes to solve a problem (Kuka, 2018). When it comes to product development, a product may be considered a representation of everything the client pays for.

Additionally, skincare and cosmetics products are competitive in Malaysia. The skincare market in Malaysia was valued at \$485.1 million in 2021 (GlobalData, 2022). The cosmetics sector's constant expansion and evolution provide an excellent chance for people interested in the field to market their cosmetics goods. In recent years, innovative cosmetic and personal care products have been in great demand due to consumers' heightened awareness of beauty. The growth of halal skincare and cosmetics in the Malaysian market industry is a new development that will appeal to the country's Muslim customers (Zaidun, 2018).

In contrast, an increase in demand for skin care products containing safe and sustainable components and a rise in digital technology use are anticipated to generate lucrative prospects for market participants in the future (GlobalData, 2022). Therefore, this study aims to provide information and knowledge on new product development in skincare and cosmetics to determine which activity is essential to develop new products. The research questions are constructed as below:

- i. What is the process of new product development in MM Cosmetic Sdn Bhd?
- ii. What strategy is used to render to successful commercialization in MM Cosmetic Sdn Bhd?

1.3 Research Objectives

The research objective of the study presented by the researcher is to identify the case study in MM Cosmetic Sdn Bhd, where this company specializes in manufacturing, research & development, customized formulations, graphic design,

packaging, etc. By studying the information about new product development, the researcher intends to know how the new product development process can bring skincare and cosmetics product success in the market. The research objectives of this study are stated below:

- i. To examine the process of new product development in MM Cosmetic Sdn Bhd.
- ii. To investigate the strategy used to render to successful commercialization in MM Cosmetic Sdn Bhd.

1.4 Scope, Limitations and Key Assumptions

This research focuses on studying the process of new product development and the strategy used to succeed in commercialization. Firstly, the researcher will examine the process of new product development. Next, the researcher will investigate the strategy used to render, which can bring successful commercialization. The research case study is conducted in a cosmetics company, MM Cosmetic Sdn Bhd. Based on Google, the result has shown that MM Cosmetic is a large modern cosmetics supply chain with OEM/ODM (GMP/HALAL) which has the production base. MM Cosmetic Sdn Bhd is cosmetic manufacturing with professional research and development in beauty make-up and skin care manufacturing. The respondents of this research include management staff and executives. This study enables a researcher to discover and examine the new product development process and how they can go through this NPD process to get a marketing strategy to succeed in commercialization.

In performing and identifying this study, a few restrictions exist. First and foremost, the study's limitations are its focus on new product development in one

cosmetics company, MM Cosmetic Sdn Bhd. The sample for this study was represented by managers and executives from MM Cosmetic Sdn Bhd, a company located in Johor. This study's findings may not apply to management personnel and executives with other positions.

The key assumption of this study is that respondents can answer all questions truthfully and thoughtfully during the interview session and offer sufficient knowledge responses based on their best comprehension of the new product development engaged in collecting primary data. This interview session would assist in obtaining reliable data, findings, and outcomes.

1.5 Importance of the Study

This study discusses the process of new product development. As we know, the new product development process is essential because it can assist the company process in the right way step by step. This finding helps to gain insights into the operation of the new product development and investigate the strategy used to render to successful commercialization. To determine the details and accurate knowledge of the new product development process in skincare and cosmetics, the researcher focuses on MM Cosmetic Sdn Bhd. The researcher aims to develop an appropriate new product development to improve creativity and innovation by creating a new product to meet customer needs.

1.6 Summary

In summary, this research aims to generate the process of new product development in a company that produces skincare and cosmetic products. Moreover, it is also investigating the strategy to ensure successful commercialization in this company. New product development plays an essential role in a company because NPD innovates to develop products for customers and better meets their needs through improved functionality, customization, and interpersonal services.

The researcher selects a case study on a company named MM The researcher selects a case study on a company name MM Cosmetic company to collect accurate data and information to conduct the new product development for this research. Through this company, the researcher can understand the new product development process that the company develops by creating and producing a new product in the market. In addition to this case study, the researcher can define and investigate the strategy to ensure successful commercialization in MM Cosmetic Sdn Bhd. This company specializes in manufacturing, research & development, customized formulations, graphic design, and packaging to process their business. During the interview sessions, the researcher can get accurate data and honest answers from the respondents in MM Cosmetic Sdn Bhd.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

In chapter 2, the literature review can identify and organize the relevant literature concepts, and this literature review of the study will be introduced. The discussion outlines the process of the new product development and elaborates on how it can develop new products to provide a means to target new markets and increase the business's revenue streams. The process of new product development is shown in the theoretical framework of this study.

2.2 Process of New Product Development

All new product development processes contain elements of creating and choosing possibilities or ideas (Gurbuz, 2018). The new product development process is the phase to organize their product planning and efficiently make an accurate plan. New product development has been described as a set of information processing and

problem-solving activities in which the output of the process is to ensure the end product's ability to meet customer expectations (Webb, 2016). New product development has a seven-stage process that aims to turn an idea into a viable, high-quality product.

2.2.1 Idea Generation

An idea must be general, the first step to starting new product development. Kotler et al. (2019) define creativity generation as a "systematic search for new product ideas"; they believe management should take a strategic approach. This stage will involve using clearly defined goals to develop specific products, such as market share or expected cash flow. The primary research stage for new product development is the stage of idea generation to initiate research. This idea generation can be a crucial component at the beginning of the new product development process, and an organization is often referred to as the "fuzzy front end" (Trott, 2021). This phase is one of the most significant opportunities to optimize the entire new product development process.

As successful innovators, companies have market orientation, creative sources, receptive organizations, and means to deal with new ideas. This stage can analyse the company's position and find a direction consistent with the business strategy. People can distance themselves from their competitors by generating ideologies that consider affordability. Businesses can work around idea generation through:

Emphasizing the problems customers encounter – identifying issues that customers face is part of the solution to generating an idea in product development. In this situation, an organization is required to comprehend the story entailed in human digital offerings (Singh, 2019). Secondly, there is a need to qualify the problems listed

during the generation of ideas. This is a vital step for a feasibility check of the listed issues and solutions involved in finding the answer in the 4U approach (Singh, 2019).



Figure 1: 4U approach.

Source: Singh (2019).

After the qualification of every problem listed, a company or business must come up with possible solutions. For every problem encountered by a customer, there should be a potential NPD opportunity. Regardless of the company's size, there should be a unique solution to the problems. Lastly, an organization should narrow the problems and solutions by creating a comparison chart listing all the issues shortlisted alongside the proposed solutions. The findings should be circulated across the organization's structure to have a viable problem set. If it becomes hard to convince the stakeholders, one needs to try the approach of Replicating, Re-purpose, and Upgrade (Singh, 2019).

2.2.2 Idea Screening

Hong et al. (2022) define idea screening as a critical stage in technology development because it prevents companies from investing in ideas that later prove worthless or ignoring valuable ideas. Once the idea or creative generation phase ends, the idea must undergo screening to achieve the best vision. Different decision criteria determine the selection of product ideas in the process. Set specific standards for ideas that should be continued or abandoned. The researcher needs to follow specific criteria to screen out good ideas, such as technical issues, strategic fit, and several market opportunities. Kotler et al. (2019) advocate idea screening, a tool to "find good ideas and discard bad ideas as soon as possible". Use a simple rating process to filter ideas, considering possible product attributes. The aim of screening the idea is to eliminate the number of ideas without screening potential ideas. At this stage, SWOT analysis, the analytic hierarchy process, and the novel-useful-feasible method were suggested been using to improve the reliability of idea screening (Huang et al., 2020).

For the purposes of idea screening, the proof of concept (PoC) should come before hand since its essential in idea feasibility. During the shortlisting of ideas and building of PoC, it is vital for a company to have an internal factors and external factors analysis (Singh, 2019)

2.2.3 Concept Development and Testing

After idea screening is done is turned into concept development and testing. Attractive ideas must be developed into product concepts to continue developing the new product.

2.2.3.1 Concept Development

Concept development includes the requirements analysis phase, finding and studying feasible concepts, and selecting better concepts (Zakharova et al., 2021). The information received and processed at this stage is highly uncertain, and the problems that need to be solved include mainly related to goal setting and analysis and looking for ways to achieve these goals (Zakharova et al., 2021). The concept development stage consists of the following stages: needs analysis, concept exploration, and concept definition.

2.2.3.2 Concept Testing

Developing a new product for either a new or an existing market is not a simple undertaking. Before physically manufacturing the product, it is essential to determine whether or not the market is prepared for this type of innovation (Christiansen et al., 2019). Typically, concept testing is performed using a monadic test, meaning that the end-user will not test numerous items simultaneously but only one (Christiansen et al., 2019).

Concept testing is different from test marketing. Concept tests are easier to perform. Can quickly complete a reliable concept test and gain valuable insights from it. Concept testing requires testing only a fraction of the marketing cost. Test marketing involves launching a product on the market, even on a small scale. Therefore, it is unsuitable because conceptual testing can be essential in early testing. A typical concept test is presented to selected interviewees. Describe a statement of the concept of a new product and ask them. Respond to questions such as preferences and purchase intention, which show its market potential (C. Merle Crawford & Di, 2021). Three

types of concept testing are concept screening, concept generation, and concept evaluation (Huang, 2021).

(1) Concept screening: A process that organizations can use to reduce the number of ideas usually generated for new products or services. To ensure that the most persuasive ideas are selected for further development, they must be screened according to specific criteria.

(2) Concept generation: Concept generation is a technical description of the form and working mechanism of the product. This stage is critical in product design, which is essential because it provides insight into what customers think about the product and an approximate description of the actual product mechanism.

(3) Concept evaluation: Assessing a consumer's impression of an expected product or service. It can be a critical early step in discovering whether a new product or service meets the needs and expectations of potential customers. This process can help companies validate ideas before making costly investments to bring new products or services to market.



2.2.4 Marketing Strategy and Business Analysis

2.2.4.1 Marketing Strategy

An efficient marketing strategy is a critical contribution to any business. The marketing strategy provides a competitive advantage by increasing value-added to the business' customers. According to Morgan et al. (2018), marketing strategy is a construct that lies at the conceptual heart of strategic marketing and is central to the

practice of marketing. Plan how to promote a product and reach the target audience. Market strategy defines the value proposition, outlines the planned sales price, and includes the marketing budget in the business analysis (Morgan et al., 2018).

2.2.4.2 Business Analysis

In new product development, establish index systems to monitor the progress. This stage includes input indicators, such as the average time of each stage, output indicators that measure the value of launched products, the percentage of new product sales, and other figures that provide valuable feedback. An organization needs to agree on these standards and indicators. It can prove a valuable asset for future products and the basis for learning and growth. If an idea is not translated into a product, leave it in the funnel (Plotnikova et al., 2020).



2.2.5 Product Development

After setting up the marketing strategy and defining the business analysis, the next step will be passed to product development. It can investigate the exact design and specifications and any manufacturing method. However, it also provides some tangible things for consumer testing, such as feedback on appearance, feelings, and packaging. This stage is the time to create prototypes or limited production models (Yildiz et al., 2021). The NPD begins with prototype development and the minimum viable product (MVP).

a. **Prototype** – The prototype shifts focus on product UI/UX creation, which in turn is shared by the organization's stakeholders. Creating UX/UI helps in the visualization of the end result of the product, and if it complies with the best practices of ergonomics (Singh, 2019).

b. **MVP** – The minimum viable product entails creation of NPD that is unique in the market. Once there is the completion of design, development, and testing, the launching of MVP in the market is done (Singh, 2019).

2.2.6 Test Marketing

Test marketing consists of the small-scale execution of all or part of a marketing programme in a limited geographical area (the test market). It is used to gain experience with marketing the product, uncover potential problems with the marketing mix, and learn where more information is needed before going into the full-scale national introduction of a new product (Panigrahi et al., 2018). The test market duplicates the realities of a national introduction, including competitive and channel issues (Kotler et al., 2019).

In test-marketing consumer products, a company usually seeks to estimate four variables: trial, first repeat, adoption, and purchase frequency (Kotler et al., 2019). Other test marketing results include learning how the new product sells in the competitive marketplace, learning the demographic characteristics of customer segments, learning the best mix of price, consumer and trade promotion, and making better sales and profit forecasts (Kotler et al., 2019).

The field of test marketing is constantly changing, and new test marketing methods are continually evolving, which makes it more challenging to reach a consensus on specific classification types. Therefore, good test marketing can provide a wealth of information about the potential success of the new product and the marketing programme (Panigrahi et al., 2018). Test marketing in new product development has five types - full scale, mini-market, simulated, in-home, and sales wave (Panigrahi et al., 2018).

2.2.6.1 Types of test marketing

(1) Full-scale Test Marketing

According to Panigrahi et al. (2018), this type of test marketing involves a company finding a small number of representative test cities, conducting an entire marketing campaign in these cities, and using store audits, consumer and distributor surveys, and other measures to gauge product performance. Full-scale test marketing results are used to forecast national sales and profits, discover potential product problems, and fine-tune the entire marketing programme (Kotler et al., 2019).

