IMPLEMENTATION OF AUGMENTED REALITY TECHNOLOGY FOR MARKETING STRATEGIES AND USER EXPERIENCE IN RETAIL SME INDONESIA

[1]Ricky Fernando, [2]Kerenhapukh Piay Turangan, [3]Felix Mario Suphangat, [4]Agung Stefanus Kembau

[1,2,3,4]Department of Digital Business, Faculty of Social Sciences and Humanities, Bunda Mulia University, Jakarta - Indonesia

e-mail:
[1]s35200128@student.ubm.ac.id
[2]s35200130@student.ubm.ac.id
[3]s35200131@student.ubm.ac.id
[4]akembau@bundamulia.ac.id *(corresponding author)*

ABSTRACT

This study investigates the impact of Augmented Reality (AR) technology on the customer experience at Miracle MacBook, contextualized within the Indonesian SME landscape. AR enhances user engagement by blending virtual elements with the physical world, offering an immersive shopping experience. The study uses interviews, observations, surveys, and analytical frameworks (STP, SWOT, Porter's Five Forces, VRIO, SDLC, and Augmented Reality Maturity Model) to assess the impact of AR as a business transformation. The results highlight the significant benefits of implementing AR to increase consumer engagement and loyalty in a competitive SME environment. The study recommends implementing AR technology to increase consumer trust and reduce reliance on price competition for Miracle MacBook and similar SMEs in Indonesia. Strategically integrating AR into online platforms can mitigate existing weaknesses and threats by enriching transactional experiences and differentiating brands through innovation. Recommendations include initiating AR pilot projects on websites with basic 3D interaction features, investing in advanced AR capabilities, and expanding AR applications to enhance customer service and marketing initiatives. Ongoing evaluation and training programs are essential to sustain AR innovation and meet evolving consumer demands. By strategically embracing AR, SMEs like Miracle MacBook can increase customer engagement, drive sales growth, and strengthen their market position amidst the digital transformation of Indonesia's SME sector.

Keywords : *Augmented Reality*; *User Experience; AR Prototype; Small Business Enterprise*

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INTRODUCTION

Augmented reality technology has transformed the integration of marketing strategies, leading to improved customer experience and involvement (Flavián, 2019). Unlike traditional marketing, AR overlays virtual elements onto real-world objects, providing immersive and interactive experiences for users (Wedel, 2020). This research aims to examine how AR affects customer experience and content marketing strategies concerning Miracle MacBook. Thus by examining the implementation of AR in this study, its impact on consumer behavior and loyalty will be explored thereby providing valuable technological and marketing insights into the effective application of augmented reality.

Augmented Reality is being adopted across a wide range of industries, including retailing, entertainment, education, and healthcare. Unique opportunities are available through using AR in marketing for creating compelling and personal customer experiences (Kim, et al. 2023). In addition, AR could enable customers to see products within their environments; interact with digital content in new ways; and provide real-time information/feedback among others (Syed, et al. 2022). These capabilities can significantly enhance the customer's journey, fostering a deeper connection with the brand and increasing loyalty. In addressing these challenges, implementing AR features within a business context, supported by Strategy Content Marketing, can serve as a solution. The integration of AR and Strategy Content Marketing can enhance customer trust in products offered by a store. Globally, the number of AR users reached 598 million in 2020, projected to nearly triple to 1.73 billion by 2024. The average revenue per user (ARPU) in the AR & VR market is projected at $14.08 (Splash, 2024), indicating a potential for boosting digital sales and ensuring customer comfort and security in online transactions.

However, Small and Medium Enterprises (SMEs) in Jakarta face several challenges that can hinder their growth and competitiveness. Some of these issues include limited access to capital, inadequate technological infrastructure, and a lack of skilled human resources (Indrawati, 2020). On the other hand, SMEs often struggle with limited market reach and stiff competition from larger, more established companies. Limited access to capital is a significant barrier, as SMEs often struggle according to (Mills, & McCarthy, 2016) to obtain financing for expansion and innovation due to stringent lending criteria and high interest rates, which make it difficult for small businesses to invest in new technologies such as AR. Additionally, many SMEs in Jakarta lack the technological infrastructure needed to implement sophisticated marketing strategies. AR adoption requires robust digital platforms and tools, which can be a significant investment for smaller companies. Furthermore, implementing AR technology requires specialized skills in areas such as software development, digital marketing, and user experience design (Parise, et al. 2016). SMEs often face a shortage of skilled professionals who can effectively manage and execute AR projects.

In addition, SMEs in Jakarta must compete with larger companies that have greater resources and established customer bases. This competition makes it difficult for smaller businesses to attract and retain customers, especially when trying to implement new and innovative marketing strategies. Despite these challenges, the potential benefits of AR technology for SMEs are significant. By enhancing customer experience and engagement, AR can help SMEs differentiate themselves in a crowded market. This research aims to provide practical recommendations for SMEs in Jakarta on how to leverage AR technology to improve their marketing strategies and overall business performance. Furthermore, we have developed a prototype for AR to be used on the Miracle MacBook's website, enhancing its interface and providing users with an

interactive and engaging experience. This prototype aims to demonstrate how AR can be effectively integrated into digital platforms, offering a tangible example for SMEs to follow in their own implementations.

LITERATURE REVIEW

Augmented Reality Technology

Augmented Reality (AR) technology has emerged as a transformative tool in marketing, enhancing the consumer experience by seamlessly blending virtual elements with the physical world. AR's potential to create immersive, interactive, and personalized experiences has been widely recognized in the literature. Studies such as Poushneh and Vasquez-Parraga (2017) demonstrate that AR can significantly enhance user engagement, providing consumers with richer, more engaging experiences that traditional marketing methods cannot match. These immersive experiences can lead to higher levels of emotional connection, increased brand loyalty, and a greater likelihood of purchase. The ability of AR to provide real-time, interactive product demonstrations allows consumers to visualize products in their environment, thereby reducing uncertainty and improving decision-making (Heller et al., 2019). This aligns with the findings of Javornik (2016), who highlights AR's role in enhancing perceived value and consumer satisfaction.

