

DIGITAL MARKETING AND SALES SUPPORT FOR HYDROPONIC MSME GROWTH THROUGH MOBILE BASED E-COMMERCE DESIGN

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ABSTRACT

This research concentrates on the development of mobile E-commerce to support the growth of micro, small, and medium-sized enterprises (MSMEs) in the hydroponics industry. The primary goal was to develop a responsive and user-friendly mobile application that would enable hydroponic businesses to increase consumer engagement through digital marketing. Observation and data analysis comprised the research method. With the help of the literature review, the user requirements and preferences for a hydroponic industry-appropriate e-commerce system were determined. The e-commerce mobile application incorporates product information, appealing photos and videos, business information, and product details based on data analysis. This study emphasizes the significance of digital technology in expanding market share and enhancing the competitiveness of hydroponic micro, small, and medium-sized enterprises (MSMEs) through the use of innovative and effective e-commerce platforms.

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1. INTRODUCTION

The expansion of information and communication technologies has fundamentally altered how humans interact and conduct business. The advent of electronic commerce or e-commerce, which has altered the global business landscape[1], [2] is one of the most significant effects of the technological revolution. In the context of the modern economy, particularly for MSMEs (Micro, Small, and Medium-sized Enterprises), e-commerce has emerged as a significant force in digital marketing and product sales[3]–[5].

One of the MSME sectors that is growing and showing great potential is the hydroponic industry. Hydroponics is a soilless farming method that relies on a nutrient solution to supply nutrients to plants. This method offers various advantages, such as more efficient land use, better environmental control, and faster crop production. However, like other businesses, hydroponic industry players also need to face various challenges, especially in accessing a wider market and increasing digital product sales.[6], [7].

Several previous studies, namely by[8]–[12]which describes comparisons between various existing e-commerce platforms, evaluates relevant features and functionality for hydroponic MSME actors, and analyzes the advantages and disadvantages of each platform. Other studies focus on consumer behavior when shopping for hydroponic products through e-commerce platforms, including product preferences, purchase tendencies, and factors influencing purchasing decisions. As well as the importance of an effective marketing and promotion strategy in expanding the market and increasing the visibility of hydroponic MSME products through e-commerce platforms[13]v. So that an in-depth analysis is needed regarding the conditions of the hydroponic market, the challenges faced by MSME players in marketing and selling their products, as well as the needs and expectations of consumers in purchasing hydroponic products online.[14], [15]. Based on this analysis, an e-commerce platform will be designed and developed that accommodates the needs of hydroponic businesses and meets consumer expectations.

The urgency of the research is to create a special e-commerce platform for the hydroponic industry and MSME (Micro, Small and Medium Enterprises) players in it. Through this platform, hydroponic businesses will be able to access broader and potential markets at the regional, national and even international levels. With e-commerce, hydroponic products can be reached by consumers from various regions without being limited by physical distance, thereby increasing business opportunities and economic growth for MSME actors.[16]–[19]. This study aims to discuss and implement the creation of a mobile-based e-commerce platform to support the marketing and sales of hydroponic products from MSME players in the industry. With the presence of this e-commerce platform, it is hoped that new opportunities will be created for hydroponic businesses to be able to sell their products online more easily and efficiently. In addition, this platform is also expected to be able to expand market reach and facilitate connectivity between sellers and buyers.