(2) Mini-market Test

Panigrahi et al. (2018) define this type of test marketing as a miniature version of conventional full-scale test marketing because it is carried out in a limited number of stores. With this method, the manufacturer or researcher delivers the product to participating retailers and controls such issues as shelf location, space, displays, point-of-purchase promotion, and pricing according to specified plans (Singh, 2019).

(3) Simulated Test Marketing (STM)

Simulated Test Marketing (STM) calls for recruiting 30 to 40 qualified shoppers and questioning them about brand familiarity and preferences in a specific product category (Panigrahi et al., 2018). These people are then invited to a brief screening of well-known and new television commercials or print ads (Panigrahi et al., 2018).

(4) In-home Test

This type of test marketing also called as In-home Placement Test) is a variant of STM (Panigrahi et al., 2018). As is the case with the STM, the participants are subsequently re-interviewed, usually by phone, to determine their attitude toward the product, usage, satisfaction, and repurchase intentions (Kotler et al., 2019).

(5) Sales Wave

Consumers who initially try the product at no cost (as in the other STM methods) are re-offered the product, or a competitor's product, at slightly reduced prices (Panigrahi et al., 2018). They may be re-offered the product as many as three to five times (sales waves), noting how many consumers select that company's product again and their reported level of satisfaction (Kotler et al., 2019).

2.2.7 Commercialization

Commercialization is the key to understanding the relationship between innovation management processes and successfully bringing new products to market. (Nieto Cubero et al., 2021). Commercialization can be defined as implementing ideas following their innovative development (Ritter & Sornn-Friese, 2017). Commercialization was further as the process of translating research knowledge to improve the products or services such that they can enter the marketplace (Stavros & Smith, 2017). In addition, commercialization is particularly challenging in technology transfer and the most critical driver of change (Still, 2017). New product development has become mainstream at this stage, consumers are buying the products or services, and technical support is constantly monitoring progress.

Commercialization enables business owners to develop products with great benefits, which amazes people. Commercialization has many advantages. These include providing customers with a better choice of products and services, improving the return on investment (ROI), efficient production processes a deliberate decision, and reducing public expenditure. Finally, commercialization includes production, distribution, marketing, sales, and customer support. When these strategies under commercialization fall in place, nothing will stop the spread of the product's attention in the market.

2.3 Theoretical Framework



Figure 2: New Product Development Process

Source: Korolev (2021)

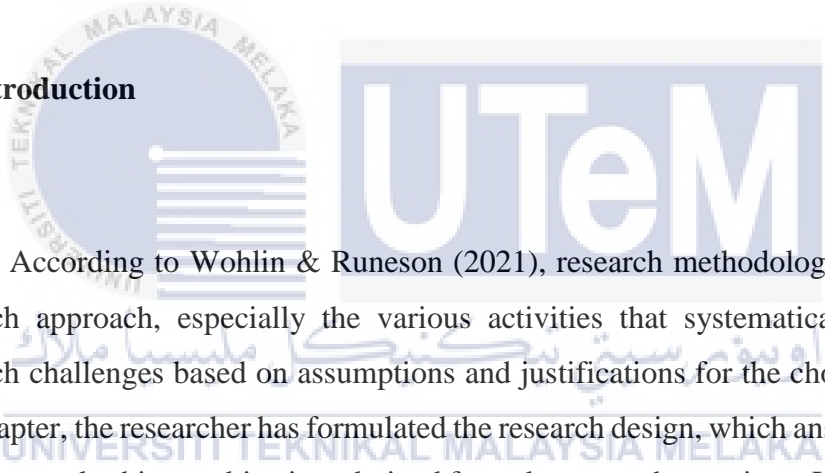
2.4 Summary

While an increasing commitment to a new product development project can be healthy, a commitment to failing new product development efforts can be time-consuming and costly (Webb, 2016). New product development can improve functionality, customization and interpersonal services. Through the process of new product development, can manage to reduce defects and improve the quality of the product. Better design, production and assembly methods can be innovative. Innovation new products can attract the interest of customers.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction



According to Wohlin & Runeson (2021), research methodology refers to the research approach, especially the various activities that systematically deal with research challenges based on assumptions and justifications for the choices made. In this chapter, the researcher has formulated the research design, which answers research questions and achieves objectives derived from the research questions. In addition, this chapter has studied methodological choices using qualitative data collection techniques in this research project. Next, the researcher discussed this chapter's primary and secondary data collection. The researcher also explained the research location, where the company for data collection has been identified.

The research strategy in this study focuses on a case study where the research is based on the actual data obtained from the company with the respondents from the employees or the organization's management teams who are holding the job specification that is suitable to be primary data provision. In the same way, the time horizon and scientific canons have been clarified.

3.2 Research Design

According to Saunders et al. (2019), a research design is an overall plan to answer the research questions. It specifies the data sources to be obtained, recommends how to collect and analyze them, and discusses ethical considerations and inherent constraints derived from research questions (Saunders et al., 2019).

Research and design should be more or less based on some methodology. The choice of the research strategy is a crucial step in the research design process since it influences how relevant information for a study will be acquired (Sileyew, 2019). In this research, the researcher chose the qualitative data collection approaches to help the researcher make tactical judgments.

According to Saunders et al. (2019), there are four research designs which are exploratory, descriptive, explanatory, and evaluative. In this research, the exploratory research design was chosen by the researcher. The exploratory research design was chosen because it allowed the researcher to determine the characteristics of the problem and develop a better comprehension of the existing problem by gaining information from specialists in that field. The answers and responses given by the specialists will surely assist the researcher in widening their knowledge of the research topic. Therefore, this research was essential and can serve as a new product development guideline for the researcher and the organization. In brief, this research would benefit MM Cosmetic Sdn Bhd in understanding their operation appropriately to produce a new product.

The researcher should undertake exploratory research if it is necessary to comprehend and define the setting of the research investigation. According to Reiter (2017), exploratory research offers new conceptions, clarification, philosophies, and hypotheses to reality by providing a new perception of how the segment of reality

works and how these diverse factors have causal relationships. This justified that this research on the process of new product development can help the organizations process the operation of producing a new product to satisfy the client's demand.

3.3 Methodological Choices

Even though methodology includes a normative component, a researcher's methodological choices are only sometimes consistent. It is only a decision, ostensibly from rules, methods, procedures, and tools. The selections or preferences might be sensible or irrational. The researcher may build a research methodology suited to the issues to be addressed and the methodological choices. The qualitative research method was adopted in this research as it assisted the researcher in comprehending the views and perspectives of the respondents by conducting the interview session. Saunders et al. (2019) defined it as a comprehensive research method since it allows the researcher to discover information and knowledge by involving in the current state of affairs.

An interpretative philosophy is often related to qualitative research (Denzin & Lincoln, 2018). It is interpretative because the researcher must make sense of the subjective and socially created interpretations that have been made about the topic under investigation. In qualitative research, meanings are formed by words and visuals rather than statistics (Saunders et al., 2019). The researcher must often explain its purpose since it needs to be clarified. The researcher will conduct an interview session to gather textual descriptions and literacy data for this study. The researcher will ask interview questions to extract relevant information depending on the research topic to accomplish the study's goal. A variety of specialists will be the study's respondents during the research. The researcher was studying new product development to explore the process and the strategy employed to achieve successful commercialization in MM Cosmetic Sdn Bhd.

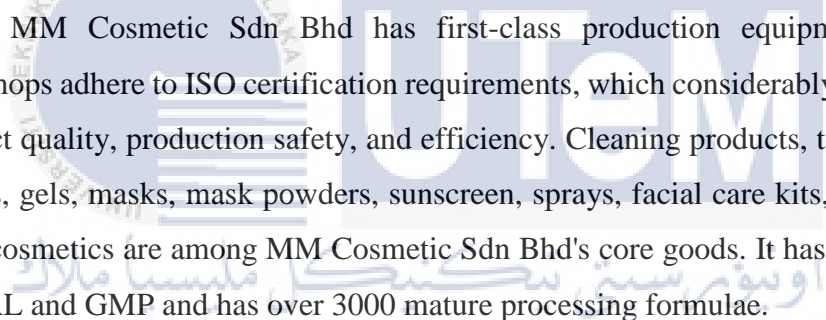
3.4 Primary and Secondary Data Sources

In research, data collecting is essential. There are several techniques for gathering data in a study, all of which fall into one of two categories which are primary and secondary data (Douglas, 2015). Primary data is information gathered for the first time by the researcher, whereas secondary data is information collected or generated by others. Primary data is accurate and original, whereas secondary data is just the analysis and interpretation of preliminary data. Primary data refers to information gathered for the first time by a researcher to identify a solution. In contrast, secondary data is information collected by investigating agencies and organizations for different purposes. Primary data is acquired to solve a problem, whereas secondary data is obtained for reasons unrelated to the current situation.

Data obtained by someone else for a different cause and different periods in the past is referred to as secondary sources. In this case study, the researcher targeted 11 MM Cosmetic Sdn Bhd respondents for an interview session. Personal interviews, in particular, were acquired during the researcher's interviews with the respondents as primary data. Government publications such as article journals, books, and website records contain secondary data. If the researcher utilizes these data, they become secondary data for existing users. The researcher will use this secondary data in this research topic related to new product development.

3.5 Location of Research

Research for this study focused on MM Cosmetic Sdn Bhd, where the company conducts new product development activities in skincare and cosmetics. The company is located at Taman Perindustrian Maju Cemerlang, 81100 Johor Bahru. MM Cosmetic Sdn Bhd is a large-scale, modernised firm that combines cosmetics research and development, manufacture, technical services, OEM/ODM brand processing, and rapid product development. They are dedicated to establishing a world-class innovation halal beauty supply chain firm in Malaysia and a top service provider that integrates explosive product research and development, high-quality product supply, APP output, and internet technology operation and development.



MM Cosmetic Sdn Bhd has first-class production equipment, and the workshops adhere to ISO certification requirements, which considerably increases our product quality, production safety, and efficiency. Cleaning products, toners, creams, lotions, gels, masks, mask powders, sunscreen, sprays, facial care kits, eye care, and other cosmetics are among MM Cosmetic Sdn Bhd's core goods. It has been certified HALAL and GMP and has over 3000 mature processing formulae.

The researcher has chosen this company to collect data because this company has experience producing new products with qualified products based on the quality ingredient and formulas. They had the skills based on their expertise to build a new product to satisfy the market need. MM Cosmetic Sdn Bhd believes that "Quality creates the future" and makes them use high-tech machines to deliver goods. MM Cosmetic Sdn Bhd is a global modernized R&D and manufacturing company combining innovation and technology. More than 5,000 mature formulations and more than 300 clinical trial sites witness the most authentic quality. This company has a professional R&D staff and qualified chemical composition.

The MM Cosmetic's research and development workshop features several automated manufacturing lines, modern water treatment, and a vacuum emulsification workshop with a contactless aseptic operation. MM Cosmetic Sdn Bhd is also developing software named Moomo. Moomo is identical to Shopee and Lazada, two other e-commerce platforms. Moomo will assist customers in starting their own companies. In the internet era, anyone can establish a new retail business. This program will help the company save pricing differences, employees, transportation, shop rent, inventory, and credit term issues. Their products are promoted on LAZADA, SHOPEE, and ALIBABA.

The researcher interviewed respondents from the MM Cosmetic Sdn Bhd will be conducted with the theory of new product development. The researcher can collect data from the interviews related to this study's objective. These actions were to get accurate data and information from the respondents to understand how they determine the new product development process.

3.6 Research Strategy

According to Saunders et al. (2019), a research strategy is a step-by-step plan of action that gives a researcher the general direction of the research, allowing the researcher to conduct research methodically to reach the research goal and answer the study's research questions. Experiment, survey, case study, action research, grounded theory, ethnography, archival research, and narrative inquiry are typical research methodologies used in business and management (Saunders et al., 2019). A case study was chosen as one of these tactics because it allowed the researcher to concentrate on gathering data and information linked to establishing a far more sustainable and environmentally friendly approach to the supply chain.

According to Ngozwana (2018), case studies are a complete investigation of an event, program, group, or other defined topic of interest that collects data from various sources. A case study is a specific example sometimes used to demonstrate a more extensive idea (Singh, 2019). An intense and in-depth investigation of a topic or study of phenomena in its real-life situation, leading to detailed, empirical descriptions and the development of the theory, was the goal of a case study (Yin, 2018). Case study research has used qualitative data to comprehend the case's dynamics properly (Saunders et al., 2019). In this case study, the researcher's goal was to research MM Cosmetic Sdn Bhd adopted the process of new product development and the strategy used to render to ensure effective commercialization.

