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Skin Store Information System Strategy Planning Mobile-Based Using the Ward And Peppard Method

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ABSTRACT

The development of the beauty and self-care industry in Indonesia is accelerating, driving the need to digitize business processes to improve competitiveness. Cahaya Store, a beauty product store in Palembang, faces challenges such as the threat of new entrants, manual sales recording, and lack of digital platforms for online purchases. This research aims to design a mobile-based information system strategy using the Ward and Peppard method. The research stages involved internal and external environment analysis, SWOT, McFarlan Strategic Grid, value chain, and Porter's Five Forces. The results showed that the development of mobile e-commerce applications can provide online shopping accessibility, business process automation, and improved customer experience. The information system strategy includes the integration of inventory and sales management systems to improve operational efficiency and strengthen digital marketing. With the Ward and Peppard approach, Cahaya Store can formulate data-driven strategic steps to optimize information technology to support business growth and competitiveness. Research recommendations include the implementation of mobile applications with personalization features, customer relationship management, and continuous evaluation to maintain relevance to market dynamics.

1. INTRODUCTION

The development of the beauty and personal care industry in Indonesia shows an increasing trend, along with the increasing public awareness of the importance of self-care. In an ever-evolving world, data, information, and technology play a crucial role in determining the success of a company in competing amidst rapid technological advances and increasingly fierce business competition. According to several studies that have used the Ward and Peppard method in designing applications to support business strategies, information systems, and information technology. According to Harry Ramdhani Hadianto, this research builds a portfolio document design of information system strategic planning applications that include various strategies according to the needs of *Asia Plasa*, the final results of the research produce a portfolio of 24 applications [1]. According to Kurniawan's research in Mister Pithik developed an application portfolio using the Ward and Peppard method which includes Business Information Systems, Cashier Systems, and Employee Security and Attendance Systems resulting in application recommendations to improve work effectiveness and efficiency, including Business Information Systems, Cashier Systems, Security Systems, and Employee Attendance Systems. There is also a gap analysis and application implementation plan for future development [2]. According to Syafira Putri Ramadhani, research on strategic planning of industrial information systems in MSMEs, the results of this study support the improvement of industrial services by implementing mobile-based SI / IT applications [3].

Cahaya Store Palembang is a store engaged in the sale of beauty and care products such as skincare, body care, hair care, and perfume. Cahaya Store faces several problems that hinder growth and competitiveness. First, the threat of new entrants is increasing with many business people entering the beauty industry, so Cahaya Store needs to develop a strong strategy to maintain market share. In addition, business processes that are still carried out conventionally require customers to visit the store directly to find out and shop for available products, which can reduce convenience and attractiveness for modern consumers. Finally, the recording of sales reports is still done manually, which increases the workload and risks causing errors, thus hindering fast and accurate decision making. With the strategic planning of mobile application information systems at the light store, it is expected to provide flexible online shopping accessibility, support effective digital marketing, business process automation, improved user experience, in-depth customer data collection, and strong competitiveness in an increasingly competitive market. Skin Store is a mobile-based application designed by the author to provide digital solutions to support business activities, especially in the field

of selling beauty and self-care products. This application is expected to help users make online purchases easily, improve a more personalized shopping experience, and provide additional benefits such as ease in managing customer data and automating operational processes.Skin Store aims to be an innovative, effective, and relevant platform to the needs of modern consumers and the dynamics of the changing beauty industry with features such as product catalogs, shopping carts, various payment methods, and stock management systems. This study aims to analyze the development of the beauty industry in Indonesia, evaluate Cahaya Store's marketing strategy in facing the threat of new entrants, assess the effectiveness of business processes and customer experience, and analyze the sales recording system to provide recommendations that can improve Cahaya Store's competitiveness in the market. Cahaya Store's strategic planning uses the Ward and Peppard methodology with an approach used to analyze and formulate business strategies, especially in the context of information technology and management information systems. Using the Ward and Peppard Method can provide clear steps to analyze current conditions, help Cahaya Store integrate technology in its business, and allow stores to quickly adapt to market changes. In , this approach encourages in-depth analysis, so that decision making can be more precise and based on accurate data.