In the context of Small and Medium Enterprises (SMEs), AR has shown considerable promise as a strategic marketing tool. SMEs, often constrained by limited resources and intense competition, can leverage AR to differentiate themselves and enhance their market position. Research by Pantano and Servidio (2012) suggests that AR can level the playing field by providing SMEs with innovative ways to engage customers and stand out in a crowded marketplace. The integration of AR into online and offline channels allows SMEs to offer unique, interactive experiences that can increase customer trust and reduce the emphasis on price competition. Moreover, the scalability of AR applications, from basic 3D interaction features to more advanced capabilities, enables SMEs to incrementally invest in technology as they grow (Huang & Liao, 2015). This strategic adoption of AR can drive sales growth, foster customer loyalty, and ultimately strengthen the competitive position of SMEs in the digital economy.

Marketing Strategies

Effective marketing strategies are essential for businesses to engage with their target audience, build brand awareness, and drive sales. Traditional strategies include market segmentation, targeting, and positioning (STP), alongside promotional tools such as advertising and public relations. With the advent of digital technology, these strategies have evolved to incorporate data-driven decision-making and personalized customer interactions, enhancing campaign precision and effectiveness (Chaffey & Ellis-Chadwick, 2019). For Small and Medium Enterprises (SMEs), adopting effective marketing strategies is crucial due to their limited resources and competitive pressures. Tailored marketing efforts can significantly impact their growth and sustainability.

Augmented Reality (AR) has revolutionized marketing by offering immersive and interactive experiences that enhance consumer engagement and decision-making. AR allows customers to visualize products in their real-world environment, increasing satisfaction and loyalty (Scholz & Smith, 2016). For SMEs, AR provides a unique opportunity to differentiate their brand and stand out in a crowded market. Research shows that AR can improve perceived product value and foster stronger emotional connections with consumers (Javornik, 2016). By strategically integrating AR into their

marketing strategies, SMEs can reduce reliance on price competition, enhance customer trust, and drive growth through innovation (Huang & Liao, 2015).

METHOD

Data Collection Methods and Analysis

In designing this system, this study uses a comprehensive approach to understand the impact of AR technology on customer experience and loyalty, using a combination of qualitative and quantitative methods. To gather in-depth insights, qualitative interviews were conducted with Miracle Macbook owners aimed at understanding their experiences and perceptions of AR technology, as well as the conditions and business strategies that have been and will be developed. These interviews provide rich and detailed data that highlight the nuances of user engagement with AR. In addition, observations were conducted to monitor customer interactions seen from the website, social media and the condition of the Miracle Macbook store layout as well as the business model being carried out. This method helps identify key patterns and factors that influence user engagement, thus offering a practical perspective on how AR is used in everyday settings.

To complement the qualitative data, a structured survey was distributed to collect quantitative data on customer perceptions regarding their interactions and experiences in shopping at Miracle Macbook. This survey is a triangulation of the interviews and observations that have been conducted refers to the stages of Jogiyanto (2019). Descriptive analysis is then used, using established frameworks such as STP (Segmentation, Targeting, Positioning), SWOT (Strengths, Weaknesses, Opportunities, Threats), Porter's Five Forces, VRIO (Value, Scarcity, Imitability, Organization) refers to Thompson, et al. (2020), SDLC (System Development Life Cycle) from Gupta, et al.2021, and the Augmented Reality Maturity model from Asisila, et al. (2020). The STP framework helps in understanding how AR can be used to segment the market, target specific customer groups, and position the Magic MacBook effectively (Chaffey & Ellis-Chadwick, 2019). The SWOT analysis identifies the strengths and weaknesses of AR implementation, as well as the opportunities and threats in the market environment (Leigh,2009). Porter's Five Forces framework provides insight into competitive dynamics and how AR can offer a competitive advantage (Dobbs, 2014). The VRIO model assesses the strategic resources that AR technology can bring to the Miracle MacBook, evaluating its value, scarcity, imitability, and organization (Wang, at al. 2019). The SDLC framework outlines the stages of AR development and implementation, ensuring a systematic approach to integrating AR into the marketing strategy (Balaji, 2019). Finally, the Augmented Reality Maturity model evaluates the level of AR adoption and proficiency within the organization (Urbaczewski & Sauter, 2020). Through this diverse methodological approach, this study aims to provide a holistic understanding of the impact of AR technology on customer experience and loyalty while providing practical solutions in the form of designing AR systems that are expected to increase the capacity of specific companies in user experience

Solution Development Methods

1. SDLC Method
   Software Development Life Cycle (SDLC) is a systematic and structured methodology for creating high-quality, cost-effective, and reliable software (Gupta, Rawal, & Barge, 2021). This methodology encompasses several models, each with its strengths and limitations, such as Waterfall, Spiral, V, Agile, Interactive, and Rapid (Gupta, Rawal, & Barge, 2021; Khan, Shadab, & Khan, 2020). The SDLC framework includes phases

such as requirements gathering, analysis, design, implementation, testing, and maintenance (Rathnayaka & Kumara, 2020).