2. LITERATURE REVIEW

Digital Marketing

Digital marketing is a marketing approach that relies on digital technology and online platforms to effectively promote products, services or brands to target audiences. In this increasingly advanced digital era, digital marketing has become a marketing strategy that companies and businesses from various sectors cannot ignore. The importance of digital marketing can be seen from the transformation of consumer behavior which is increasingly connected to the internet and social media. The widespread use of the internet and the increasing penetration of mobile devices have created great opportunities for marketers to reach audiences in a more personalized and interactive way. Through digital marketing, marketers can leverage user data and online behavior to craft relevant and effective campaigns[20]–[22]. One of the main advantages of digital marketing is its ability to target audiences very precisely. User data collected from various sources allows marketers to identify consumer characteristics and preferences in greater depth. Thus, marketing messages can be tailored to the specific needs and interests of each target group[23], [24]. Social media platforms offer an effective means of interacting with customers, building brand awareness and promoting products or services[25], [26]. Digital marketing also takes advantage of being able to take advantage of the e-commerce web to be able to attract audience interest and build deeper engagement with brands[27], [28]. This content also serves as a tool to build brand authority and trust in the eyes of customers, increase the visibility of their website and increase the number of organic visits from potential consumers. The advantages of digital marketing are not only limited to large companies. UMKM (Micro, Small and Medium Enterprises) can also use it to compete in the global market. Digital marketing provides broader and cheaper access than traditional marketing. At a lower cost, small businesses can reach a global audience through digital platforms.

E-Commerce

E-commerce (Electronic Commerce) is a form of trade or business transactions conducted electronically via the internet. In e-commerce, the buying and selling of products or services is done online through websites, mobile apps or other digital platforms[29], [30]. E-commerce has been one of the great revolutions in the business world, significantly changing the way people shop and do business. E-commerce offers various advantages that make it easier for businesses and consumers to transact. One of the main advantages of e-commerce is the convenience it offers to consumers. Users can shop for products or services from the comfort of their homes without having to visit a physical store. In addition, e-commerce allows buyers to access various products from around the world, thereby opening up wider market opportunities for sellers and enriching choices for consumers.[31], [32]. E-commerce also facilitates the process of transactions with secure and easy electronic payments. Payment methods such as credit cards, debit cards, bank transfers and digital wallets make it easier for customers to pay for their purchases online. In addition, the existence of sophisticated payment integration ensures the security of buyer data during transactions. In addition to benefits for consumers, e-commerce also provides opportunities for business people, especially for MSMEs (Micro, Small and Medium Enterprises). E-commerce allows MSMEs to open online stores at a lower cost than opening physical stores. This opens up opportunities for small businesses to compete globally and reach a wider market[33].

3. METHOD

In research, observational data collection is used to examine the context of functional requirements [34], [35]. Systems related to the creation of e-commerce for digital marketing and sales support for the growth of hydroponic MSMEs will require direct observation of the processes, interactions, and

requirements arising from hydroponic msme actors, potential buyers, and all associated stakeholders. In this study, the object of investigation is monheponik MSMEs that are pioneers in the hydroponic plant sales industry. The objective of the observation technique is to directly observe the expected functionality of the e-commerce system, the interaction between users and the system, as well as the requirements and challenges that arise during the use of the system. The research phases commence with the identification of user needs, the collection and analysis of data, the observation [36], [37] of the marketing and sales process, and the analysis of the functional requirements necessary to support the transaction process in MSMEs.

4. RESULT AND DISCUSSION

The advantages of E-Commerce in supporting Digital Marketing and Sales Support

E-commerce has a number of strong advantages in supporting digital marketing and sales support. E-commerce allows businesses to reach global markets without geographic boundaries. This allows the company to reach customers worldwide without having to open a physical branch in every country. With this global access, digital marketing can be used to target consumers from various regions, increase brand visibility, and increase product awareness. The creation of a dedicated e-commerce platform to support digital marketing and sales for hydroponic MSME growth has been a significant step towards addressing the challenges in this industry. With the existence of an e-commerce platform, hydroponic MSME players have access to a wider market and can increase their competitiveness in the digital era.

A. Ease of Market Access

Through the e-commerce platform, hydroponic products can be reached by potential buyers from various regions without being limited by geographical distance. This expands the potential market share and increases business opportunities for hydroponic MSME players.

B. Marketing and Sales Efficiency

The e-commerce platform enables automation in the process of marketing and selling hydroponic products. Sellers can easily manage inventory and set product prices in real-time. In addition, customers can make purchases quickly and securely through an efficient checkout process, which increases sales conversions.

