



# The Role of Digital Marketing in Kundasang Aquafarm Development: A Study on Sustainable Practices and Market Reach

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## ABSTRACT

Kundasang Aquafarm is a tech-driven business utilizing aquaponic technology, founded by alumni of Universiti Malaysia Sabah (UMS). Combining aquaculture and hydroponics, aquaponics offers an efficient and eco-friendly solution for sustainable agriculture. To expand its market reach and enhance customer engagement, Aquafarm has embraced digital marketing through social media platforms and an official website, incorporating innovations like barcodes for customer feedback collection. This study aims to evaluate the effectiveness of Kundasang Aquafarm's online marketing strategies, focusing on brand awareness, customer engagement, and user experience. The research employs a qualitative descriptive approach, gathering data through in-depth interviews with Aquafarm's management, content analysis of social media and the website, and customer experience surveys.

Findings reveal that digital marketing via social media significantly boosts product visibility and educates audiences about the advantages of aquaponics. However, challenges include inconsistent content management and the need for improved digital customer interaction features. The study identifies that optimizing digital marketing strategies—such as consistent content creation, enhanced customer service features, and technology-driven communication innovations—can strengthen Kundasang Aquafarm's competitiveness in the online market. This research aims to serve as a reference for similar businesses seeking to implement tech-based marketing strategies in the agribusiness sector.

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## I. INTRODUCTION

Amidst the rapid advancements in technology, modern businesses are faced with the challenge of adapting to a continuously evolving marketing landscape. The forces of globalization and digitalization have fundamentally altered how consumers discover and engage with products and services. In this context, digital marketing has emerged as a critical element that businesses across diverse sectors must embrace. Digital marketing refers to a strategy that utilizes digital platforms as the primary means to connect with consumers. Through digital media, businesses can access a broader audience while reducing costs compared to traditional marketing methods. Furthermore, digital marketing offers the significant advantage of enabling real-time performance tracking, allowing businesses to make data-driven decisions. This is the principal reason why digital marketing is vital for gaining a competitive edge in the digital age.



*Picture 1 : Kundasang Aquafarm*

A variety of digital platforms are now available to support the execution of digital marketing strategies. Social media platforms, including Instagram, TikTok, and Facebook, are among the most popular channels for reaching consumers. These platforms enable businesses to share engaging visual content, such as images and videos, and foster direct interaction with customers through comments, messages, and other interactive features. Additionally, official websites play a crucial role in providing comprehensive information about products and services, enhancing brand credibility, and facilitating online transactions. Even more traditional platforms, such as email marketing and messaging applications like WhatsApp, remain highly relevant for building personalized relationships with customers.

Kundasang Aquafarm, a technology-driven business focused on aquaponics, serves as an exemplary case of a company leveraging multiple digital platforms to support its marketing efforts. Aquaponics, a sustainable farming system combining aquaculture (fish farming) and hydroponics (soil-free plant cultivation), represents an innovative approach to agriculture. Founded by alumni of Universiti Malaysia Sabah (UMS), Kundasang Aquafarm not only prioritizes the development of production technologies but also works to extend its market reach through digital marketing. Observations indicate that Kundasang Aquafarm employs Instagram and TikTok as their primary platforms to promote their products. On Instagram, the company shares educational content highlighting the benefits of aquaponics, customer testimonials, and environmentally-friendly production methods. Meanwhile, TikTok is utilized to engage a younger audience through creative, short-form videos.

In addition to social media, Kundasang Aquafarm operates an official website that serves as a key channel for providing detailed product information, educational resources related to aquaponics, and a platform for conducting sales transactions. The website is designed with the goal of providing an accessible user experience, reflecting Kundasang Aquafarm's commitment to transparency and customer convenience. One of the company's recent innovations is the introduction of a barcode system to collect customer feedback and suggestions. This system allows customers to easily submit their input by scanning the barcode with a mobile device. This technology serves as a bridge between customers and Kundasang Aquafarm, fostering a more interactive and responsive experience. The use of barcodes not only facilitates communication but also generates valuable data that Kundasang Aquafarm can utilize to assess performance and improve services.