In the Augmented Reality (AR) development project to enhance the customer experience and sales of used MacBooks and accessories from Miracle MacBook, the Software Development Life Cycle (SDLC) approach is essential. SDLC provides a systematic and structured framework that includes several models such as Waterfall, Spiral, V, Agile, Interactive, and Rapid (Balaji, 2019). Each model has its own strengths and limitations that can be tailored to meet the unique challenges and needs of AR application development. The key phases of SDLC, such as requirements gathering, analysis, design, implementation, testing, and maintenance, systematically guide the development of this AR application (Royce, 2019). The use of the Agile model in SDLC, for example, allows an iterative approach that allows for continuous feedback from users and rapid adjustment to changing market needs. This ensures that the AR application can not only provide an intuitive and engaging user experience but also continuously evolve to effectively meet the expectations of Miracle MacBook customers.

2. Augmented Reality Maturity

   The Augmented Reality (AR) maturity model guides companies in utilizing AR for product development, performance enhancement, addressing business speed, managing change, handling opportunities and challenges from connectivity advancements, resource management, talent augmentation, and large-scale operations (Gartner, 2018; Urbaczewski & Sauter, 2020). Augmented reality technology briefly processes and enhances digital reality, enabling users to interact with data (Ünal et al., 2022).

   The use of the AR maturity model is very relevant in AR development projects to improve customer experience (Wang, 2019; Urbaczewski & Sauter, 2020) and sales of second-hand MacBooks and accessories from Miracle MacBook. The AR maturity model guides companies in utilizing AR technology for product development, performance improvement, change management, and managing opportunities and challenges from advances in connectivity and resources (Schumacher, et al, 2016). By integrating real-time digital information into the physical environment, AR allows users to interact with data directly, improving perception and decision-making (Martins, et al. 2022). In this context, implementing AR features to visually visualize products to buyers can increase the appeal and uniqueness of Miracle MacBook in the market, while improving the consumer purchasing experience. AR technology has been proven useful in various industries such as healthcare, education, retail, military, and automotive to improve human perception and decision-making (Mendoza, et al., 2023). By utilizing this technology, companies can provide a more interactive and satisfying purchasing experience for consumers. Development teams that incorporate AR features into the sales system can provide more in-depth and informative visualizations of second-hand MacBook products and accessories, thereby strengthening Miracle MacBook's competitiveness in an increasingly competitive market. Thus, AR integration not only enhances customer experience, but can also potentially increase sales and a company's competitive advantage in the long run.

Feasibility Analysis Method

In conducting a feasibility study for an Augmented Reality (AR) development project to improve customer experience and sales of second-hand MacBooks and accessories from

Miracle MacBook, the DFV (Desirability, Feasibility, Viability) model by Bland & Osterwalder (2019:48) becomes relevant. The Desirability aspect refers to how much added value is provided by the implementation of AR in increasing user interaction with the product (Kang, et al.2023). AR can allow customers to see products in more detail and interactively, increasing customer appeal and satisfaction in the purchasing process (Poushneh & Vasquez-Parraga, 2017). In terms of Feasibility, it is necessary to consider technical aspects such as the adequacy of technological infrastructure to support AR applications, as well as the availability of human resources with appropriate expertise for the development and implementation of this technology (Huang & Liao, 2015). In addition, in terms of business sustainability (Viability), this project must consider financial aspects, including the estimated costs of developing, implementing, and maintaining AR applications. This analysis will help assess whether investment in AR technology can generate adequate returns in the long term, as well as how marketing and sales strategies can be improved to maximize the benefits of using AR. By integrating the DFV model into the feasibility study, Miracle MacBook can make a more informed and strategic decision in adopting AR technology to strengthen its market position and meet customers' increasing expectations for innovative and satisfying purchasing experiences.

RESULTS AND DISCUSSION

Porter's Five Forces Analysis

Porter's Five Forces analysis (Porter, 2008; Thompson, et al. 2020) conducted to analyze the external factors directly experienced by customers, thus indirectly influencing the MacBook store. Based on the interview with the owner of Miracle MacBook Store, the assessment will be rated according to the following criteria:

- Low: if the score is between 0-3
- Medium: if the score is between 3.1-6
- High: if the score is between 6,1-9 (Dobbs, 2014)

Here are the results of the analysis of the parameters categorized to assess the strengths of each parameter.

Table 1
Result of Bargaining Power of Buyers Analysis

Bargaining Power of Buyers					
No	Variable	Indicator	Weight	Rating	Score
1.	Purchase Quantity	Consumer Purchase Frequency	0,3	6	1,8
2.	Price Changes	Consumers Selective with Price Increases and Decreases	0,2	4	0,8
3.	Information Clarity	Consumers Have Abundant Product Information Due to Regular Checking During Transactions	0,3	3	0,9
4.	Satisfaction Factors	Consumers Are Satisfied with the Purchased Second-hand MacBook	0,2	3	0,6
Total			1.0		4,1

Sources : Primary Data, 2024

Table 2
Result of Bargaining Power of Suppliers Analysis

Bargaining Power of Suppliers					
No	Variable	Indicator	Weight	Rating	Score
1.	Supplier's Product	Suppliers play a crucial role in the second-hand MacBook industry.	0,5	7	1,3
2.	Supplier Dominance	MacBook suppliers are utilized by many other companies.	0,3	4	1,0
3.	Switching Costs	Switching costs to other suppliers are equal.	0,2	3	0,8
Total			1.0		3,1

Sources : Primary Data, 2024

Table 3
Result of Threat of Substitutes

Threat of Substitutes					
No	Variable	Indicator	Weight	Rating	Score
1.	Substitute Products	The company has many substitute products in the second-hand MacBook sales industry.	0,3	3	0,9
2.	Substitute Product Offerings	The quality and price of substitute products vary, prompting consumers to switch.	0,4	5	2
3.	Market Share of Substitute Products	The market share of substitute products is increasing, leading to higher consumer preference as well.	0,3	4	1,2
Total			1.0		4,1