C. Engagement and Interaction with Customers

Through product review and rating features, e-commerce platforms facilitate interactions between sellers and customers. Reviews from previous customers provide additional confidence to potential buyers and influence purchasing decisions. In addition, customers can also provide feedback and ask questions about products through the comments feature, allowing sellers to communicate directly with customers.

D. Data Collection and Analysis

E-commerce platforms collect transaction data and user behavior automatically. This data provides valuable insights into market trends, customer preferences and product performance. This data analysis forms the basis for improving marketing strategies, identifying new business opportunities, and optimizing overall business performance.

E. Branding and Brand Awareness Improvement

Through the e-commerce platform, hydroponic MSME players can build branding and brand awareness effectively. Attractive and consistent display design, as well as relevant and informative content, can improve brand image in the eyes of consumers. By leveraging social media and digital marketing campaigns, brands can be recognized by a wider audience and gain higher popularity.

F. Marketing and Promotion Strategy

As part of marketing support, this e-commerce platform provides space for hydroponic MSME players to promote their products through advertisements, special offers and discounts. In addition, digital marketing campaigns are also run through social media and email marketing to reach a wider audience.

Development of E-Commerce for Hydroponic MSMEs

The system implementation stage is a discussion of the system that has been built according to the design and discusses testing the system whether it is in accordance with the expected results. In the early

stages of this research, a literature study was carried out to understand the latest trends in e-commerce and gain insight into the features and functionality required to support the hydroponic industry. The e-commerce platform was built with a focus on user-friendly design and an attractive appearance to attract potential buyers. A sophisticated search feature is also implemented so that users can easily find the hydroponic product they are looking for.

E-Commerce Application Dashboard for Users

The application contains information about the introduction of hydroponics, an introduction to the gumineponics business along with the products sold and tutorials on how to grow hydroponic plants, so that it attracts people to start a business in the agricultural sector.



Figure 1. Application Dashboard

Based on Figure 1, it can be explained that there are several menus on the hydroponic MSME e-commerce application dashboard, namely:

a) Information Regarding Business

The e-commerce application must also provide information about the business itself. This feature allows business owners to present their company profile, history, vision and mission, and contact information. This information helps in building consumer confidence and enhancing brand branding.



Figure 2. Hydroponic Business Information

b) Product Description and Detailed Information

Each hydroponic product sold on the e-commerce platform is accompanied by a comprehensive description, including information about the type of plant, cultivation techniques, sizes and care recommendations. Complete and clear information helps potential buyers in making the right buying decision. In addition, quality product photos are also added to provide a better visualization of the product.



Figure 3. Product Description

Based on Figure 3, it can be explained that each hydroponic product offered in an e-commerce application must be equipped with a complete and informative description. This description should include information on the type of plant, its varieties, cultivation techniques and benefits. This information will help potential buyers understand the product better and make the right purchasing decision. Product specification feature is intended to enable business owners to provide product technical specifications, such as size, weight, color, and material. These specifications help buyers understand in detail about the products offered and ensure conformity to their needs. Product photo and video features, namely the use of high-quality product photos and videos is very important to provide a clear picture of the product. This feature allows business owners to upload product photos from multiple angles and provide videos showing the product in action. This helps potential buyers to better understand the product and increase their confidence in product quality.

d) Shopping Cart and Checkout

The shopping cart feature allows users to add products to their cart and continue shopping or process further payments. The checkout process is designed to be fast, safe, and easy for users to carry out, complemented by various payment options offered, including bank transfers, credit/debit cards, and popular digital wallets, to make it easier for users to make transactions.

e) Information on Hydroponic Plant Types

There is information regarding the types of hydroponic plants that are tailored to the user's search, besides that there is a tutorial guide for planting these types of plants. This feature is very useful for new users who are interested in growing hydroponics and can choose the right product in e-commerce applications. The integration of these application information features will improve the quality of e-commerce applications and provide a better shopping experience for prospective buyers. In addition, this information feature also supports digital marketing efforts by providing informative and interesting content to attract consumer interest and increase sales of hydroponic products for MSME growth.