2. LITERATURE REVIEW

Effective Information Systems / Information Technology (IS / IT) strategic planning is designed to develop IS / IT that can provide a sustainable competitive advantage for the organization. Carefully formulated SI/TI planning will help achieve the vision, mission, and goals of the organization [4]. Information Systems and Information Technology (IS/TI) strategic planning is a process for identifying a portfolio of computer-based applications designed to support organizations in carrying out business plans and achieving predetermined goals. This process also evaluates the impact of IS/TI on business performance and its contribution in helping the organization determine the right strategic steps [5]. The implementation of Information Systems and Information Technology (IS/TI) strategy will achieve optimal results if the strategy is aligned with the organization's business strategy. This alignment ensures that investments in IS / IT support the needs of the organization, resulting in real and measurable benefits in achieving strategic goals, operational goals, and the vision and mission of the organization. An integrated strategy also helps improve efficiency, data-driven decision making, and organizational competitiveness amid business changes [6].

IT strategic planning is a critical process to support an organization's vision, mission, and goals by creating sustainable competitive advantage. Alignment between IS/TI and business strategy ensures effective investment, improving efficiency, decision- making, and organizational competitiveness amidst business changes. The Ward and Peppard method is a framework used to design strategic planning in the development of information systems in an industry. This approach analyzes various factors that affect the development of information systems, both from the internal and external sides of the organization. The analysis aims to formulate a new strategy in the development of information systems or information technology that is in line with the needs of the organization. The results of this process can be used as a basis for developing a strategic plan for the development of information systems or information technology in the future [7].The Ward and Peppard framework was chosen because it is considered the most suitable for business processes that take place in start-up companies. This framework covers various important aspects of the organization, such as current business strategy, economic, political, social factors, the organization's competitive climate, the condition of SI/TI from a business perspective, the contribution of SI/TI to business, human resources, technology infrastructure, existing SI/TI portfolio, and the latest technology trends [2]. The Ward and Peppard method is a framework for designing SI/TI development strategies that are aligned with organizational needs, by analyzing internal, external factors, and technology trends.

SWOT analysis is a method used to evaluate various factors that affect a company, both from its internal and external environment. Through this technique, companies can identify strengths to be optimized, as well as weaknesses that need to be improved [8]. SWOT analysis is an important part of determining an effective marketing strategy and is needed in order to achieve profitable product sales. The benefits of SWOT analysis provided are that companies see problems from the four sides of strengths, weaknesses, opportunities and threats in achieving existing sales and marketing strategies, SWOT analysis is also able to provide direction to maintain strengths, minimize weaknesses and increase profits by increasing available business opportunities [9].SWOT analysis is an important method for evaluating a company's strengths, weaknesses, opportunities and threats, which supports the preparation of effective marketing strategies to increase sales, take advantage of opportunities, overcome weaknesses and threats. The McFarlan Strategic Grid aims to analyze and map Information Systems (IS) applications by considering current conditions, future plans, and applications that have the potential to support business operations. Through this analysis, companies can understand the strategic role of each application, determine which ones are important for current operations and which ones support long-term strategies. Thus, the company can plan for more effective SI management in accordance with its business objectives [10]. As explained by McFarlan, with the aim of assessing the extent to which existing information systems can have a positive impact on organizational performance, both in supporting operational processes, decision making, and in increasing the efficiency and effectiveness of the organization as a whole. This method is applied to map information systems based on their contribution to the organization [11].

Value chain analysis is a strategy used to analyze the various activities that occur within a company. This method helps companies identify activities that provide added value and how each stage in the business process contributes to competitive advantage. By mapping the value chain, companies can find areas that need improvement, reduce costs, and increase operational efficiency to achieve better business goals [12]. In strategic planning, Value Chain business modeling is used as a tool for planning information systems strategy, with the aim of understanding in more depth how the company carries out its various activities, both those included in the category of primary activities and supporting activities, in order to create value and achieve the desired business goals [13].Value chain analysis is used to identify value-added activities within the company, increase efficiency, and support competitive advantage. This method also helps plan information system strategies to support primary and supporting activities in achieving business goals. Porter's Five Forces is an analytical method used to analyze and identify in order to determine business patterns and identify the company's industrial structure which will be used to obtain the results of the company's business strategic planning [14]. Porter's Five Forces Competitive analysis is used to assess the competitive conditions that exist in the market. This analysis method is carried out to map the dynamics of competition in the company's business. This analysis will examine the effect of competition between existing competitors, substitute products or services, potential new entrants, bargaining power of suppliers, and customer bargaining power on the company's business continuity [15]. The information systems strategy planning framework shown in the figure above is divided into two stages. The first stage is the input analysis stage, which focuses on analyzing internal and external conditions from a business and information technology perspective. The second stage is the input stage used to compile the proposed application portfolio. Here are some of the input stages in the Ward and Peppard methodology [16]:

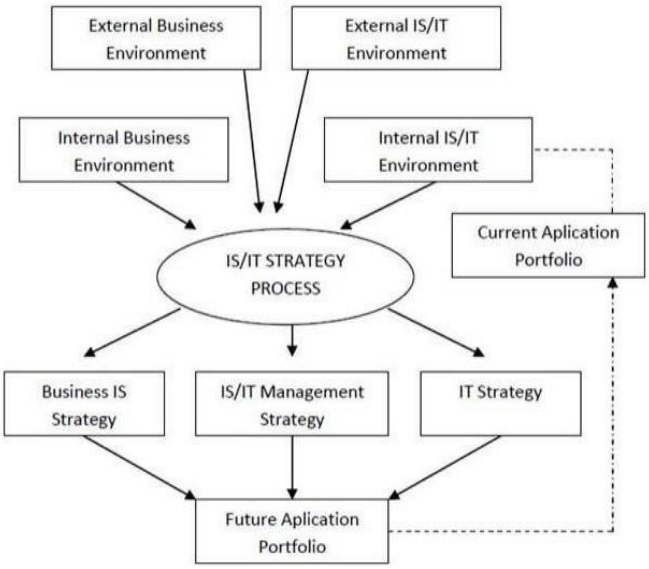

Figure 1. Ward and Peppard method

1. The Internal Business Environment Analysis aims to analyze the current business conditions, the goals to be achieved, the resources available within the company, the culture and values adopted, and the processes applied to achieve the desired business goals.
2. External Business Environment Analysis focuses on analyzing the conditions that occur outside the company, which includes various factors such as technological, social, political, and economic that can affect the course of business.
3. Internal Information System Environment Analysis is carried out to evaluate the current condition of information systems and information technology in the company, and measure the extent to which both can support and meet the needs of the desired business processes.
4. External Information System Environment Analysis aims to analyze emerging technology trends outside the company, as well as see how the use of information systems and information technology can affect the overall business environment.

3. RESEARCH METHODS

The information system strategy for Cahaya Store aims to improve competitiveness by developing a mobile e-commerce application and information management system to facilitate online ordering and automate sales recording.

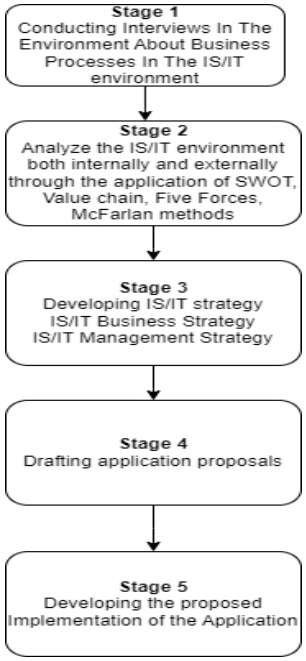

Figure 2. Research Stages

In the research, the author obtained information by conducting interviews with the owner and admin of Cahaya Store, with the results of the need to digitize business processes through e-commerce applications and automated stock management systems to improve operational efficiency, sales report accuracy, and competitiveness in the market.

3.1 Ward and Peppard

The input stage includes several key analyses:

1. Analysis of the internal business environment, which includes the current business strategy, organizational goals and objectives, available resources, work processes, and organizational culture and values.
2. Analysis of the external business environment, including evaluation of economic conditions, industry climate, and competition in the market.
3. Analysis of the internal SI/TI environment, which is an evaluation of the condition of information systems and technology within the organization from a business perspective, including SI/TI maturity, contribution to business, HR skills, and technology infrastructure and existing SI/TI portfolio.
4. Analyze the external IT environment, which looks at the latest technology trends and opportunities for using IT by competitors, customers, and suppliers.