According to Yin (2018), a case study intends to understand a particular example's uniqueness concerning a specific research issue. The researcher has been tasked with determining how the process of new product development and the strategic approach company contribute to successful commercialization. The research topic the researcher looked into was based on the case study, which indicated related to the research goals in MM Cosmetic Sdn Bhd. A qualitative research technique was developed and used to fulfill the research aims. The study's findings reveal the impact of variables on the NPD process in MM Cosmetic Sdn Bhd by conducting several personal interviews. Research and development managers, marketing managers, and other individuals participating in the NPD process in the MM Cosmetic firm were chosen as respondents because their expert skills or expertise in a specific subject can give excellent data and correct conclusions during this research study.

The quality of sampling is determined by the dependability of the data obtained and the validity of the study's conclusions. According to Saunders et al. (2019), the amount of data gathered can be reduced by acquiring information from a selected subset rather than all prospective respondents and candidates. Analyzing and collecting data from the organizational levels would be time-consuming and costly. In

addition, the researcher employed judgmental sampling to select the best individuals to answer the research questions. These aid in the organization of data on the study issue and the production of impressive outcomes.

Before its ultimate distribution, pilot testing is conducted on members of the target population to assess their dependability. According to Saunders et al. (2019), a small-scale trial permits the researcher to test and comment on the questionnaire to reduce problems when respondents respond to the questions and data recording issues. This study collected the pilot test before distributing the questionnaire to the respondents. The researcher selected 2 participants for the MM Cosmetic Sdn Bhd to process in pilot study. Their suggestions and feedback will be considered in the final survey questionnaire for this study.

3.7 Data Analysis

In this research, interview session was conducted with the experts or experienced executives in order to obtain data and their viewpoints. The data collected were then analysed by the researcher using one qualitative methods which is thematic analysis.

As stated by Saunders et al. (2019), the essential purpose of this approach is to search for themes, or patterns, that occur across a data set (such as a series of interviews, observations, documents, diaries or websites being analysed). Thematic Analysis involves a researcher coding their qualitative data to identify themes or patterns for further analysis in the next part of this section. It is systematic as it provides an orderly and logical way to analyse qualitative data. In this way, the researcher can use Thematic Analysis to analyse large qualitative data sets and smaller ones, leading to detailed descriptions, explanations and theorising.

In brief, thematic analysis was used to analyse the qualitative data collected in this research. This analysis enabled the researcher to capture essential and relevant information to answer the research questions and achieve the research objectives.

3.8 Time Horizon

The time horizon refers to the time it took a researcher to collect data and conduct the study. Independent the study technique is independent of the chosen, and temporal ranges are required for the research design, according to Saunders et al. (2019). Cross-sectional and longitudinal studies are the two main types of research in terms of the horizon (Saunders et al., 2019). Cross-sectional studies use a one-shot or snapshot time frame to investigate a specific occurrence at a particular time (Saunders et al., 2019). Cross-sectional studies collect data from various demographic groups within a particular time (week, month, or year). These made to look at how things are now or in the past, with little regard for whether there is a pattern or history at work (Bell et al., 2022). Longitudinal studies, also known as diary perspective temporal horizon studies, investigate the process of change and pattern of a phenomenon that has formed through time (Saunders et al., 2019). Most studies are cross-sectional because they take less time, effort, and money to collect such information or data than longitudinal research (Sekaran, 2016).

According to Saunders et al. (2019), cross-sectional studies may be undertaken in most academic research initiatives due to time and resource restrictions. Researcher must also investigate a given issue within a specified period. This situation occurs because the researcher must do this academic research between March 2022 and January 2023 to meet the research objectives. The researcher chooses cross-sectional studies as in this research design in this study. Case studies were done based on

interviews with 11 managerial staff and industry experts who relate to MM Cosmetic Sdn Bhd in a short period for this study.

3.9 Scientific Canon

Internal validity, generalizability/external validity, construct validity, and reliability were all emphasized in the scientific canon. Furthermore, residual primary component analysis (PCA) measures uniformity or the extent to which a scale evaluates a concept (Cadima, 2016). The researcher analyzed participants' replies to check if each response choice was represented equally and if the scale responses were independent to assess the validity of the response scale. Scale performance may be examined using criteria from earlier work, such as the number of observations inside each scaled output and category probability curves (Cadima, 2016). To look at it another way, using such methods can help researchers gain more precise study findings and write a better thesis.



3.9.1 Internal Validity

Interval validity refers to the amount to which a researcher's findings may be ascribed to the intervention researcher is studying rather than research design problems (Saunders et al., 2019). The study results of the researcher would be deemed invalid if a false finding was reached or an inappropriate association was represented. For instance, internal validity would be proven in an investigation when it can be demonstrated statistically that intervention produced a particular outcome, as opposed to another confounding variable (Saunders et al., 2019).

The scope must be constrained by the study topic, research question, and research objective to ensure the internal validity of this study. This research focuses on the new product development process at MM Cosmetic Sdn Bhd. Adherence to the research questions and objectives is essential to producing remarkable research. There are several reasons why the internal validity of the researcher's work might be compromised (Saunders et al., 2019), as described in Table 1 below:

Table 1: Threat of the Internal Validity

Source: Saunders et al. (2019). Research Method for Business Students.

Threat	Definition and explanation
Testing	The impact of testing on participants' views or actions. For example, informing participants about a research project may alter their work behaviour or responses during the research if they believe it might lead to future consequences for them.
Maturation	The impact of a change in participants outside of the influence of the study that affects their attitudes or behaviors etc. For example, management training may make participants revise their responses during a subsequent research stage.
Past or recent events	An event which changes participants' s perception. A product quality and have a unforeseen effect on a planned study can influence the product's performance (unless the

	objective of the research is to find out about post-product recall opinion.
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3.9.2 Generalizability/External Validity

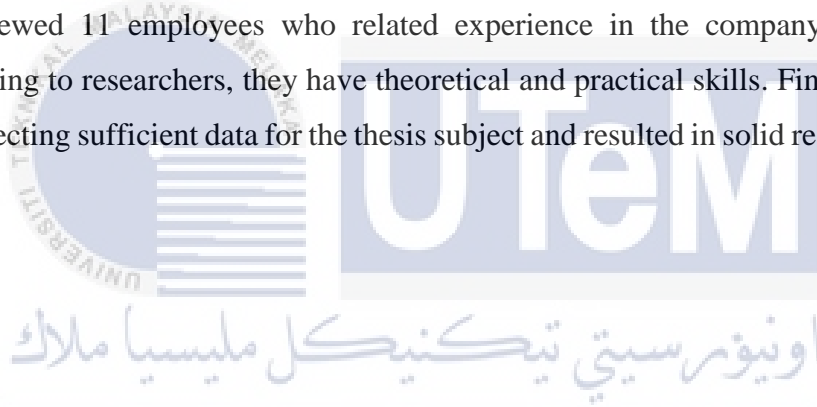
The empirical research literature is mainly devoid of external validity. It could be because there is no clear definition of what it is or how to achieve it. On the other hand, the researcher of this chapter claims that external validity is the link between theory and practice. External validity is the "base for generalization to various populations, places, and timeframes" (Saunders et al., 2019). External validity is questioned by Sekaran & Bougie (2016), who wonder if the study can be applied to different "populations, contexts, treatment factors, and measurement variables." The external component of validity refers to the extent to which assessment scores correspond with other measures and behavioral manifestations and reflect the predicted interaction linkages inherent in the theory of the target concept. The researcher will utilize external validity to examine if the MM Cosmetic Sdn Bhd case study reflects the hypothesis interaction links inherent in the new product development theory.

3.9.3 Construct Validity

According to Sekaran & Bougie (2016), construct validity is "the integration of any evidence that reflects on the interpretation or meaning of test scores." Traditional content or criterion validity indicators are also relevant to construct validity

since they contribute to the meaning of test scores. As a result, construct validity encompasses all other types of proof of truth. As a result, the results must meet a certain degree of construct validity when the variables examined are comparable to the study's selected theory.

The borders and structure of the construct domain may be investigated using job analysis, task analysis, curriculum analysis, and, most crucially, domain theory. The test aims to ensure that all-important build domain components are handled. This method is defined by selecting items/tasks depending on their functional relevance. Test items' content relevance and representativeness are regularly assessed using expert professional judgment. The researchers, for example, employed semi-structured interviews to support their study goals and beliefs. Consequently, the researcher interviewed 11 employees who related experience in the company. It's because, according to researchers, they have theoretical and practical skills. Finally, this aided in collecting sufficient data for the thesis subject and resulted in solid research findings.



3.9.4 Reliability

The stability and consistency with which the instrument assesses the idea and aids in evaluating the quality of the activity are indicators of a measure's dependability (Sekaran & Bougie, 2016). The internal consistency of measurements suggests item homogeneity in the concept measure. The result and conclusions are dependable when multiple researchers can get consistent results from various data gathering approaches, close observations, or the same general meaning. On the other hand, a researcher may replicate a prior research design even if the results were similar; the result would be dependable. In this study, the researcher investigated some examples to get replicated discoveries across cases, ensuring the result's trustworthiness. In any event, the table below lists a few concerns to reliability that the researcher should examine and use in the case study in MM Cosmetic Sdn Bhd.

Table 2: Threats to reliability

Source: Saunders et al., (2019). Research Method for Business Students.

Threat	Definition and Explanation
Participant error	Any unfavorable circumstance harms a participant's performance. For example, requiring participants to take a short questionnaire soon before lunch may impact how they answer the questionnaire, as opposed to choosing a less delicate period (for example, they may not be careful and rush to finish it). The researcher carefully prepared the interview sessions with respondents to eliminate the risk of participant mistakes. The researcher conducted the interviews on non-weekend days in this study. The chosen respondents are at work during office or operating activity hours. As a result, the administrative staff and executives may plan the best time for the researcher to conduct interviews.
Participant bias	Any factor that contains erroneous response replies. For example, in an open space interview, respondents may offer deceptively favorable reactions because they fear being overheard rather than maintaining their anonymity. The interview meeting or data collecting procedure must be performed in close-up to eliminate the risk of participants bias and allow respondents to share their creative ideas and honest comments.

Research error	<p>Any variable that causes the researcher's interpretation to change. For example, a weary or underprepared researcher may misunderstand some of their interviewees' more nuanced interpretations. The researcher must be active and well-prepared throughout the interview to avoid research errors. To prevent disturbing the interview sessions, the researcher should prepare ahead of time by writing down the right questions that need to be asked. Each sentence started or responded to by the respondents had to be written down by the researcher. In addition, following the interview session, the researcher had to repeat the response or data recorded to the respondents. This step ensured that the researcher's findings aligned with the respondents' interpretations and consensus.</p>
Research bias	<p>Any aspect that introduces bias into the researcher's answer recording. For example, a researcher's subjective viewpoint or disposition may come in the way of collecting and interpreting participant replies fairly and adequately. The researcher was not permitted to influence the respondents' thinking, point of view, or opinion. Furthermore, to avoid study bias, the researcher had to have an objective viewpoint and judgment on the subject. The outputs and findings obtained in this manner would be accurate, exact, and dependable.</p>

3.10 Summary

In conclusion, this chapter defines the research design as exploratory, specifying a case study. The research design has been carried out, and determined the research objectives from the research questions. The research objectives in this study have defined the process of new product development in a company and the strategy to ensure successful commercialization.

In addition, the researcher decided to use qualitative data collection techniques such as interviews in methodological choice. This approach can help researchers collect data by participating with the respondents based on meanings expressed through words and images. Respondents who relate to the process of new product development and strategies used to render successful commercialization in MM Cosmetic Sdn Bhd will process an interview section to manage the data. The respondents will provide their expertise based on the new product development and marketing skills in the interview process. Next, secondary data will also be provided by MM Cosmetic Sdn Bhd to improve the accuracy of data related to product development. The collection and analysis of data can standardize the specific research study. Other secondary data such as articles, books and websites related to the research's topic will also be used.

Meanwhile, the location of the research study focused on Johor Bahru, Malaysia. The MM Cosmetic Sdn Bhd is quite familiar and popular at the current location, and it is also still expanding its marketing to other states and countries. The company has tried to produce the best-qualified skincare and cosmetics products to compete in marketing.