Sources : Primary Data, 2024

Table 4
Result of Rivalry among Existing Competitors

Rivalry among Existing Competitors					
No	Variable	Indicator	Weight	Rating	Score
1.	Number of Competitors	The company faces diverse competitors.	0,3	3	0,9
2.	Increase in Number of Competitors	There is an increasing number of new competitors entering the second-hand MacBook sales industry.	0,2	2	0,4

3.	Product Differentiation	Product differentiation is crucial in a competitive market.	0,3	5	1,5
4	Consumer Loyalty	Consumer loyalty is moderate.	0,2	3	0,6
Total			1.0		3,4

Sources : Primary Data, 2024

Table 5
Result of Threat of New Entrants

Threat of New Entrants					
No	**Variable**	Indicator	Weight	Rating	Score
1.	Capital Requirements	Capital Required to Build the Business	0,3	4	1,2
2.	Industry Growth	Industry Growth is in the development stage.	0,2	4	0,8
3.	Consumer Loyalty	Consumer Loyalty is moderate.	0,5	4	2
Total			1.0		4

Sources : Primary Data, 2024

Based on the analysis using Porter's Five Forces framework, the results indicate a moderate to high level of competition and external pressures in the second-hand MacBook sales industry. The bargaining power of buyers is substantial, with a score of 4.1, primarily influenced by purchase frequency and information clarity. The bargaining power of suppliers, with a score of 3.1, reflects the critical role suppliers play and the relatively low switching costs. The threat of substitutes is significant, scoring 4.1, driven by the availability and varying quality of substitute products. Rivalry among existing competitors scores 3.4, highlighting the importance of product differentiation and the growing number of competitors. Lastly, the threat of new entrants scores 4.0, indicating considerable barriers to entry due to capital requirements and moderate consumer loyalty. Overall, the industry is characterized by strong competitive forces, necessitating strategic differentiation and effective supplier and customer relationship management for sustained success.

VRIO Analysis

In conducting VRIO analysis, the author divides Miracle MacBook's resources into three groups according to Knott(2013):

- Tangible: Capital, High-quality product inventory, Business location, and Logistics and warehouse facilities.
- Intangible: Supplier relationships, Brand reputation, Customer experience, and Marketing content.
- Capabilities: Product selection expertise, Innovation capability, Marketing proficiency, and Customer service.

Table 6
VRIO Analysis

No	Resources or Capabilities	Value	Rare	Imitability	Organize	Category
Tangible						
1.	Capital	v	-	-	-	Competitive parity
2.	High-quality Product Inventory	v	v	-	v	Temporary competitive advantage
3.	Business Location	v	-	-	-	Competitive Parity
4.	Logistics and Warehouse Facilities	v	-	v	v	Temporary competitive advantage
Intangible						
1.	Supplier Relationships	v	v	v	v	Sustainable competitive parity
2.	Business Brand	v	v	v	v	Sustainable competitive parity
3.	Customer Experience	v	v	-	-	Competitive Parity
4.	Marketing Content	v	-	v	v	Temporary competitive advantage
Capabilities						
1.	Product Selection Skill	v	v	-	v	Temporary competitive advantage
2.	Innovation Capability	v	-	v	v	Temporary competitive advantage
3.	Marketing Ability	v	v	v	v	Sustainable competitive parity
4.	Customer Service	v	v	v	v	Sustainable competitive parity

Sources : Primary Data, 2024

Referring to the VRIO analysis results, the Miracle Macbook business has several resources and capabilities that offer varying degrees of competitive advantage. Tangible assets such as high-quality product inventory and logistics and warehousing facilities provide temporary competitive advantages due to their value and organization. Intangible assets such as supplier relationships, business brands, marketing capabilities, and customer service are identified as sustainable competitive advantages, given their rarity, value, and difficulty to imitate. Capabilities such as product selection skills, innovation capabilities, and marketing content contribute to temporary competitive advantages. Overall, the business is well positioned with a mix of sustainable and temporary competitive advantages, emphasizing the importance of maintaining strong supplier relationships, brand reputation, and customer service to sustain long-term success.

SWOT Analysis

The SWOT analysis conducted by the author aims to identify strengths and weaknesses to effectively compete amidst changes. By understanding these factors, the author can devise appropriate strategies for Miracle MacBook. Additionally, the analysis helps uncover opportunities and threats that the company may face based on these insights.

1. Strength
   Based on the interview with the owner, the MacBook store aims to meet the needs of buyers seeking high-quality products at affordable prices. Our observation highlights strengths that can enhance sales and branding, notably the store's strong reputation associated with Apple, which is well-known among consumers. The owner emphasizes maintaining company and product quality by employing a team of technicians for rigorous product quality control, thereby ensuring consumer trust remains intact.
2. Weakness
   Based on the interview with the owner, they mentioned having an alternative to respond to chats on platforms like Shopee and Tokopedia. However, they noted that consumer needs vary widely. Despite rigorous quality control for second-hand MacBooks, there remains a chance of system errors.
3. Opportunities
   Based on the interview with the owner of Miracle MacBook store, the industry shows increasing opportunities despite having fewer competitors compared to the second-hand smartphone business. There is a growing market demand for second-hand MacBooks due to their affordability compared to new products. As the business progresses, the owner also identifies another opportunity based on consumer demand: selling MacBook accessories such as cases, bags, dongles, etc. Introducing these additional items can attract consumer attention and enhance the store's offerings in the second-hand MacBook market.
4. Threats
   Based on the interview with the store owner, the author identified threats faced by the MacBook store, namely competition and declining prices in the second-hand MacBook market. As a primary supplier, the owner must adjust prices in response to market declines. This requires monitoring market price trends on e-commerce platforms, particularly as Apple releases new versions of MacBooks annually. According to the owner, there has been an increase in e-commerce prices from 4% to 6% annually. Based on this interview, the owner also positions

themselves to adapt to current trends by considering adding new technology or platforms to the MacBook store.