3.2 SWOT Analysis

1. Strengths
    a. Quality products with good reputation.
    b. Strategic location in the beauty market.
    c. Structured operational processes.
2. Weaknesses
    a. Manual sales recording is prone to errors.
    b. There is no digital platform for online purchases.
    c. Reliance on traditional marketing methods.
3. Opportunities
    a. Growth of the e-commerce market.
    b. Increased interest in self-care.
    c. Mobile application development to improve services.
4. Threats
    a. Competition is getting tougher in the beauty industry.
    b. Rapid changes in consumer trends.
    c. Delay in adoption of new technology.

3.3 McFarlan

McFarlan Strategic Grid Light Store:

1. Strategic
   a. Mobile e-commerce applications: Play an important role in supporting the expansion of the digital market, providing online shopping accessibility for customers.
   b. CRM system: Supports service personalization and customer relationship management to improve loyalty and user experience.
2. Turnaround
   a. Manual Sales Recording System: Needs to be automated to improve accuracy and efficiency in the sales data recording process.
   b. Inventory System: Requires integration with e-commerce applications to ensure real-time stock availability.
3. Factory
   a. Cashier System: A core component of store operations, but needs to be updated to be more integrated with modern technology.
   b. Accounting System: Currently still using manual methods, but essential to support accurate financial reports.
4. Support
   a. Security and Time Attendance System: Supports HR management and ensures data security, although it does not directly contribute to the main business strategy.

3.4 Value Chain

Value Chain Analysis of Light Store:

Main Activities:

1. Inbound Logistics
   Inventory management and stock-keeping of beauty products, requires an integrated inventory system to monitor product availability in real-time.
2. Operations
   The process of managing orders, payments, and customer service still uses a manual system that needs to be automated to improve efficiency.
3. Outbound Logistics
   Product delivery to customers is not yet integrated with e-commerce applications, so the logistics process needs to be improved to speed up delivery.
4. Marketing and Sales
   Marketing today relies on social media; e-commerce apps can expand the reach of digital marketing.
5. Service
   Deliver customer service and app-based loyalty programs to improve customer satisfaction and retention.

3.5 Porter's Five Forces

Analysis of Porter's Five Forces Light Store:

1. Threat of New Entrants:
   a. High: The beauty and industry has low barriers to entry, so many new entrants enter with product innovation or aggressive digital marketing strategies.
   b. Mitigation: Cahaya Store needs to focus on branding, customer loyalty, and app development to improve competitiveness.
2. Bargaining Power of Buyers:
   a. Height: Customers have a wide selection of beauty products in the market, both from physical stores and online.
   b. Mitigation: Provide a better customer experience through e-commerce applications, service personalization, and exclusive promotions.
3. Bargaining Power of Suppliers:
   a. Medium: Beauty product suppliers have influence on the price and quality of products, but competition among suppliers provides negotiation opportunities.
   b. Mitigation: Diversify suppliers and establish strategic partnerships to ensure stable supply at competitive prices.
4. Threat of Substitutes:
   a. Medium: Substitute products, such as DIY (do-it-yourself) products or salon services, can replace beauty products from the Light Store.
   b. Mitigation: Offer innovative and high-quality products, and educate customers on the benefits of the products sold

5. Industry Rivalry:
   a. High: Fierce competition among beauty stores, both online and offline, makes competitiveness a major challenge.
   b. Mitigation: Using effective digital marketing strategies, improving product differentiation, and providing superior services through mobile applications.