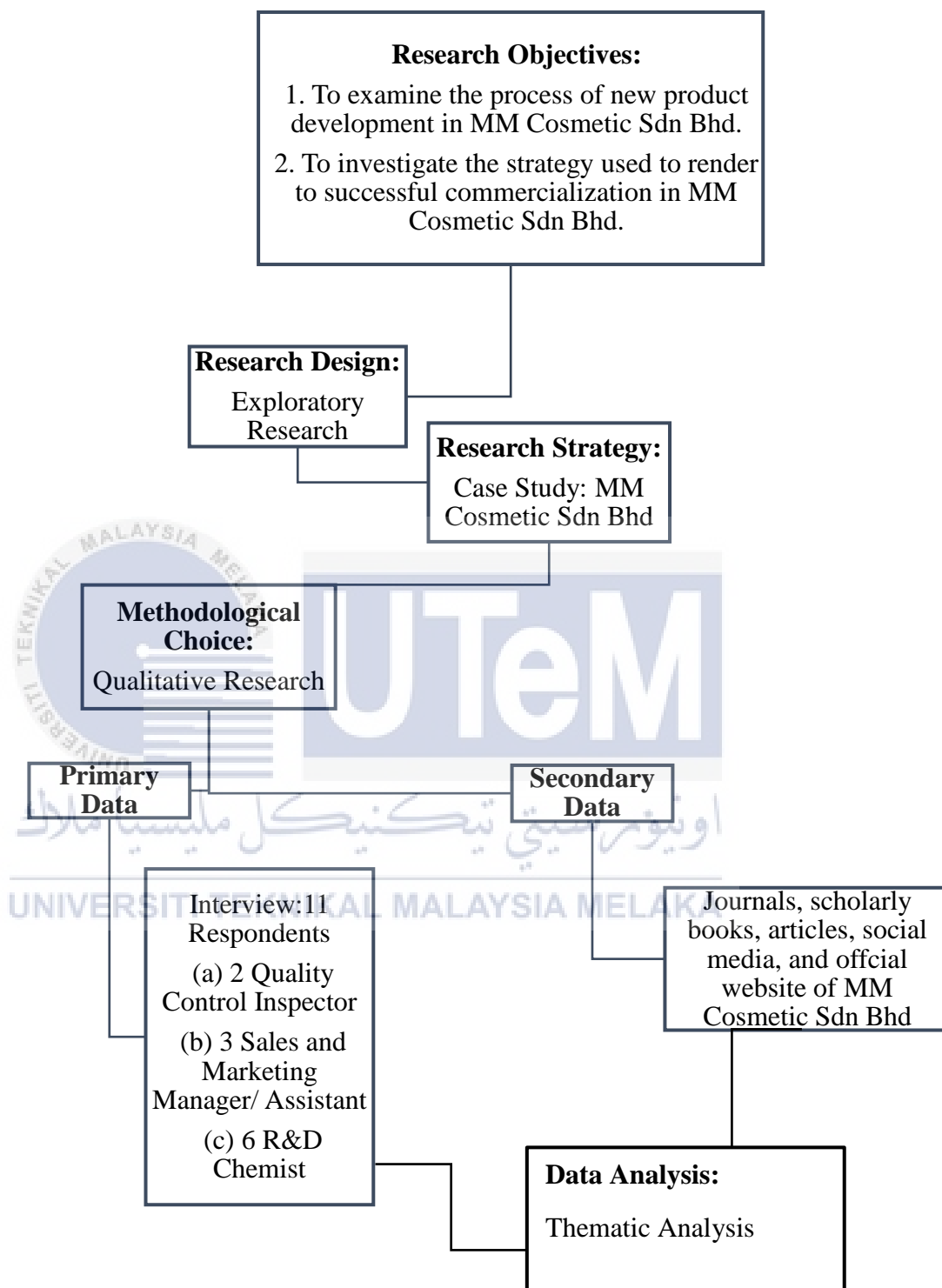
Next, the researcher selected a case study method in the research strategy. A case study in MM Cosmetic Sdn Bhd, which focuses on new product development in

skincare and cosmetics products, can specify the process of new product development that can create innovation and increase the quality of the products. The researcher can learn how the new product development process makes the products standardised and of good quality. The researcher will be allowed to gain a clearer picture from the respondents based on the expertise that will be given.

Meanwhile, this case study was accomplished in less than a year and started in early March 2022. The cross-sectional study has been chosen based on this time horizon because this case study involves a particular time. According to Saunders et al. (2019), cross-sectional studies often employ the survey strategy in which the researcher may be seeking to describe the incidence of a phenomenon.

Lastly, the researcher uses the scientific canons of inquiry. This type of scientific canon includes internal validity and external. From the aspects of the scientific canons, the researcher can be led to collect information from the respondents in MM Cosmetic Sdn Bhd through process interviews. The researcher needs to analyse the results and the relationship based on the new product development process, which is advanced and accurate. The researcher must overcome the threats to reliability and internal validity to manage process success in collecting data and information validity, construct validity and reliability, which are essential for judging the quality of natural science research and social science quantitative research.

3.11 Research Framework



CHAPTER 4

DATA ANALYSIS AND DISCUSSION

4.1 Introduction

In this chapter, the results of the case study in MM Cosmetic Sdn Bhd are discussed. First, the data are collected by conducting qualitative methods with 11 experienced managerial executives and industry experts, such as 2 from the Quality Control Inspectors, 3 from the Sale and Marketing, and 6 from the R&D Chemists in the skincare industries, which focus on the case study in MM Cosmetic Sdn Bhd. The findings are then analyzed and studied using qualitative methods and thematic analysis to analyze data for this research.

The focus of this research study is to determine the process of new product development and the strategy used to render to successful commercialization in MM Cosmetic Sdn Bhd and the skincare industry. Therefore, the first section presented the job profile of the respondents. The second section discussed findings on the new product development process, and the third section presented the results of the strategy used for successful commercialization in the skincare industry.

4.2 Description of Respondents

The profiles of respondents from each respective respondent are presented in the table below. In addition, the respondents' names are listed in the table below:

Table 3: Profile of Respondents

Experienced Managerial Executives and Industrial Experts		
Respondent	Years of Experience	Job Scope
Quality Control Inspector 1	4 year of experience in the skincare industry.	<ul style="list-style-type: none"> -Ensure the blueprints of operation management can process well with specifications. -Monitor operations to ensure the worker or staff meets production standards. -Enables maintaining product quality by checking the products to the objective standard.
Quality Control Inspector 2	4 year of experience in the skincare industry.	<ul style="list-style-type: none"> -Monitoring operations to ensure processes meet production standards.
Sales and Marketing Manager 1	4 years of experience in the skincare industry.	<ul style="list-style-type: none"> -Connect and maintain customer relations to negotiate and discuss product development.

		-Set up sales plans and give clients professional expertise in financial budgeting.
Sales and Marketing Assistant 1	4 years of experience in the skincare industry.	-Promote and sell the skincare production to marketing.
Sales and Marketing Assistant 2	4 years of experience in the skincare industry.	-Promote and sell the skincare production to marketing.
R&D Chemist 1	3 years of experience in the skincare industry.	-Research, formulate, testing the stability of new skincare products.
R&D Chemist 2	5 years of experience in the skincare industry.	-Research, formulate, testing the stability of new skincare products.
R&D Chemist 3	7 years of experience in the skincare industry.	-Research, formulate, testing the stability of new skincare products.
R&D Chemist 4	5 years of experience in the skincare industry.	-Research, formulate, testing the stability of new skincare products.

R&D Chemist 5	4 years of experience in the skincare industry.	-Research, formulate, testing the stability of new skincare products.
R&D Chemist 6	3 years of experience in the skincare industry.	-Research, formulate, testing the stability of new skincare products.

4.3 The Process of New Product Development in MM Cosmetic Sdn Bhd

As stated in Chapter 1, the first objective of this research was to examine the process of new product development in MM Cosmetic Sdn Bhd and other skincare industries. The NPD's seven activities include idea generation, idea screening, concept development and testing, market strategy and business analysis, product development, test marketing, and commercialization.

4.3.1 Idea Generation

Kotler et al. (2019) define creativity generation as a "systematic search for new product ideas"; they believe management should take a strategic approach. The primary new product development stage for new product development is the stage of idea generation. Identify new business opportunities and understand the company's

position (Kotler et al., 2019). From the research, this phase is one of the most significant opportunities to optimize the entire new product development process in MM Cosmetic Sdn Bhd and other skincare industries. The idea generation phase at MM Cosmetic Sdn Bhd is in charge of the sales and marketing team.

In the interview session, Sales and Marketing Manager 1 at MM Cosmetic Sdn Bhd mentioned that they need to collect customer needs which come out with new ideas when discussing in the meeting. In addition, every production product needs to be step-by-step; she has mentioned that the sales marketing team must communicate with the clients about the requirement of skincare and cosmetics products and what they want. The team marketing needs to form an image of the products and to define its function to meet anticipated or existing market needs. Below are the noteworthy parts of the transcript recorded to agree with the statement above:

“We must understand and produce skincare and cosmetics products that satisfy the customers' ideas, because the main objective of MM Cosmetic Sdn Bhd is to promote that the people who want to produce skincare products can find us because we provide a One-Stop OEM-ODM service.” said Sales and Marketing Assistant 1 at MM Cosmetic Sdn Bhd. According to Singh (2019), to illustrate, at the idealization stage, internal and external, as well as current market trend analysis, will be incorporated as the first step to identifying new business opportunities and understanding the company's position.

R&D Chemist 1 has mentioned that the sale and marketing team needs to understand clients' needs on their new products, such as texture, finishing, and effect, hence being able to propose accordingly based on the latest market trend. Market research or analysis of survey results is necessary for the idea-generation process. The critical process is communicating with the client from time to time to ensure they are both on the same track. Knowing clients' needs is essential to save development time

and not waste effort. From the conversation, we must know their needs and desires; this will smooth the development process.

According to C. Merle Crawford & Di (2020), idea generation needs to identification by evaluating the direction by spin-outs of the ongoing business operation, new product suggestions, changes in the marketing plan, resource changes, and new needs/wants in the marketplace. Through this process, collecting market research is necessary to identify the information on the new products in skincare and cosmetics.

Sales and Marketing Manager 1 and Sales and Marketing Assistant 2 have recognized that they need to identify a product line based on the customer's demand. For example, MM Cosmetic Sdn Bhd may have product lines such as masks, toner, creams, lotion, etc. From the identification with the clients, MM Cosmetic Sdn Bhd needs to ensure that the products have been analyzed because providing the most value entails identifying opportunities and developing a group of related items.

Sales and Marketing Manager 1 and Sales and Marketing Assistant 1 had added information about the category of skincare has many and different; they need to know and collect customer needs by asking the questions such as:

(a) Should the product be a facial or body cream?

The formulas for these two products are actually different. The client usually demands a higher quality product for the face than for the body.

(b) Should the product be a lotion or cream?

A lotion which spreads readily is more suitable for outdoors, a larger area such as the leg or body, whereas a cream is right for a smaller area such as the hand or face.

(c) Should the container be a tube, a bottle with a pump head or a glass jar?

It is rather difficult to retrieve the lotion at the bottom of a bottle with a pump head. As recommended by skincare manufacturing, a bottle size of 50-100 ml is appropriate for a day cream.

(d) Need other functions be included to make the product more attractive than the design product?

Natural products are preferred to artificial ingredients. For example, added the Sakura fragrance in a new product as a unique selling point.

In addition, in the researcher's opinion, MM Cosmetic Sdn Bhd can be generated by collecting the idea of the customers as an idea generation more diversification. MM Cosmetic Sdn Bhd, a skincare manufacturer, can give the planning report for the customers by giving an accurate professional angle. Most of MM Cosmetic Sdn Bhd's customers are known as skincare retailers. MM Cosmetic Sdn Bhd is the manufacturing company that helps the retailer to produce the products; MM Cosmetic Sdn Bhd can give the information and knowledge as an added value service. As a skincare manufacturer, they had the responsibility to provide this service.

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4.3.2 Idea Screening

Kotler et al. (2019) advocate idea screening, a tool to "find good ideas and discard bad ideas as soon as possible." The aim of screening the idea is to eliminate the number of ideas without screening potential ideas. Set specific criteria for ideas that should be continued or dropped. Stick to the agreed-upon criteria so poor projects or ideas can be sent back to the idea-hopper early on.

Quality Control Inspector 2 in MM Cosmetic Sdn Bhd said they would decide which plan is suitable for the customer based on their budget. Sales and Marketing Manager 1 and Assistant 2 will reach a consensus through ideas of brainstorming with the customers; the Sales and Marketing Team will introduce the OEM and ODM to customers and suggest a reasonable and better one based on their demand and available budget. Usually, this action will be under-handled by the sales and marketing team.



Figure 3: Example OEM and ODM Product Series

Source: Official Website MM Cosmetic Sdn Bhd (2022)

In addition, Sales and Marketing Assistant 1 agreed with Sales and Marketing Manager 1 and added that MM Cosmetic Sdn Bhd, an OEM manufacturer, can build up and create the products. OEM is an original equipment manufacturer in which product design, functions, colors, and ingredient materials are customized according to the buyer's requirements. The customers (buyers) can sell the product with their private label. Sales and Marketing Assistant 2 also explains the ODM, which means original design manufacturer. From the aspect of ODM, the customers take the original formula, which creates the specification and typically retains ownership of the design. Usually, they will explain the difference between these two types of manufacturing to

customers because the cost of the ODM and OEM is different. ODM would only charge a low price for the products. OEM is an original equipment manufacturer in which product design, functions, colours, and ingredient materials are customized according to the buyer's requirements.

According to Shen et al. (2016), the supplier trades with the retailer via a wholesale price contract; the supplier has the lowest innovation incentive under the ODM strategy. In the market size outsourcing model, the design innovation in the centralized supply chain is higher than that under the OEM and ODM strategies. However, in the success probability outsourcing model, the success probability of innovation under the OEM strategy is higher than that in the centralized supply chain.