Based on the SWOT analysis carried out, Miracle MacBook can optimize strengths and opportunities and overcome weaknesses and threats with an Augmented Reality (AR) technology integration strategy. Their strong reputation and strict quality control can be leveraged through AR to display product condition and quality in detail, providing a 360-degree visualization of the MacBook and its accessories, thereby increasing consumer confidence. To address variations in consumer needs and potential system errors, AR can provide interactive guidance and real-time troubleshooting. In addition, AR can be utilized to maximize opportunities in the second-hand MacBook and accessories market by allowing customers to try various accessories virtually before purchasing, increasing customer engagement and satisfaction. In the face of threats such as competition and falling prices, AR can offer a unique and highly personalized shopping experience, as well as display offers and promotions in real-time, so that Miracle MacBook can maintain its competitive edge and attract consumer attention in an increasingly dynamic market.

System Needs Analysis

User Interface

UI Design for Miracle Macbook Web Application is divided into two types: one for customers in the form of a mobile application and another for administrators as a desktop application. The design aims to be modern and responsive to Miracle Macbook's needs. The author collaborates closely with the company to ensure the desired look and feel are maximized in the UI development process.

Software Interface

In this aspect, the software interface focuses on the optimal capabilities of the integrated system. The required software specifications include:

1. Admin
   - Operation System: Windows, MacOs,Linux
   - Browser: All Browser
   - Database Management System: MySQL
2. Customer
   - Operation System: Android, IOS
   - Browser: All Browser
   - Database Management System: MySQL
3. Hardware Interface

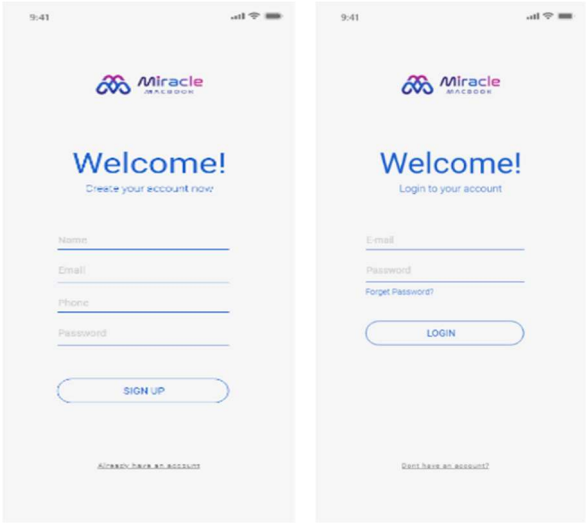
   Minimum Specifications:
   - Processor (CPU): Dual-core 1.6 GHz or equivalent.
   - RAM: 4 GB.
   - Storage: 20 GB free storage.
   - Network: Standard internet connection.

   Recommended Specifications:
   - Processor (CPU): Quad-core 2.5 GHz or higher.
   - RAM: 16 GB or more.
   - Storage: SSD 100 GB or more for high performance.
   - Network: Fast internet connection with high bandwidth.

4. Communication interface
   In this system, the Communication Interface consists of two primary actors: customers who can conduct transactions, and administrators who manage these transactions and address customer needs. The choice of a web-based application enhances flexibility, allowing users to quickly and easily access and utilize the application.