4. DISCUSSION AND RESULT

4.1 System Design

1. Use Case Diagram

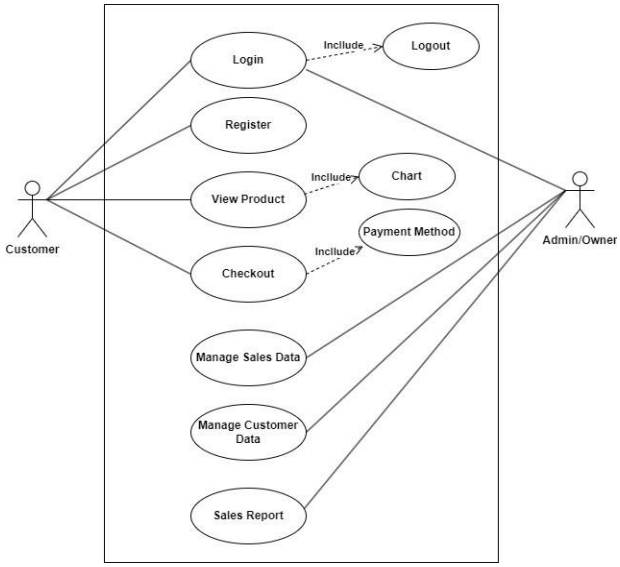

Figure 3. *Use Case* Diagram

4.2 System Design

1. Home Page

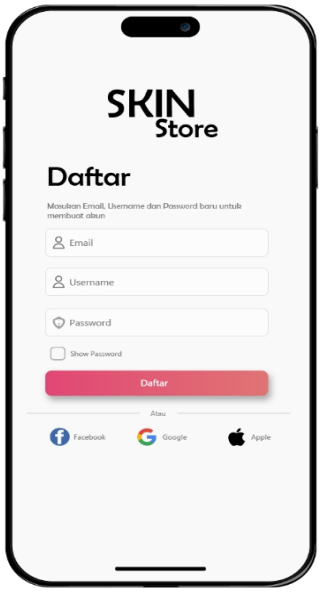

Figure 4. List

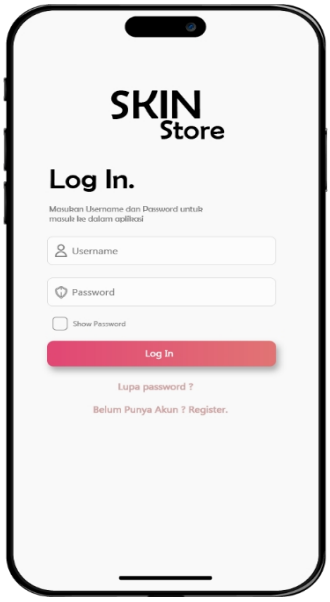

Figure 5. Log In

Figure 4 shows the "Skin Store" application registration page, where users are asked to fill in an email, username, and password. Email is used for verification, username as identity, and password for security. The page is intuitively designed with labels and a "Register" button to proceed with registration. Figure 5 shows the login page of the "Skin Store" application, where users are asked to enter their username and password to log in.

2. Product Details Page

Figure 6 shows the homepage of the "Skin Store" application after the user has successfully logged in. On this page, users can see information about special offers, recommended products, as well as information about two products, namely Wardah and Scarlett. This page is designed to provide an interesting experience and make it easier for users to find products that suit their needs. Figure 7 displays details of Wardah products. On this page, users can see complete information about the product description. In, there is also price information that is clearly displayed. Users can also find buttons or options to add the product to the shopping cart to facilitate the buying or ordering process.

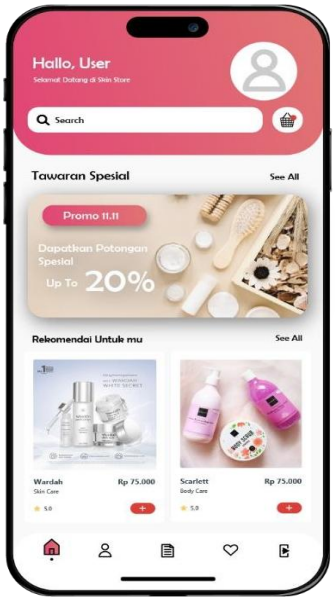

Figure 6. Home

Figure 7. Product Details

3. Product Details Page

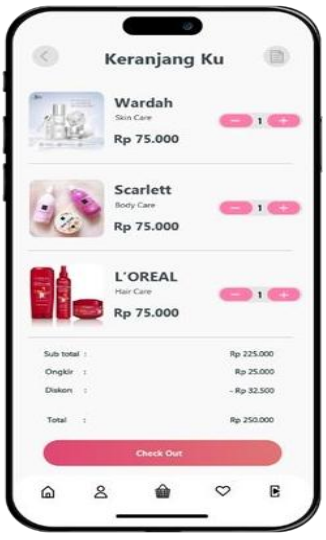

Figure 8. Basket

Figure 8 displays the shopping cart page, where the user can see a list of products to be purchased, sub-totals, shipping costs, discounts, as well as the total price to be paid. The user can then proceed to the payment by pressing the "Check Out" button, which will redirect them to the payment page to complete the transaction.