5. CONCLUSION

Research on mobile-based E-commerce for digital marketing and sales support for hydroponic MSME growth demonstrates that the use of mobile applications as an e-commerce platform offers substantial advantages to businesses and consumers. Through the development of responsive and user-friendly mobile applications, micro, small, and medium-sized enterprises (MSMEs) in the hydroponic industry can increase product accessibility, enhance consumer interaction, and raise brand awareness in the digital market. The use of mobile applications enables prospective buyers to browse with flexibility and efficiency.

REFERENCES

- [1] I. G. I. Sudipa *et al.*, *PENERAPAN SISTEM INFORMASI DI BERBAGAI BIDANG*. PT. Sonpedia Publishing Indonesia, 2023.
- [2] A. A. Fauzi *et al.*, *PEMANFAATAN TEKNOLOGI INFORMASI DI BERBAGAI SEKTOR PADA MASA SOCIETY 5.0*. PT. Sonpedia Publishing Indonesia, 2023.

- [3] F. Sudirjo and S. Sulistiyani, "The Role of Competitive Advantage Mediates Entrepreneurial Orientation and Product Innovation on Marketing Performance," *J. Manaj. Ind. dan Logistik*, vol. 7, no. 1, pp. 152–164, 2023.
- [4] T. W. Nurdiani, R. A. Arum, R. P. A. Hasibuan, E. Silamat, and S. P. D. Anantadjaya, "The Effect of Return, Cost, Financing Factors and Risk on Profitability of Sharia Banks in Indonesia," *JEMSI (Jurnal Ekon. Manajemen, dan Akuntansi)*, vol. 9, no. 2, pp. 266–275, 2023.
- [5] A. Sadikin, S. Naim, M. A. Asmara, T. Hierdawati, and Y. Boari, "Innovative strategies for MSME business growth with the business model canvas approach," *Enrich. J. Manag.*, vol. 13, no. 2, pp. 1478–1484, 2023.
- [6] N. Astaginy, M. G. Sono, S. Purwati, T. W. Nurdiani, and G. Suprianto, "Simple additive weighting for online platform evaluations in small business," *J. Mantik*, vol. 6, no. 4, pp. 3695–3704, 2023.
- [7] B. K. Wijaya, I. G. I. Sudipa, D. V. Waas, and P. P. Santika, "Selection of Online Sales Platforms for MSMEs using the OCRA Method with ROC Weighting," *J. Intell. Decis. Support Syst.*, vol. 5, no. 4, pp. 146–152, 2022.
- [8] F. Sudirjo, L. N. A. Lotte, I. N. T. Sutaguna, A. Risdiyanto, and M. Yusuf, "THE INFLUENCE OF GENERATION Z CONSUMER BEHAVIOR ON PURCHASE MOTIVATION IN E-COMMERCE SHOPPE," *Profit J. Manajemen, Bisnis dan Akunt.*, vol. 2, no. 2, pp. 110–126, 2023.
- [9] F. Sudirjo, A. Apriani, A. Y. Rukmana, D. Widagdo, and E. Fkun, "Impact of the Digital Sales Growth Of MSMEs Industry Fashion in Bandung City: Product Recommendations, Customized Promotions, Customer Reviews, and Product Ratings," *J. Bisnisan. Ris. Bisnis dan Manaj.*, vol. 5, no. 1, pp. 70–79, 2023.
- [10] A. S. Latif, T. S. Wibowo, T. W. Nurdiani, E. Alimin, and Y. Suharyat, "INCREASING CUSTOMER LOYALTY THROUGH SERVICE QUALITY AND CUSTOMER SATISFACTION IN THE DIGITAL ERA," *Int. J. Econ. Bus. Account. Res.*, vol. 7, no. 2, 2023.