In the interview session with experts in the skincare industry, Quality Control Inspector 2 and R&D Chemist 1 agreed with the statement above, and they mentioned that the product design needs to be sets standards for performance and ensure that customers' requirements are met in the most straightforward and least costly manner. They mentioned that the sales and marketing team would look at market potential, affordability, and return on investment (ROI) based on the skincare product that has been produced. Through idea screening, they can filter ideas to help pick out the good ones.

Sukhov (2019) defines consists of perception (the process of making sense and becoming aware) and judgment (reaching conclusions about what has been perceived) when screening the idea. The sales and marketing team needs to be the perspective to perception and judgment whether the idea of clients' brainstorm is available or not and give the expertise to the clients.

The researcher believed that idea screening has a role in new product development to evaluate new product ideas early to ensure the customers can meet

their objectives and expectation of the manufacturing product. In this phase, the manufacturing company, such as MM Cosmetic Sdn Bhd, can brainstorm product or service ideas for customers with the specification and criteria.

4.3.3 Concept Development and Testing

Concept development includes the requirements analysis phase, finding and studying feasible concepts, and selecting better concepts (Zakharova et al., 2021). Concept testing was performed using a monadic test, meaning that the end-user will not have numerous items simultaneously but only one (Christiansen et al., 2019). In addition, this phase can be launched among a small group of real customers, and the idea needs to be tested to see their reaction (Zakharova et al., 2021).

Sales and Marketing Manager 1 has agreed with Quality Control Inspector 1 that concept development and testing are necessary for a manufacturing company. Through this phase was responsibility by the quality control and sales and marketing team process the activity. According to R&D Chemist 1, R&D Chemist 2, and R&D Chemist 3, they need to research new materials from different suppliers, especially active ingredients, for unique selling points. The sales and marketing team transfers this knowledge to clients to give them more understanding. As a manufacturing company, they need to understand the benchmark that customers provide available to process and conduct research based on the raw material of skincare production.

In addition, Quality Control Inspectors 1 and 2 and Sales and Marketing Manager 1 mentioned that as their responsibility in job scope, they need to develop the consideration further based on the specification of the new products. Producing a new product is a significant quantity of red tape because they mentioned that the product

developed must ensure are legally compliant with the relevant regulations such as product labeling, patent of the products, and so on. This will add to the development costs.

Moreover, many elements contributing to costs, such as ingredients, product development, packaging, manufacturing, legal compliance, and marketing, need to start thinking about what could marketing message be. This is the phase between the clients and MM Cosmetic Sdn Bhd to develop more discussions with enough in-depth information that the client can visualize.

According to C. Merle Crawford & Di (2020), A-T-A-R Model can be used in the concept development phase. A-T-A-R Model includes the aware, trial, available, and repeat. As outlined by C. Merle Crawford & Di (2020), A-T-A-R is a consumer product marketing term. The industry has traditionally used slightly different language, so the natural question is, “Does the model apply to all types of new products, including industrial ones, and services too?” The answer is absolute, though each term may be defined slightly differently in different settings. This model can be applied in the case study of MM Cosmetic Sdn Bhd on the new product launched among a small group of real customers to see if any last-minute improvement is needed.

The researcher believed that MM Cosmetic Sdn Bhd could develop the technology to produce the products, finds a match to the need in a customer segment. Potential customers need more information to judge the worthiness of an idea; concept development and concept testing can give them the required information.

4.3.4 Market Strategy and Business Analysis

According to Cravens et al. (2020), the marketing strategy provides a competitive advantage by increasing value-added to the business' customers. The value proposition outlines the planned sales price and includes the marketing budget in the business analysis (Morgan et al., 2018).

In the interview session, Sales and Marketing Manager 1 and Assistant 1 and 2 in MM Cosmetic Sdn Bhd expressed their opinion that the outlined planned sales price and marketing budget is important in all processes because they will determine the type of products that will be produced. Usually, when customers find a skincare manufacturer, the financial budget is the first main point that customers will be asked. Based on these, Quality Control Inspector 1 has mentioned that it needs to give them an analysis evaluation based on the customer's demand. For example, the sales and marketing team will determine by analyzing the market situation of the clients. They will determine the target consumers for the conceived product and establish financial projections.

According to Cheng et al. (2017), the marketing sales team needs to collect customer wants and ensure the target range of customers and preliminary price range so they can continue to process and produce the skincare products based on customer requirements. From the standpoint of Sales and Marketing Assistant 2, she acknowledged that she was responsible for the preliminary price range based on the client's marketing budget. In addition, the Sales and Marketing Manager had added that their department also needs to highlight the target market and estimate the client's product positioning. For example, the skincare production focus on the target women audience but some of the clients also want to grow the marketing trend to the men audience, so Sales and Marketing Assistant 2 will advise the skincare products that more gender-neutral audience. This trend can increase the target market of the client

more booming and increase brand awareness based on the type of products suitable for use by women and men.

From the interview session, R&D Chemist 5 mentioned that cross-functional team building up to work together is essential in an organization or company. This is because after the sales and marketing team analyzes the demand for the product, a full appraisal of the costs, competition, and identification of a break-even point, the next will be the process to the next department, the R&D department. The R&D department also needs to understand more about providing information on the benchmark skincare product to continue formulating implementation.

Based on all the collection data, all the action market strategy and business analysis by MM Cosmetic Sdn Bhd is essential to provide value to clients to achieve the business objectives. According to Gurbuz (2018), the market strategy can bring profit from the new product concept, planned value proposition, sales, and market share. Furthermore, Gurbuz (2018) also mentioned that a company needs to process the business analysis to calculate risk by estimating minimum and maximum sales, and calculate the projection of cost and profit need to be accurate.

From the discussion, the researcher found that skincare manufacturing needs to provide a strong value proposition for the product and ensure the clients can decide on the best product positioning strategy during the market research. It is the way to marketing strategy and business analysis to process a new product.

4.3.5 Product Development

According to Guine et al. (2020), product development is the time to create prototypes or limited production models. The new product development begins with a prototype and then the minimum viable product (MVP).

In the interview session with the respondents in MM Cosmetic Sdn Bhd, Quality Control Inspector 2 and Sales and Marketing Manager 1 agreed on the statement that they would process the formulation skincare production by sending it to the R&D and production department. Then, based on the customer's requirement, the R&D department will process the skincare formulation by following the benchmark given by the customer and processing the prototype. R&D Chemist 7 has mentioned that has three objective-time to process the product development, which are 60 days, 90 days, and 120 days. The production department can direct the process for 60 days if the product's formulation is ready, but for 120 days, the formulation needs to be created new.

From the perspective of experts, R&D Chemist 4 and R&D Chemist 5 mentioned that once the agreement was made, they started preparing the samples and mock-up; if any, raw material searching was required. Sample trials and internal testing will be conducted to ensure the product has the best performance.

R&D Chemist 3 and R&D Chemist 6 mentioned that they usually measure research new raw materials from different suppliers, especially active ingredients, for a unique selling point. They need to measure the physical and chemical properties of active ingredients. Additionally, this action can help identify unidentified chemicals and separate or purify them from other substances. They can choose supporting materials with a refined concentration of active ingredients from this process. It depends on the formulation and sample improvement. If our existing formula were aligned with clients' expectations, the process would be fast. However, sometimes

clients request some unique texture they need to develop; it may take up to 2-3 months. The process also varies on sample preparation, sometimes pending particular fragrances or active from suppliers. Finding out the problem and troubleshooting until it works is essential. During the sample preparation process, take clients' opinions to modify the formulation. Internal testing is also essential to test allergic reactions and skin after feeling. Keep improving until the final sample is satisfied with all parties before running production.

In the other interview, R&D Chemist 5 and R&D Chemist 6 mentioned that a product needs stability in testing. For example, a moisturizing cream can take 24 hours for reaction testing to know how severe the condition is; if the active ingredient can give effect within 5 minutes, it can achieve the function. Furthermore, they need to constantly study Material Safety Data Sheets (MSDS) of new raw materials or active ingredients, test the stability, and optimize procedures because the trend of marketing needs constantly change. They utilized that the R&D team needed to carry out performance and stability tests to the reaction effect of skin care. The stability test is the testing to ensure that modified products meet physical, chemical, and microbiological quality standards, and usually, they will take 2-3 months.

Moreover, the performance test is like verifying product claims and ensuring they can be functional, usable, durable, and performance. All the ingredients used in the formulation process must follow the National Pharmaceutical Regulatory Agency (NPRA) guidelines. Through the registration and licensing system, NPRA was charged with assuring pharmaceutical quality, effectiveness, and safety in the skincare industry. Before any items are launched, scientific data is assessed, and all products are tested in laboratories.

Summary of the interview from the R&D Chemists, which can connect with some steps a company's R&D team performs. Firstly, a skincare and cosmetic company's R&D considers all the above reasons to create new products and formulas or upgrade and improve the current products. The skincare and cosmetic industry is

scientifically driven based on constant innovation and product development through R&D. If the client's dissatisfaction with the prototyping means that the products have been rejected, then the R&D team needs to continue processing and improve to a better condition which the client wants.

Next, according to the expected reaction or action of the content's ingredients, product performance, and content stability, the R&D team ensures safety measures during products' transportation and storage. Most skincare and cosmetic products are intended for personal use, and as informed consumers are clever learners, they are aware of the hazards associated with certain components before making purchases. Therefore, even after strict laws were met, the R&D team must ensure safety issues.

4.3.6 Test Marketing

The test market duplicates the realities of a national introduction, including competitive and channel issues (Kotler et al., 2019). Test marketing consists of the small-scale execution of all or part of a marketing program in a limited geographical area.

For this phase, Quality Control Inspector 1 and Sales and Marketing Assistant 2 in MM Cosmetic Sdn Bhd recognized they would introduce the prototype products to clients after the final-end product; they send the product to customers. From this process, they will collect clients' feedback and develop a marketing plan for the customer. The actual feedback collected can be analyzed further, and if the clients want to increase some improvements, the R&D team will make the improvements but in the condition of skincare formulation. For example, sometimes the clients will be seen why the color has some differences, such as chromatic aberration, which we can call

color fringing too, and the client wants to change the color. Because usually, the marketing team will explain this situation to the customer because this is a skincare formulation.

The interview session with Sales and Marketing Assistant 1 and Assistant 2 added that test marketing usually involves a limited geographical area. For example, a free trial of new toner to the clients to try the effect of the products. This test is conducted to ascertain customer preference and product selection. R&D Chemist 3 explained that test marketing is necessary because this phase is a pre-launch activity to identify potential flaws in the product's formula. Based on C. Merle Crawford & Di (2020), the test market offers the most abundant supply of the information (such as sales, usage, prices, reseller reactions and support, publicity, and competitive reactions) and many less important but occasionally valuable by-products. For example, a smaller firm can use successful test market results to help convince national distributors to chance to stock the item.

In addition, Sales and Marketing Manager 1 had agreed in the discussion that they were responsible for implementing marketing and investigating customer reaction to a product by making it accessible in limited quantities to test markets prior to a more significant release. It is vital to note that customers exposed to the product may be included in a test group without their awareness.

The researcher believed that test marketing is essential in the process of new product development in the skincare industry. This is the chance to identify and helps the skincare manufacturer to collect and understand customer feedback. Before a full-scale launch, it allows skincare manufacturers to fine-tune product performance and launch plans since it ensures that consumers desire the product. It also provides them with vital information.

4.3.7 Commercialization

According to Nieto Cubero et al. (2021), commercialization is the key to understanding the relationship between innovation management processes and successfully bringing new products to market. Commercialization can be defined as implementing ideas following their innovative development.

According to Quality Control Inspector 1 and Sales and Marketing Manager 1 in MM Cosmetic Sdn Bhd, they have mentioned that if the customers want to build a collaborative partnership, such as customer will put MM Cosmetic's logo on their products, they will cooperate with them. Through this collaborative partnership, MM Cosmetic can introduce and provide the marketing strategy to promote and build the brand name product by inviting online celebrities. Usually, the e-commerce route is better for promoting and selling products.

C. Merle Crawford & Di (2020) has indicated introducing innovations in a foreign market with the help of a local partner. It can reduce costs, capitalize on the local partner's capabilities in manufacturing and distribution, and helps overcome cultural barriers. This is why MM Cosmetic Sdn Bhd wanted to collaborate with the other parties to achieve a win-win situation and decrease the competition in marketing.

In the interview session, Sales and Marketing Assistant 1 and Assistant 2 believed that promoting the skin care product using the e-commerce platform leads to the trends in 2023. The growth volume in big data was increased, and new e-commerce trends depend more on image shopping. People tend to shop more online because they want to decrease purchase physical. In case, MM Cosmetic Sdn Bhd has created an application called MOOMO and built up a website for online shopping for customers to enjoy the purchasing experience.

According to the interview with the Sales and Marketing Manager 1, she said MM Cosmetic Sdn Bhd usually processes the promotion activity by using social media channels such as Facebook, YouTube, and TikTok. She mentioned that for now, it is the trend of digital marketing that they need to make more effort on the social media channel to increase their brand awareness of the company.