4. Checkout Page

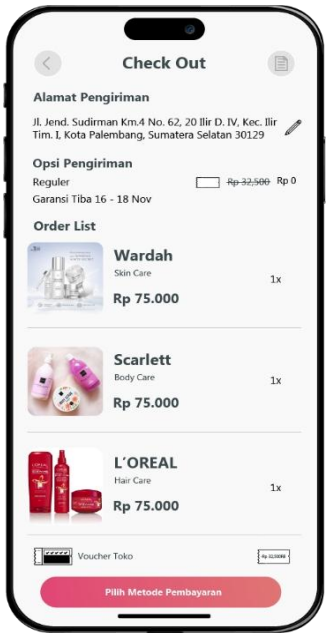

Figure 9. Check Out

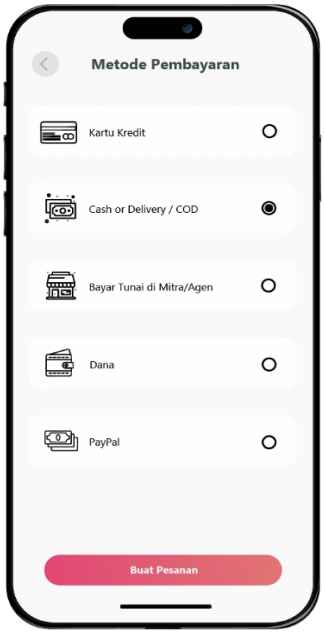

Figure 10. Payment

Figure 9 shows the "Check Out" page of the app, where users can view the order details, including the delivery address, delivery options, and the list of products to be purchased. This page provides an opportunity for users to double-check all the information before they finalize the transaction and make payment. Figure 10 displays the "Payment Methods" page, where users can select various payment options, such as credit card, COD (Cash on Delivery), payment through an agent, Dana, or PayPal. After selecting the desired payment method, users can proceed by pressing the "Create Order" button, which will confirm their selection and complete the purchase process.

5. Admin Page

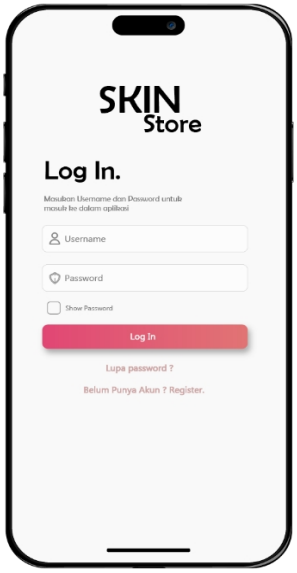

Figure 11. Admin Log In

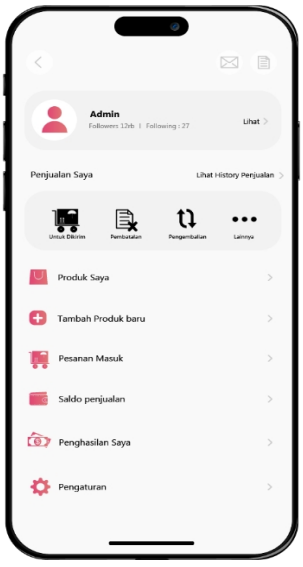

Figure 12. Admin Initial View

Figure 11 shows the login page of the "Skin Store" application. Users are required enter their username and password to enter the application. This login page may also be equipped with account recovery options, such as a link for "Forgot Password", if the user has difficulty accessing their account. Figure 12 shows the main view of the "Admin" account in the "Skin Store" application. On this page, there are menus such as "My Products" to view products, "Add New Product" to add products, "Incoming Orders" to add products, and "Incoming Orders" to add products monitor orders, "Sales Balance" to view the total balance, "My Earnings" to know the revenue, and "Settings" to manage app preferences.