System Prototype

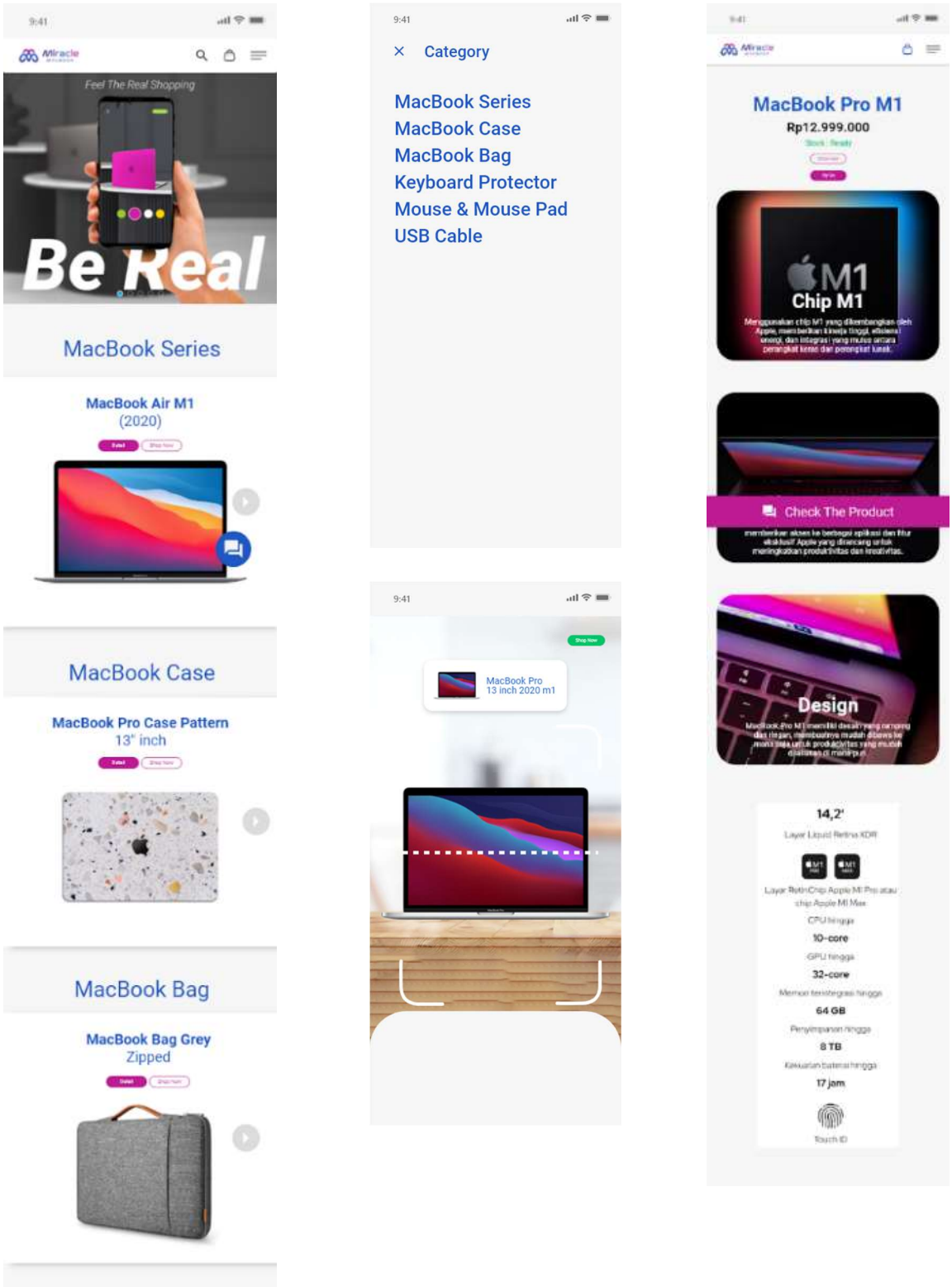
This prototype was created using Adobe XD, providing a visual representation of the Miracle MacBook website application system. This prototype functions as a blueprint for developers to further develop and implement website application systems. By using Adobe XD, the design process becomes efficient, allowing for interactive and user-friendly interface designs. On the other hand, prototyping facilitates effective communication between design and development teams, ensuring a cohesive and efficient implementation process.



Sources : Primary Data, 2024

Figure 1
Customer Register & Login

The description of the registration page for the Macbook store website application, where the user (customer) is required to enter their name, email, phone number, and password. This information is essential for creating a personalized account, ensuring a secure and tailored shopping experience.