From the discussion, the researcher believes that new product developments have gone mainstream in the commercialization phase, consumers are purchasing your good or service, and technical support is consistently monitoring progress. Therefore, the seller needs to follow the trend by using e-commerce; otherwise, the product brand will be supplanted into the minds of those in the contemplation stages of another competitor.



Table 4: Thematic Analysis of the Process of New Product Development in MM Cosmetic Sdn Bhd

Process of NPD	Theory	Primary Data	Secondary Data
Idea Generation	<p>Creativity generation is a “systematic search for <u>new product ideas</u>.”</p> <p>Identify new business opportunities and understand the company’s position (Kotler et al., 2019).</p>	<p>Sales and Marketing Team:</p> <p>(a) Collect customer needs which come out with <u>new ideas</u>.</p> <p>(b) Analysis of survey results / market research.</p> <p>(c) Identify a product line.</p>	<p>C. Merle Crawford & Di (2020),</p> <p>Singh (2018)</p> <p>(a) Spin-outs of the ongoing business operation, <u>new products suggestions</u>, changes in marketing plan, resource changes, and new needs/wants in the marketplace.</p> <p>(b) Strategic planning <u>for new business product</u>.</p>
Idea Screening	<p>A tool to “<u>find good ideas and discard bad ideas</u> as soon as possible</p>	<p>Sales and Marketing Team:</p> <p>(a) Ideas of brainstorming to</p>	<p>Sukhov (2019),</p> <p>Shen et al. (2016)</p> <p>Consists of <u>perception</u> (the</p>

	(Kotler et al., 2019).	suggest a <u>suitable and better</u> based on their demand. (b) Looking at market potential, affordability, and ROI.	process of making sense and becoming aware) and <u>judgement</u> (reaching conclusions about what has been perceived).
Concept Development and Concept Testing	(a) Finding and studying <u>feasible concepts</u> . (b) Launched among a <u>small group of real customer</u> , and the idea need to be tested to see their <u>reaction</u> (Zakharova et al., 2021).	Quality Control & Sales and Marketing Team: (a) Develop the <u>consideration further</u> . (b) Elements contributing to costs; ingredients, product development, packaging, manufacturing, legal compliance, and marketing.	C. Merle Crawford & Di (2020) (a) <u>A-T-A-R Model</u> : Aware, Available, Trial, Repeat. (b) Concept testing <u>cautions and concerns</u> .
Market Strategy and Business Analysis	(a) Provides a competitive advantage by increasing <u>value-added to the</u>	Quality Control & Sales and Marketing team:	Gurbuz (2018) <u>Market Strategy</u> :

	<p><u>business' customers</u> (Cravens et al., 2020).</p> <p>(b) Outline planned sales price, and include marketing budget in the business analysis (Morgan et al., 2018).</p>	<p>(a) Marketing <u>outline planned sales price and marketing budget.</u></p> <p>(b) Preliminary price range.</p> <p>(c) Highlight the target market.</p> <p>(d) Product positioning.</p> <p>(e) Cross-functional team build-up to work together.</p>	<p>(a) Profit is targeted from new product concept</p> <p>(b) Planned value proposition, sales and market share</p> <p><u>Business Analysis:</u></p> <p>(a) Calculates risk by estimating minimum and maximum sales.</p> <p>(b) Projection of cost and profit.</p>
Product Development	<p>Time to create <u>prototype development or limited production models</u> (Guine et al., 2020).</p>	<p>Quality Control & R&D team:</p> <p>(a) Process the skincare formulation, by following the <u>benchmark and processing the prototype.</u></p> <p>(b) Measure physical and chemical properties of active ingredients.</p>	<p>Russell & Taylor (2019)</p> <p>Use standards for performance in producing the <u>benchmark and prototype.</u></p>

		<p>(c) Choose supporting materials.</p> <p>(d) Carry out performance tests and stability tests.</p> <p>(e) Need to follow the Material Safety Data Sheet (MSDS), and National Pharmaceutical Regulatory Agency (NPRA) guidelines.</p>	
Test Marketing	<p>Learning in the <u>competitive marketplace</u>, <u>demographic characteristics of customer segments</u> (Kotler et al., 2019)</p>	<p>Quality Control & Sales and Marketing Team:</p> <p>(a) Introduces the prototype products to clients.</p> <p>(b) <u>Collected the feedback</u> of clients.</p> <p>(c) Develop a <u>marketing plan</u></p>	<p>Gurbuz (2018)</p> <p>Provides businesses a suitable <u>marketing strategy</u> for new product concepts to be <u>commercialized</u> at the next stage.</p>

Commercialization	<p>The <u>relationship</u> between innovation management processes and successfully bringing new products to market (Nieto Cubero et al., 2021)</p>	<p>Sales and Marketing Team:</p> <p>(a) Build <u>collaboration partnerships</u>.</p> <p>(b) Introduce online celebrities.</p> <p>(b) Promote the product by using e-commerce: Moomo (application), Website online shopping</p> <p>(c) Promote the product using social media channel: Facebook, YouTube, and TikTok.</p>	<p>C. Merle Crawford & Di (2020)</p> <p>(a) Introduce innovations in a foreign market with the help of a <u>local partner</u>.</p> <p>(b) Reduces costs, capitalizes on the local partner's capabilities in manufacturing and distribution, and helps overcome cultural barriers.</p>

4.4 The Strategy Used to Render to Successful Commercialization in MM Cosmetic Sdn Bhd

As stated in Chapter 1, the second objective of this research was to investigate the strategy used to render to successful commercialization in MM Cosmetic Sdn Bhd. The generated results discussed at the following.

4.4.1 Portfolio Strategy

A micro-level definition of the portfolio strategy's portfolio composition and level of innovation (Hultink, 2017). By conducting the interview sessions, with Quality Control Inspector 2 and Sales and Marketing Assistant 2 mentioned that MM Cosmetic Sdn Bhd succeeded in commercialization because the company aims to produce future product generation. MM Cosmetic Sdn Bhd has a strong background in R&D and comes from the China Biotechnology International Research and Developing Room, 15,000 square feet. The R&D department in Malaysia has established an R&D team of more than ten people, and the formulation technical has combined China/ France/Korea/ Japan biotechnology research and development technology.

The balance between incremental product enhancements and, ultimately, new goods and the portfolio's makeup of initiatives in fundamental R&D and technical development determine how innovative the portfolio is. The portfolio and next product generations are guided by the work done in fundamental R&D and technical development (Huttink, 2017).

From the interview session with the expertise industry, Sales and Marketing Manager Assistant 2 expressed that relative portfolio strategy newness is essential for sales and marketing managers. It is necessary to analyze the portfolio's balance between more radical new items and gradual product upgrades to determine how new the portfolio is. For example, a skincare company might stick closely to its present product line-up or shift its attention to product variety and untapped markets. In addition, the joint venture is one of the categories of a portfolio strategy used by MM Cosmetic Sdn Bhd. The joint venture involved by Chinese shareholder Bai Li Chen Established Singapore Overseas Export Company.

Sales and Marketing Assistant 1 also strongly agrees with the statement that relative portfolio newness can indicate the diversity of the projects in terms of concepts. The attention to following marketing trends for new market opportunities is competitive. According to Cooper (2018), selecting high-value product projects is only part of the task. Other portfolio goals are selecting the right mix and balance of projects in the development portfolio and ensuring strategic alignment so that the business's spending on product innovation mirrors its strategic priorities.

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In addition, Sales and Marketing Manager 1 has mentioned that through their effort, they successfully created the platform of e-commerce named Moomo as a new retail entrepreneurship platform. The goals of MM Cosmetic Sdn Bhd are to increase brand awareness and sales of the business. The entrepreneurship, which had collaborated with MM Cosmetic Sdn Bhd, also can upload their products on the platform Moomo.

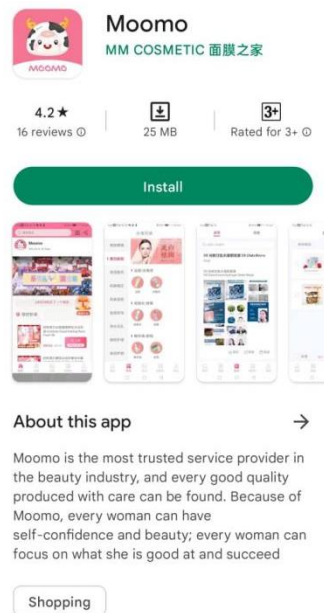


Figure 4: Momo Platform of MM Cosmetic Sdn Bhd

Source: Play Store Application (2023)

In brief, from the viewpoint of the researcher, the portfolio strategy in commercialization is vital because it can facilitate the decision on how to best allocate the limited resources of a skincare company, especially during significant portfolio transformations.

4.4.2 Inter-Firm Collaboration/ Cross-Over Partnership

Inter-firm cooperation (IFC) can be defined as quasi-stable, durable, formal, or informal arrangements between two or more independent firms aiming to further the perceived interests of the parties involved (Antoine & Christos, 2018). During the interview session, Control Quality Inspector 1 and Sales and Marketing Manager 1 mentioned that MM Cosmetic Sdn Bhd had built a relationship collaboration

partnership with other companies or institutions. For example, MM Cosmetic Sdn Bhd cooperates with UTM to process the research development in the formulation project.

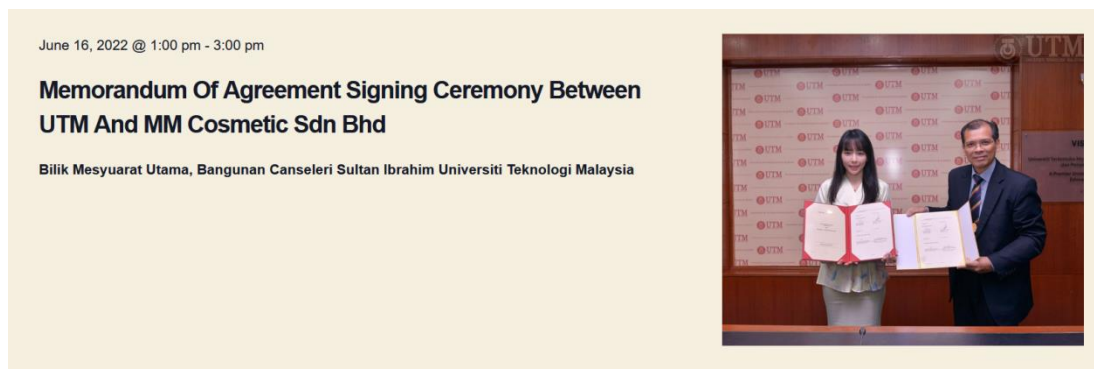


Figure 5: Memorandum Between UTM and MM Cosmetic Sdn Bhd

Source: Website Office Memorandum of UTM (2022)

Additionally, Sales and Marketing Assistant 2 mentioned that MM Cosmetic Sdn Bhd collaborated with other parties to build partnership relations as a cooperative company. MM Cosmetic Sdn Bhd aims to create a win-win situation for both parties to lead their partners to create brilliance together. Below are the examples of MM Cosmetic Sdn Bhd having built the cross-over partnership.:

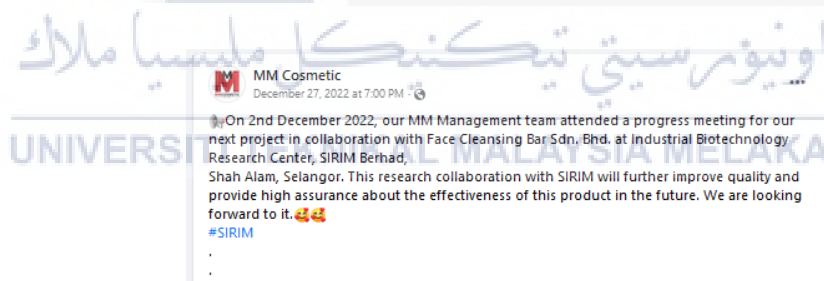


Figure 6: FB Posting of Collaboration with Other Partners.

Source: Official Facebook MM Cosmetic Sdn Bhd

In addition, they also invite online celebrities to promote their skincare products as advertising. Celebrity endorsement helps to increase brand awareness in the long term because online celebrities improve ad recall in social media. Sales and Marketing Manager 1 and Sales and Marketing Assistant 1 agreed that celebrity branding could attract customers more to purchase. The celebrity influences the interactivity of the internet because he or she has a positive impact on letting the fans or customers trust the products that celebrities recommend. Sales and Marketing Assistant 2 has mentioned that most of the customers purchased skincare products that are endorsed by their excellent celebrity.

According to Schouten et al. (2020), celebrity endorsements are a popular way for marketers to promote their brands, products, and services. By transferring a celebrity's positive image and characteristics onto the brand, marketers aim to trigger consumers' intent to purchase or use the endorsed product or service. Influences attract millions of followers by sharing content curated from their daily lives on platforms like Instagram and YouTube, revolving around one particular domain of interest (Chapple & Cownie, 2017; MediaKix, 2017).