- [11] A. Zen, S. Yanti, M. R. Hutomo, K. Kraugusteeliana, and H. Y. Arisutama, "The Role of Leadership in Managing Organisational Culture Change in the Context of Information Technology Implementation," *J. Minfo Polgan*, vol. 12, no. 1, pp. 1247–1255, 2023.
- [12] A. Rifani and A. Sadikin, "Financial Technology, Financial Literacy And Wetlands Community Resilience In Banjarmasin (Phenomenological Study On Traditional Jukung Craftsmen Of South Kalimantan)," *PalArch's J. Archaeol. Egypt/Egyptology*, vol. 17, no. 4, pp. 404–411, 2020.
- [13] W. A. P. Rumbrawer, Y. Boari, and E. D. Lestari, "Dampak Covid-19 terhadap UMKM (Studi Kasus Pedagang Kaki Lima di Kelurahan VIM)," *J. Samudra Ekon. dan Bisnis*, vol. 14, no. 2, pp. 341–354, 2023.
- [14] Y. Boari, R. Megavitry, P. J. Pattiasina, H. T. Ramdani, and H. Munandar, "The Analysis Of Effectiveness Of Mobile Learning Media Usage In Train Students' Critical Thinking Skills," *Mudir J. Manaj. Pendidik.*, vol. 5, no. 1, pp. 172–177, 2023.
- [15] Y. Boari, A. Ilindamon, A. W. Mikir, and A. L. Twenty, "PENDAMPINGAN LAPORAN PEMBUKUAN SEDERHANA PADA USAHA AYAM GEPREK INDOKANGWE DI KELURAHAN VIM," *Community Dev. J. Pengabd. Masy.*, vol. 3, no. 3, pp. 1934–1937, 2022.
- [16] S. J. Praja, F. Sudirjo, and S. Rijal, "Exploring the Influence: A Bibliometric Analysis of Social Media Marketing in the Digital Era," *West Sci. Interdiscip. Stud.*, vol. 1, no. 6, pp. 293–304, 2023.
- [17] C. Anwar, S. Hady, N. Rahayu, and K. Kraugusteeliana, "The Application of Mobile Security Framework (MOBSF) and Mobile Application Security Testing Guide to Ensure the Security in Mobile Commerce Applications," *J. Sistim Inf. dan Teknol.*, pp. 97–102, 2023.
- [18] Y. Boari, A. Ilindamon, and L. D. Rumaropen, "PERAN KELOMPOK USAHA NELAYAN DALAM MENINGKATKAN PENDAPATAN NELAYAN DI DESA ADOKI DISTRIK YENDIDORI KABUPATEN BIAK NUMFOR," *J. Econ. Rev.*, vol. 2, no. 2, pp. 61–73, 2022.
- [19] I. D. G. A. Pandawana, M. L. Radhitya, I. M. S. Sandhiyasa, and B. T. Bramstya, "APLIKASI E-SEWA BARANG BERBASIS MOBILE," *J. Krisnadana*, vol. 1, no. 3, pp. 26–36, 2022.
- [20] M. M. Amalia, F. Napu, K. Kraugusteeliana, N. K. Harahap, and M. Nordiansyah, "IMPROVING FINANCIAL TRANSPARENCY AND ACCOUNTABILITY OF BUMDES THROUGH A SAVINGS AND LOAN INFORMATION SYSTEM," *J. Ekon.*, vol. 12, no. 02, pp. 1664–1670, 2023.
- [21] R. Kurniawan and F. Iriani, "Analisis Pendidikan Ekonomi Keluarga Pelaku UMKM di Kabupaten Kepulauan Seribu," *J. Classr. Action Res.*, vol. 5, no. SpecialIssue, pp. 228–232, 2023.
- [22] I. Turyadi, Z. Zulkifli, M. R. Tawil, H. Ali, and A. Sadikin, "The Role Of Digital Leadership In Organizations To Improve Employee Performance And Business Success," *J. Ekon.*, vol. 12, no. 02, pp. 1671–1677, 2023.