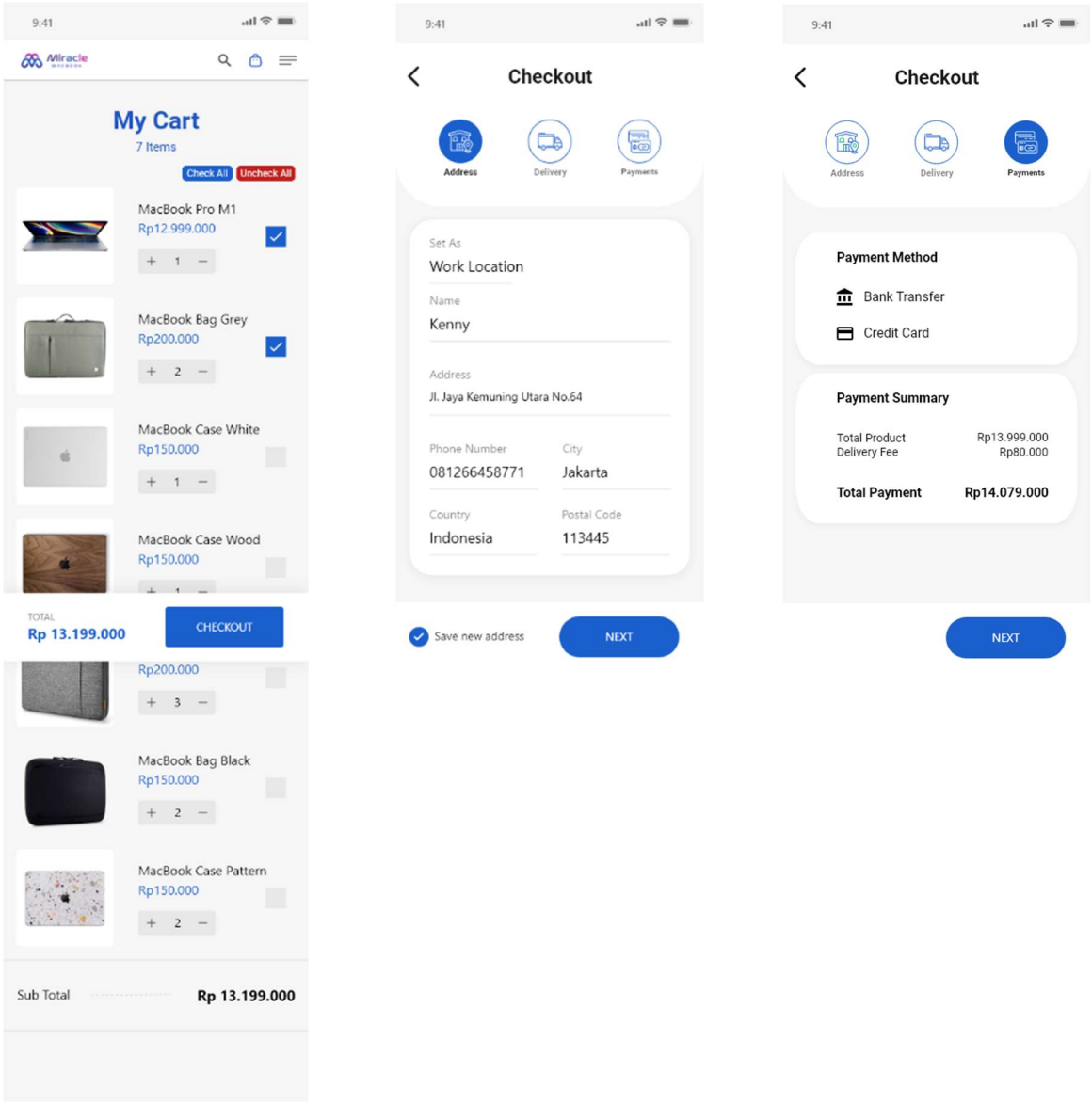


Sources : Primary Data, 2024

Figure 2
Customer Home, Customer Category, Detail Product, And AR Fiture

On this page, there are several sections including a promotional banner, a mini catalog, and several clickable buttons such as the search icon, category icon, profile icon,

mini catalog slide button, details button, shop now button, product mini catalog, and admin chat icon. After clicking "try on," users can utilize the AR feature to examine the item in detail from various angles based on their preferences. The designed interactive AR feature is expected to enhance the shopping experience by allowing users to visualize how products fit into their environment. Additionally, the admin chat icon provides real-time assistance, ensuring every customer query is handled efficiently.

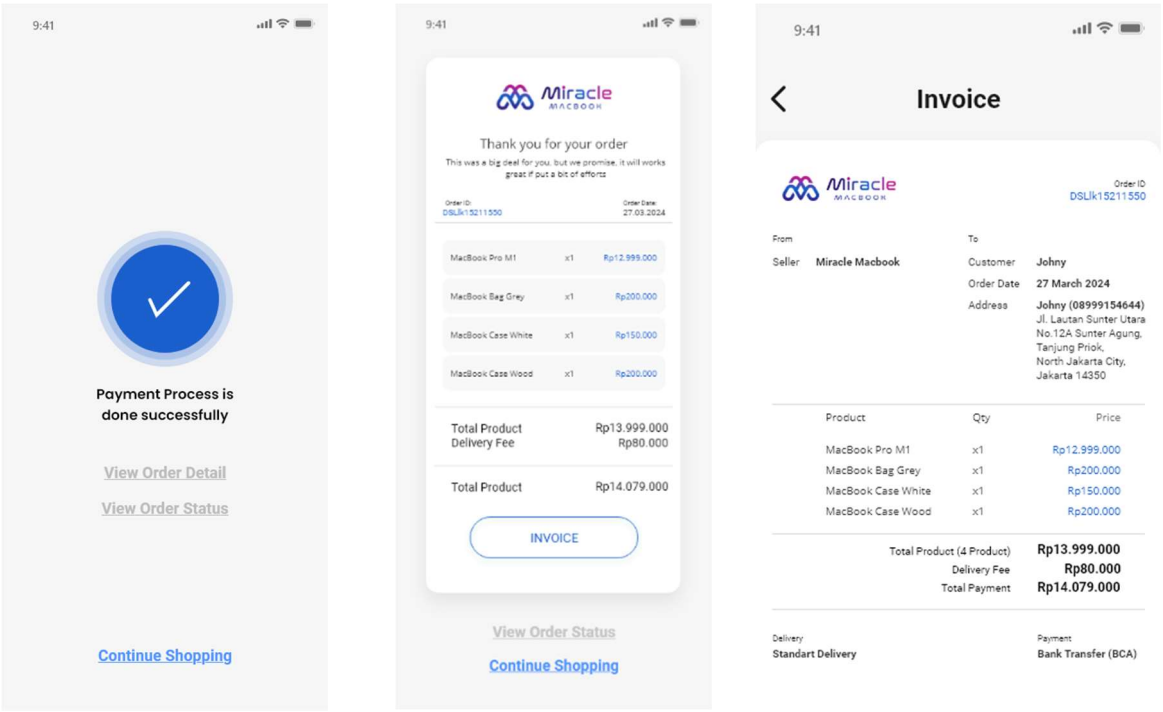


Sources : Primary Data, 2024

Figure 3
Cart. Checkout, Payment

After clicking "shop now," users can view the items they intend to purchase. Users can select the items they wish to buy by clicking checkboxes next to each item, and then proceed to click "checkout." The "Add Location" interface includes fields for the location title, recipient's name, phone number, destination address, city, country, and postal code. Users need to fill out these details to add a new address, then click "Save." The payment interface includes payment methods and payment details. Users can choose one of the

payment methods they prefer. Additionally, the system supports multiple payment options to cater to diverse customer preferences, enhancing convenience. Once the payment is confirmed, users receive an order summary and confirmation notification for their purchase. For any issues during the process, users can access customer support through the chat icon for immediate assistance.



Sources : Primary Data, 2024

Figure 4
Payment Success, Order Detail, and Invoice

The order has been received if there is a notification like the above. After that, users can click "View Order Details" to see the order details. They can also click "Continue Shopping" to return to the homepage. When the user clicks "View Order Details," they will see the order details including the order ID, order date, names of purchased items, quantities, item prices, and order subtotal. Users can also view the invoice for the order. In this view, users can see detailed information about their order, including the order ID, sender's information, recipient's information, recipient's address, item names, quantities, order total, shipping method, and payment method. Users can check the order status by clicking "View Order Status." Additionally, users have the option to download or print the invoice for their records. If any issues arise, users can contact customer support directly from this page for prompt assistance.