In brief, the researcher believes that inter-firm collaboration is necessary for skincare manufacturing to increase the brand awareness of skincare production. They need to research and promote skincare production to become more robust. Especially in the era of modernism, skincare marketing was more competitive because the public more attention on the repair and maintaining their skin condition.

4.4.3 Market Strategy

Marketing strategy allows organizations to focus limited resources on the best opportunities to increase sales and achieve a competitive advantage in the market (Edwin, 2017). The interview with Quality Control Inspector 2 and Sales and Marketing Manager 1 in MM Cosmetic Sdn Bhd discussed target market in a skincare company could be categorized into a market segment, niche market, and mass market. They explained that the niche market is home-based producers who purchase ingredients and tailor-make skincare products with their formulas. The formula ingredient is unique and has its copyright and patent.

In the interview session with the expertise industry, Sales and Marketing Manager 1 mentioned that customer involvement needs to guard target focus during commercialization. Customer involvement can be proactive by directly involving customers in the NPD process, for instance, with testing, by having a clear customer focus, or reactive by monitoring the competition and alignment of the portfolio with the market innovators. To achieve this goal, MM Cosmetic Sdn Bhd will build up communication channels such as WhatsApp, Facebook, YouTube, and TikTok to increase brand awareness. They pay effort into designing the poster's caption in the social media channel because they want to attract customers. The poster on social media usually looks solid and has an exciting caption.

According to Cartwright et al. (2021), social media are increasingly becoming a valuable tool for Business-to-Business (B2B) organizations. However, social media research in B2B needs a comprehensive overview from a strategic perspective. Most research to date has focused on the tactical use of social media platforms in describing specific tools to implement a strategy that the reason of MM Cosmetic Sdn Bhd indicates to develop a competitive advantage within the social media environment.

The researcher believes that market strategy in commercialization can be achieved successfully because the skincare manufacturers such as MM Cosmetic Sdn Bhd promote their company's business to a target audience who want to develop a new product skincare production.

Table 5: Thematic Analysis of the Strategy Used to Render to Successful Commercialization in MM Cosmetic Sdn Bhd


Process of NPD	Theory	Primary Data	Secondary Data
Portfolio Strategy	A micro-level definition of the portfolio strategy's <u>portfolio composition and level of innovation</u> (Hutlink, 2017).	(a) <u>Joint venture</u> by Chinese shareholder. (b) Create the platform of e-commerce: MOOMO, as a new retail entrepreneurship platform.	Cooper (2018): Selecting <u>high-value product</u> projects is only part of the task Official website of MM Cosmetic
Inter-firm Collaboration (IFC)/ Cross-Over Partnership	As quasi-stable, durable, formal, or informal arrangements <u>between two or more independent firms</u> aiming to further the perceived interests	<u>Collaboration</u> with: (a) UTM - research project (b) Face Cleasing Bar Sdn Bhd (2022)	Schouten et al. (2020), Chapple & Cownie, (2017): <u>Celebrity endorsements</u> are a popular way for marketers to

	of the parties involved (Antoine & Christos, 2018).	<p>(c) Became co-operative company with other parties.</p> <p>(d) Online celebrities.</p>	<p>promote their brands, products, and services</p> <p>Official page FB of MM Cosmetic Sdn Bhd:</p> <p>The information of collaboration with other parties.</p>
Market Strategy	<p><u>Increase sales and achieve a competitive advantage in the market</u> (Edwin, 2017).</p>	<p>(a) As a <u>communication channel</u>: WhatsApp, Facebook, YouTube, and TikTok.</p> <p>(b) Attract customers with a solid and exciting caption.</p>	<p>John & Bashiru (2020), Cartwright et al. (2021):</p> <p><u>Social media</u> are increasingly becoming a valuable tool for Business-to-Business (B2B) organizations.</p>

CHAPTER 5

CONCLUSION AND RECOMMENDATION

5.1 Introduction



The two key objectives of this research are to examine the new product development process and investigate the strategy used to render successful commercialization in MM Cosmetic Sdn Bhd. To achieve these research objectives, the researcher selected MM Cosmetic Sdn Bhd and interviewed the experts' industry to conduct case studies. The findings have already been discussed in the preceding chapter and will be concluded in this chapter. Besides, the researcher proposes an additional conceptual framework based on the research findings. Future recommendations for further study are also included in the last section of this chapter.

5.2 The Process of New Product Development in MM Cosmetic Sdn Bhd

Through the case study in MM Cosmetic Sdn Bhd, the researcher has affirmed that the new product development process plays a vital role in every phase of operation management. MM Cosmetic insist to providing high quality services by producing the specialize in manufacturing, research and development, customized formulations, graphic design, packaging and so on service for their customer. Thus, in this study, the very first research objective is to examine the process of new product development in MM Cosmetic Sdn Bhd.

Based on the discussion of qualitative findings in the preceding chapter, the new product development process has been utilized at MM Cosmetic Sdn Bhd. From the researcher's perspective, MM Cosmetic Sdn Bhd developed by gathering customer ideas as an idea generation, and this action taken by the sales and marketing team. Cooper (2018) defined that robust idea come from customers and is the step to ensuring that the customer is involved very early in the process. To summarize the excerpts of the respondents, idea generation aided the MM Cosmetic Sdn Bhd in collected idea from their customers by identify the new products.

Referring to the discussion on idea screening, it is certain that this idea screening plays a role in new product development by reviewing new product ideas early in the development process to guarantee that consumers' aims and expectations of the manufactured product can be an achievement. According to Singh (2018), each generated idea will be screened based on certain criteria, such as market potential, affordability, and ROI. To recap the key points made by the respondents, idea screening is the evaluation strategy which suggest a suitable and better based on the client's demand.

According to Golder & Mitra (2018), concept development and testing will be launched among a small group of real customers to see if there is any last-minute improvement needed. After conducting this case study and interview sessions, it is likely that concept development and testing should be further consider the elements contributing to costs, such as ingredients, product development, packaging, manufacturing, legal compliance, and marketing. To sum up the main point from the excerpt, this phase required the manufacturer to convince the customers that the sufficient knowledge to assess the worthiness of an idea

As proposed by Cooper (2018), best performers strike an appropriate balance between market oriented tasks. Based on the case study, it need to establish a strong value proposition for the product and guarantee that clients can determine the optimal product positioning approach. MM Comestic Sdn Bhd needs to provide the advantage by increasing value such as marketing outline, planned sales price, and marketing budget. It was the task of quality control and the sales and marketing team. To support with an example, MM Cosmetic Sdn Bhd employed this process in order to to preliminary price range, highlight the target market, and define the product positioning.

As suggested by Cooper (2018), product development is the phases rapid prototype and tests to iterative validation spirals. Based on the analysis, the R&D team must process the skincare formulation by following the benchmark and processing the prototype. In addition, the R&D team takes safety precautions throughout product transit and storage based on the predicted reaction or action of the content's constituents, product performance, and content stability. To sum up the main point from the excerpt, MM Cosmetic Sdn Bhd is a scientifically-driven industry based on constant innovation and product development through R&D.

Besides, based on the discussion on the test marketing, the researcher believed that test marketing could be used to check the viability of the new products. The phase of test marketing in MM Cosmetic Sdn Bhd was the responsibility of the quality

control and sales and marketing team. According to Cooper (2018), test marketing is the well-planned customer tests and trials. Gather feedback on that version of the product from the customer (Cooper, 2018). To support with an example, MM Cosmetic Sdn Bhd introduce the prototype products to clients, then collect clients' feedback for future research. After the clients are satisfied with the prototype, the sales and marketing team will start developing a marketing plan for clients.

According to Nieto Cubero et al. (2021), the relationship between innovation management process and successfully bringing new products to market. Based on the analysis, In the case of MM Cosmetic Sdn Bhd, the sales and marketing team worked effortlessly to satisfy the commercialization. They build collaborative partnerships, introduce online celebrities, and promote the product using e-commerce such as Moomo (application) and website online shopping to increase the sale of the business. MM Cosmetic Sdn Bhd also uses social media channels such as Facebook, YouTube, and TikTok to promote the business or products. To sum up these main remarks, the respondents acknowledged that this strategy is significant as it utilized the successful commercialization in the marketplace.

In brief, the first research objective was achieved as the process of new product development in MM Cosmetic Sdn Bhd, which are idea generation, idea screening, concept development and testing, market strategy and business analysis, test marketing, and commercialization.

5.3 The Strategy Used to Render to Successful Commercialization in MM Cosmetic Sdn Bhd

This study's second research objective is to investigate the strategy used to render to successful commercialization in skincare production. By determining the strategy initially, MM Cosmetic Sdn Bhd could make better and more accurate the right strategy to survive and increase the successful commercialization in the marketing.

Based on the discussion of the qualitative findings in the previous chapter, the researcher can conclude that the strategy of MM Cosmetic Sdn Bhd can increase the growth to successful commercialization. As proposed by Hutlink (2017), portfolio strategy is a portfolio composition and level of innovation. Referring to the discussion, the portfolio strategy in commercialization is crucial since it may help with decisions on effectively dividing a skincare company's limited resources, particularly during significant portfolio shifts, from the effort on developed future product generations and relative portfolio newness by following the trending marketing. In the case of MM Cosmetic Sdn Bhd, they had a joint venture with a Chinese shareholder, contributing the modal to increase the growth and expand the business. Besides that, they also create a platform of e-commerce: Moomo, as a new retail entrepreneurship platform.

As proposed by Antoine & Christos (2018), inter-firm collaboration is formal and informal arrangements between two or more independent firms aiming to further the perceived interests of the parties involved. In short, the researcher believed that inter-firm collaboration or cross-over partnership is essential for the creation of skincare products in order to raise brand recognition. Because people were increasingly concerned with maintaining and repairing their skin conditions throughout the modernist period, skincare marketing was particularly competitive. In case study, MM Cosmetic Sdn Bhd cooperates with online celebrities and other

skincare retailer to increase brand awareness. This action can move the name of MM Cosmetic to become more famous and popular.

As proposed by Lamberton & Stephen (2016), as the role of social media has gradually evolved from a single marketing tool to that of a marketing intelligence source (in which firms can observe, analyze, and predict customer behaviors), it has become increasingly imperative for marketers to strategically use and leverage social media to achieve competitive advantage and superior performance. MM Cosmetic Sdn Bhd used communication channels such as WhatsApp, Facebook, YouTube, and TikTok to promote the business. Social channels like these can reach a large audience and provide an accessible and powerful toolkit to show the issues and interests to the public. To recap the key points made by respondents, engage customers with social media as part of marketing plan to create ongoing and valuable relationships.

In brief, the second research objective has been achieved as the strategies used to render successful commercialization in MM Cosmetic Sdn Bhd are portfolio strategy, inter-firm collaboration, and market strategy.

5.4 Contribution of Study

This study discussed the process of new product development and strategy used to render successful commercialization in MM Cosmetic Sdn Bhd. The findings in the preceding chapters help the researcher gain insights into each new product development process and understand the strategy to use for successful commercialization in the marketplace. Therefore, this research is beneficial for the researcher, the local skincare industry, and the other local and international skincare

industries to develop an appropriate strategy to sustain and survive in the marketplace. This research study is using the 7 process of new product development as the basic, and to add on, an additional figure of procedure of the finished products which provided by MM Cosmetic Sdn Bhd are generated and presented at below:



Figure 7: New Product Development Process

Source: Korolev (2021)

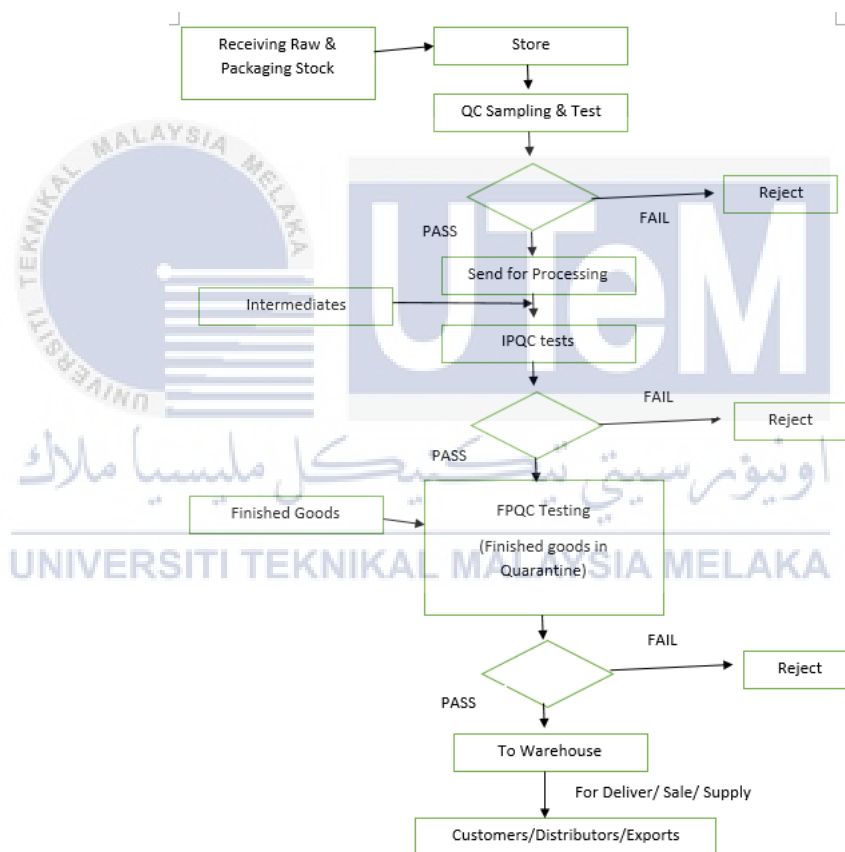


Figure 8: Procedure of the Finished Products

Source: Provided by MM Cosmetic Sdn Bhd (2022)

5.5 Future Recommendation

Last but not least, the researcher would like to propose some recommendations for further research into this study. Since the researcher conducted this research from the standpoint of a case study, a future researcher might achieve a similar survey from the client's viewpoint. As a result, future researchers can assess whether clients prefer these skincare products. The marketing trend is constantly changing, and the researcher needs to keep up by transforming the business into a movement as a case study.