- [23] A. Sadikin, "Entrepreneurship Resilience of Urang Banjar (Ethnometodology Study in South Kalimantan)".
- [24] M. Muhammadiyah, M. Suyitno, S. Girivirya, S. Nurjaningsih, and M. Usman, "Character Development Strategies Based on Local Wisdom for Elementary School Students: a Multicultural Study in Education," 2022.
- [25] F. Sudirjo, I. N. T. Sutaguna, E. Silaningsih, F. Akbarina, and M. Yusuf, "THE INFLUENCE OF SOCIAL MEDIA MARKETING AND BRAND AWARENESS ON CAFE YUMA BANDUNG PURCHASE DECISIONS," *Inisiat. J. Ekon. Akunt. dan Manaj.*, vol. 2, no. 3, pp. 27–36, 2023.
- [26] M. Muliadi *et al.*, "The information sharing among students on social media: the role of social capital and trust," *VINE J. Inf. Knowl. Manag. Syst.*, 2022.
- [27] T. W. Nurdiani and R. M. M. Alie, "Build a Service Excellence Culture of Pleasure to Customers," *Joong-Ki J. Pengabd. Masy.*, vol. 1, no. 3, pp. 424–429, 2022.
- [28] R. Kurniawan, U. Suhud, F. R. Kosasih, and Z. Ramdani, "Relationship Model Analysis of Personal Factors, Celebrity Endorsement, Buying Behavior, and Word of Mouth on Tourists on Komodo Island," *J. Perspekt.*, vol. 7, no. 1, pp. 9–22, 2023.
- [29] A. Prahendratno *et al.*, *BUSINESS INTELEGENT: Pengantar Business Intelligence dalam Bisnis*. PT. Sonpedia Publishing Indonesia, 2023.
- [30] Y. E. Rachmad *et al.*, *Rekayasa Perangkat Lunak*. PT. Sonpedia Publishing Indonesia, 2023.
- [31] T. S. Wibowo, D. Suhendi, I. M. A. Suwandana, T. W. Nurdiani, and F. M. Lubis, "THE ROLE OF TRANSFORMATIONAL LEADERSHIP AND ORGANIZATIONAL CULTURE IN INCREASING EMPLOYEE COMMITMENT," *Int. J. Econ. Bus. Account. Res.*, vol. 7, no. 2, 2023.
- [32] A. Sadikin, "Ethno-methodology study: Entrepreneurial resilience of Urang Banjar in South Kalimantan as the efforts to improve local economic sustainability in digitalization industry 4.0 era," 2020.
- [33] K. S. Kartini, I. N. T. A. Putra, K. J. Atmaja, and N. P. S. Widiyani, "SISTEM INFORMASI PENJUALAN PADA SALAD YOO," *J. Krisnadana*, vol. 1, no. 2, pp. 45–53, 2022.
- [34] A. Sadikin, "Resilience and ability on the community financial literacy of crafts for special traditional jukung jarung South Kalimantan (A schutz phenomenology study)," 2020.
- [35] M. ud Muhammadiyah and K. F. Amin, "Ethical Multicultural Values in Poetry: A Hermeneutics Examination," 2020.
- [36] M. B. Ibrahim *et al.*, *METODE PENELITIAN BERBAGAI BIDANG KEILMUAN (Panduan & Referensi)*. PT. Sonpedia Publishing Indonesia, 2023.
- [37] I. G. I. Sudipa *et al.*, *METODE PENELITIAN BIDANG ILMU INFORMATIKA (Teori & Referensi Berbasis Studi Kasus)*. PT. Sonpedia Publishing Indonesia, 2023.