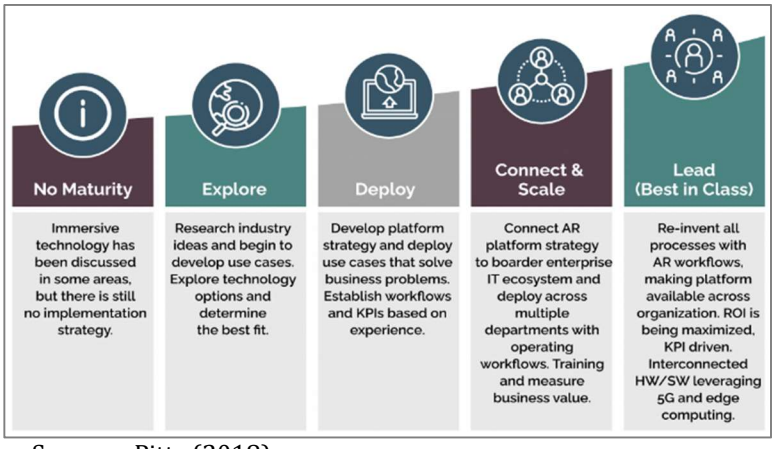
Discussion

Based on our analysis obtained from interviews with owners, the proposed implementation of Augmented Reality can overcome the weaknesses and threats currently facing the MacBook store itself. This implementation will differentiate it from other competing brands thereby increasing customer confidence when making transactions (Flavián, et al, 2019). As a result, MacBook stores no longer need to fight price wars against competitors.

The author proposes to design a website for a MacBook store. This aims to meet business needs in boosting sales by using an e-commerce platform, thereby reaching a wider target market. With these websites, businesses can benefit both in terms of reaching their target audience and improving business operations. Additionally, designing a website offers many benefits such as increasing brand visibility and trust, as well as simplifying operations and marketing strategies. By leveraging digital technology, MacBook businesses can attract and serve customers efficiently, taking their business to new heights as consumers' interest in digitalization increases.

The author's final suggestion is to incorporate Augmented Reality (AR) technology into the website. This feature allows customers to view 3D models of the MacBook they are interested in (Laimeheriwa, & Kembau, 2024).. They can check details such as size, physical condition, and other features by zooming in and examining closely. This provides a more interactive and immersive shopping experience for customers. Apart from that, the use of Augmented Reality in business is still rare in Indonesia, so implementing it effectively can have a long-term positive impact on business. Additionally, accessories can also have 3D visuals, so consumers can assess whether the design and color match their preferences.

Currently, Miracle MacBook's business situation can be categorized as being at Stage 1, "No Maturity", according to the AR Maturity Model. At this stage, there has been no significant implementation of AR or exploration of its potential benefits. Our project aims to move Miracle MacBook into Phase 2, "Explore," where businesses will begin piloting AR initiatives, experimenting with different applications, and understanding their impact on customer experience and sales. This involves creating basic AR features on the website so that customers can interact with the product in a more immersive way.



Sources: Pitts (2018)

Figure 5
Augmented Reality Maturity Model

In future projects, we recommend moving to Phase 3, "Deployment," where AR is more fully integrated into business operations and customer interactions. To achieve this, the Miracle MacBook will have to invest in advanced AR capabilities, including detailed 3D modeling, real-time interaction features, and perhaps AI-driven personalization of the AR experience. Continuous evaluation and refinement of AR features based on customer feedback and technological advances will be critical. Additionally, expanding AR features to include interactive tutorials, virtual customer service, and additional marketing

campaigns could significantly improve the overall user experience and differentiate the Miracle MacBook from competitors in the long term.

CONCLUSION AND SUGGESTIONS

Based on the previous explanations, it can be concluded that the MacBook store can enhance trust by further leveraging technology to boost consumer confidence online, especially in the sales of second-hand MacBooks and accessories. Referring to the analysis of the proposed prototypes discussed, it is clear that the implementation of Augmented Reality (AR) technology has great potential to address the weaknesses and threats currently faced by Miracle MacBook. By differentiating itself through an AR-enhanced customer experience, the MacBook store has the potential to reduce the need for price competition and increase customer confidence during transactions.

In our recommendations Designing and integrating AR into the website not only facilitates a more immersive shopping experience but also aligns with the consumer trend towards digitalization, thereby increasing sales and expanding market reach. However, it is imperative for Miracle MacBook to progress beyond its current "No Maturity" stage in AR adoption to fully leverage these benefits.

Here are some specific and concrete recommendations for Miracle MacBook and other SMEs in implementing Augmented Reality (AR):

- Pilot Projects for AR Integration: Start with a pilot project to integrate AR into the website. Focus on developing basic AR features that allow customers to interact with MacBook products in 3D. Thoroughly evaluate how this feature improves customer experience and sales conversion.
- Invest in AR Technology: Allocate resources to invest in more advanced AR technologies such as detailed 3D modeling, real-time interaction features, and AI-based personalization. These technologies will enhance the user experience and strengthen Miracle MacBook's brand image in the market.
- Expand AR Integration: Expand the use of AR beyond the website by integrating it into overall business operations. Consider implementing AR in customer service, interactive tutorials, and marketing campaigns to increase customer engagement and differentiate yourself from competitors.
- Continuous Evaluation and Improvement:Continuously evaluate AR features based on customer feedback and the latest technology developments. Make updates and improvements promptly to ensure that the AR experience remains innovative, user-friendly, and in line with evolving customer expectations.
- Training and Support:Provide training to staff involved in the management and optimization of AR technology. Ensure that they have the necessary skills to effectively utilize AR to enhance customer engagement and drive sales.

By following these recommendations, Miracle MacBook and other SMEs can take concrete steps to implement AR as an innovative strategy to enhance customer experience and expand their market share. This will not only strengthen their competitiveness but also prepare businesses for long-term growth in the rapidly evolving digital era.

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