New product development comprises idea generation, idea screening, concept development and testing, market strategy and business analysis, product development, test marketing, and commercialization. The future researcher can compare review practices and new product performance based on this study. A successful skincare product is because of the achievement of a business or an organization. Each department in skincare production can generate many worthy ideas from the foundation.

Lastly, this study may be implemented or extended to a related industry. For instance, the future researcher may conduct a comparative study in another sector of the personal care business. In addition, the researcher might examine the case study of identical products or services to evaluate the new product development and marketing strategy.

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Appendix 1: Gantt Chart of Final Year Project (PSM 1)

[illegible]

Appendix 2: Gantt Chart of Final Year Project (PSM 2)

[illegible]

Appendix 3: Questionnaires

INTRODUCTION OF THE INTERVIEW

<< READ OUT TO RESPONDENT >>

Thank you for taking part in this interview.

The purpose of this research is to examine the process of new product development and to investigate the strategy used to render successful commercialization in MM Cosmetic Sdn Bhd.

By conducting the interview, I believe that I would be able to discover more insights on the new product development topic and further generate proper findings for this research. During this interview, all of the respondents will be asked questions based on the research topic and objectives.

I will jot down all of your responses and I request your permission to voice record the whole interview session in order to ensure the precision of your responses. I promised that everything recorded will be kept private and confidential as well as solely for academic and research purposes.

Please feel free to express your answers and perspective throughout the interview. Should you have any questions or if you do not understand the questions, please do not hesitate to ask me. Likewise, if you feel uncomfortable or do not want to answer a specific question, please do not hesitate to let me know.

Lastly, the interview session will last approximately in 30 minutes. Shall we begin our interview session now?

QUESTIONNAIRE:

1. How you process the new product development (NPD) on the skincare and cosmetics product?
2. What have your department done in NPD?
3. How long you take the process of NPD when produce a new product?
4. How you develop a successful product in the market?
5. How you determine which process of NPD is the most essential in a company? Why?
6. What is the primary purpose of NPD implementation in the company?
7. What is the awareness of new produced product available in the market?
8. What will happen if purposes of NPD don't process well?
9. How you promote your products on the marketing to increase the sale?
10. What is the challenge when developing in commercialization?
11. What are the ways to attract the customer to make a purchase on your product?
12. How do you evaluate commercial potential?
13. What makes a product commercially successful?
14. How can your current company's commercialization be improved?
15. How you target your audiences on the commercialization?

Appendix 4: Proof Interview Session with Respondents



Appendix 4.1: Photo with Respondent

Source: Proposed by Low Hui Sin

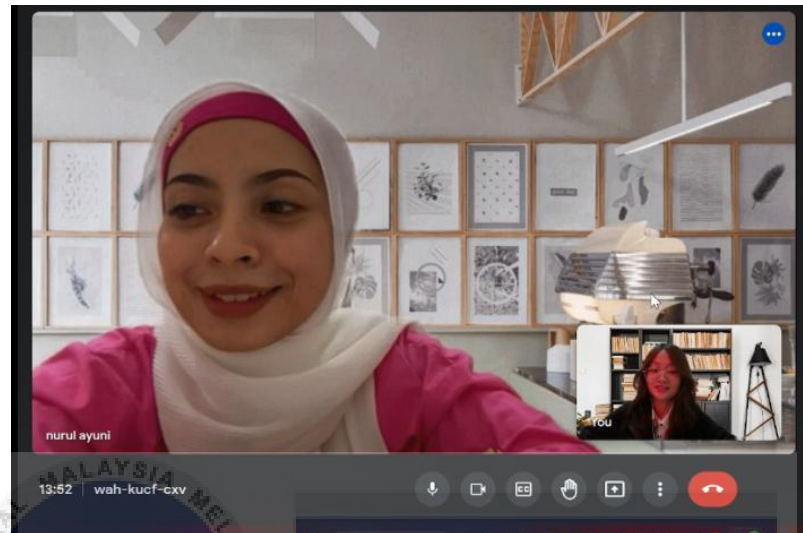
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UNIVERSITI TEKNIKAL MALAYSIA MELAKA



Appendix 4.2: Photo with Respondents

Source: Proposed by Low Hui Sin



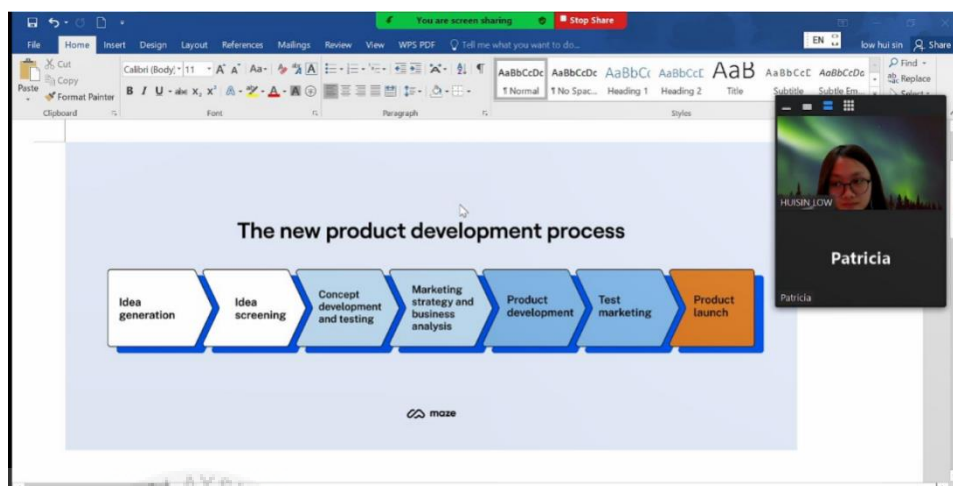
Appendix 4.3: Photo with Respondent

Source: Proposed by Low Hui Sin



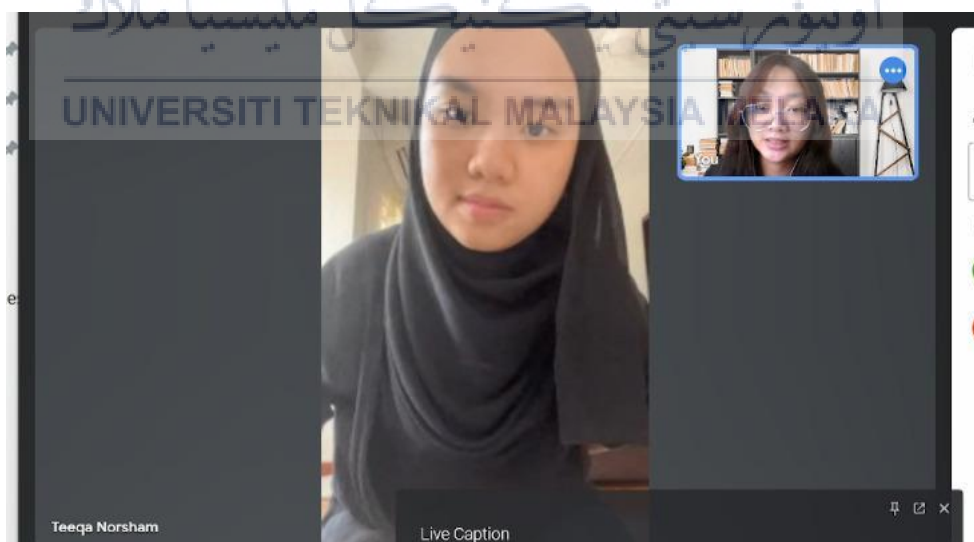
Appendix 4.4: Photo with Respondent

Source: Proposed by Low Hui Sin



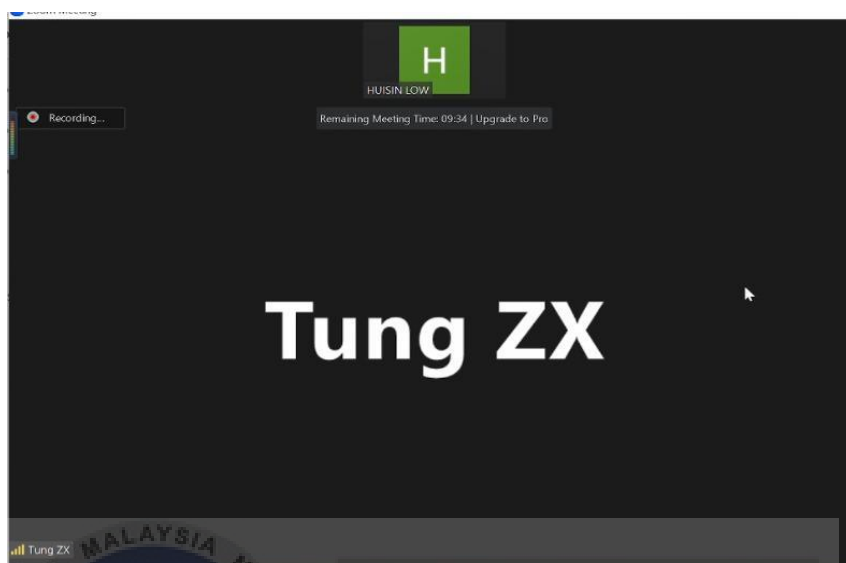
Appendix 4.5: Photo with Respondent

Source: Proposed by Low Hui Sin



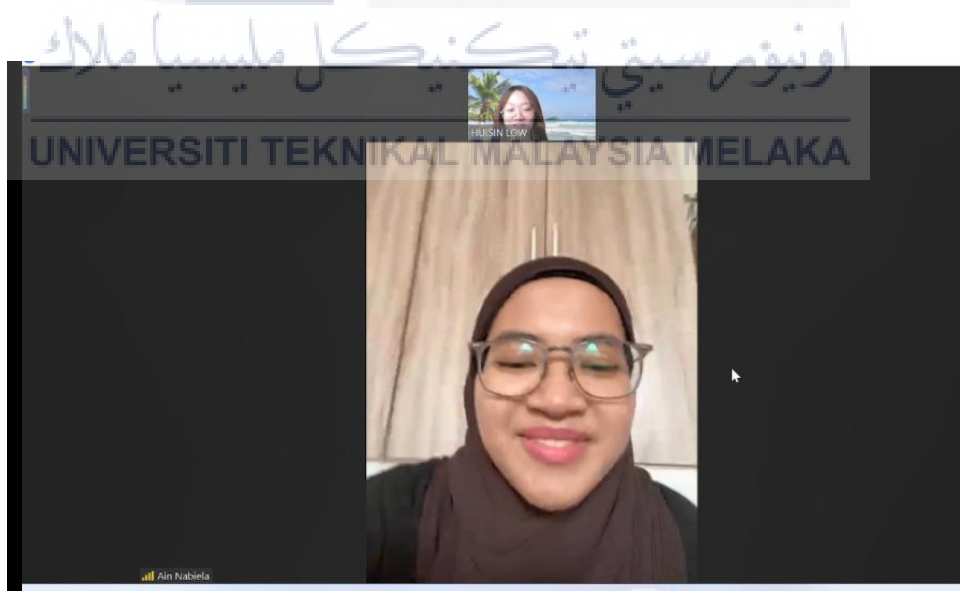
Appendix 4.6: Photo with Respondent

Source: Proposed by Low Hui Sin



Appendix 4.7: Photo with Respondent

Source: Proposed by Low Hui Sin



Appendix 4.8: Photo with Respondent

Source: Proposed by Low Hui Sin



Appendix 4.9: Photo with Respondent

Source: Proposed by Low Hui Sin



Appendix 4.10: R&D in MM Cosmetic Sdn Bhd

Source: Proposed by Low Hui Sin