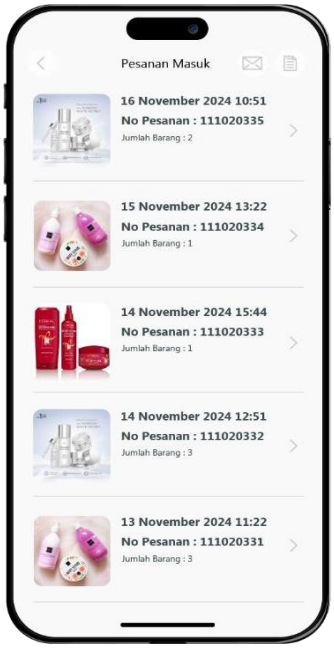

Figure 13. Incoming Orders

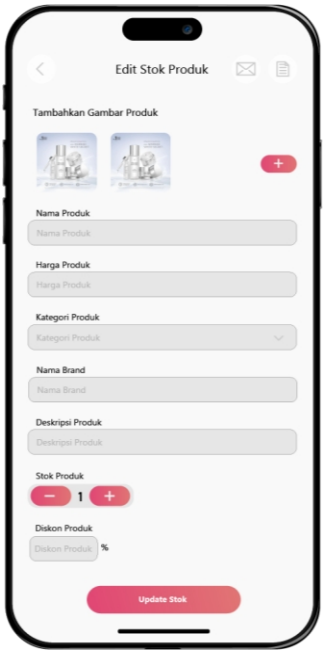

Figure 14. Edit Stock

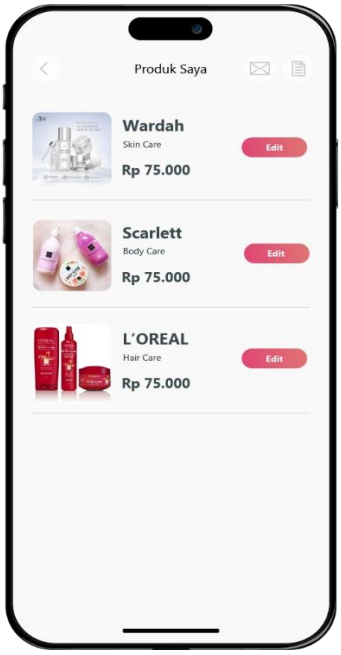

Figure 15. Admin Products

Figure 13 shows the "Incoming Orders" page in the "Skin Store" app. On this page, users can easily access and check the history of all orders that have entered the system, which includes important information such as order date, order number, and number of items ordered. Figure 14 shows the "Edit Product Stock" page in the Skin Store app. On this page, the user is given the option to update various product-related information, such as product name, price, product category, product name, product name, product price, product category, product category, product category, and product category, brand, product description, available stock, and product discounts. In addition, users can also upload and add new product images to update the visual appearance of existing products in the application. Figure 15 shows the "Admin Products" page of the Skin Store app. Here, users can see a list of products for sale, with information such as product name, price, and an "Edit" button that allows users to update or change information related to the product.

5. CONCLUSION

This research aims to develop a mobile-based information system strategy for Cahaya Store using the Ward and Peppard method as the main approach. This strategy is designed to address the various challenges faced by Cahaya Store, such as the increasingly fierce competition in the beauty industry, business processes that are still done manually, and the lack of adoption of digital technology which results in limited accessibility for customers to shop online. Through in-depth analysis using this method, which includes SWOT, McFarlan Strategic Grid, value chain, and Porter's Five Forces approaches, it was found that the development of a mobile e-commerce application can provide an effective solution to improve competitiveness, operational efficiency, and customer experience. The app not only offers convenience in online shopping through features such as product catalogs, various payment method options, and personalization services, but also supports business process automation, thus minimizing manual recording errors and improving accuracy and speed of decision-making. The strategy also includes efforts to strengthen digital marketing through integrating technology to reach more customers and maintain their loyalty amidst dynamic competition. addition, the research recommends further developments, such as the integration of artificial intelligence to provide more personalized product recommendations, more efficient customer relationship management, and periodic evaluation of implementation to ensure the strategy remains relevant to market changes. With this comprehensive approach, Cahaya Store is expected to not only be able to face current business challenges but also create a sustainable competitive advantage in the futurew.

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