Despite the significant progress made by Kundasang Aquafarm in utilizing digital technologies, challenges persist. Maintaining consistency in digital content management is one key aspect that requires attention. Platforms like Instagram and TikTok demand regular content updates to sustain audience engagement. Furthermore, enhancing the interactive features of the website, such as integrating chatbot-driven customer service, could further strengthen customer relationships. By combining social media, websites, and technological innovations such as barcode systems, Kundasang Aquafarm exemplifies how businesses in the agribusiness sector can adopt digital marketing strategies to achieve sustainability. The digital transformation implemented by Kundasang Aquafarm not only enhances brand visibility but also fosters stronger connections with customers. This makes Kundasang Aquafarm a pertinent model for other businesses in effectively managing technology-driven marketing in the digital era.

## II. METHOD ACTIVITY

This study adopts a qualitative descriptive approach to explore how awareness of digital marketing influences the business strategy of Kundasang Aquafarm and provides opportunities for them to advance further. This awareness not only serves as the foundation for adopting digital technologies but also encourages continuous innovation and optimization of marketing processes in an increasingly competitive business environment. The research methodology is designed to identify the relationship between the utilization of digital marketing and the growth and sustainability of Kundasang Aquafarm, particularly within the context of modern agribusiness. The study was conducted in multiple stages in Malaysia to obtain relevant and in-depth data. The following stages were undertaken in this research:

### 2.1 Preparation and Research Design Stage The researcher

began by developing a conceptual framework focused on understanding the impact of awareness of digital marketing on the success of Kundasang Aquafarm. This stage included:

#### 2.1.1 Research Objective Identification:

The primary objective is to understand how Kundasang Aquafarm utilizes awareness of the importance of digital marketing to develop innovative strategies that support their business growth.

#### 2.1.2 Development of Indicator Framework:

Key indicators include the use of social media platforms (Instagram and TikTok), the website as an information and sales hub, and innovations such as barcodes for receiving customer feedback.

#### 2.1.3 Development of Research Instruments:

Instruments such as interview guides, observation checklists, and survey questionnaires were designed to ensure the collection of relevant and comprehensive data.

### 2.2 Field Data Collection Stage

The researcher visited Malaysia to gain a deeper understanding of the business activities at Kundasang Aquafarm. Several data collection methods were employed, including:

#### 2.2.1 Interviews:

The researcher conducted interviews with the management and staff of Kundasang Aquafarm to understand how they perceive digital marketing as a strategic tool for enhancing brand awareness and building customer relationships. Discussions also focused on their digitalization processes, such as the implementation of barcodes and the use of social media platforms.

#### 2.2.2 Surveys:

A survey was administered to Kundasang Aquafarm's customers to assess the effectiveness of their digital marketing strategies. The survey included questions about how customers discovered Kundasang Aquafarm's products, their experiences with the digital platforms used, and their impressions of innovations such as the barcode system.



*Picture 2 : Kundasang Aquafarm's Feedback Survey with Barcode*

### **2.3 Digital Media Observation**

The researcher conducted a direct analysis of the digital platforms utilized by Kundasang Aquafarm, including:

#### **2.3.1 Instagram:**

Observing the consistency of posts, customer engagement, and the appeal of visual content such as product images and educational material about aquaponics. The researcher also evaluated how customer testimonials were used to strengthen consumer trust.

#### **2.3.2 TikTok:**

Assessing how Kundasang Aquafarm leveraged short videos to engage a younger audience with creative and informative content highlighting the advantages of aquaponic technology.

#### **2.3.3 Website:**

Analyzing the website's structure and features, including navigation, design, product information, and ease of transactions. The primary focus was on how the website was used to enhance the customer experience.

### **2.4 Study of Barcode Innovation**

One of Kundasang Aquafarm's key innovations is the introduction of a barcode system to collect customer feedback and suggestions. The researcher studied:

**2.4.1** The process of data collection via the barcode system.

**2.4.2** The efficiency of this system in creating an interactive customer experience.

**2.4.3** How feedback from the barcode system was used by Kundasang Aquafarm to improve their services, products, and marketing strategies.

### **2.5 Data Analysis**

The collected data were analyzed using qualitative methods with a thematic approach. This process involved:

#### **2.5.1 Data Organization:**

Organizing the information by major themes such as digital marketing awareness, technological innovation, and digital platform effectiveness.

#### **2.5.2 Pattern and Relationship Identification:**

Linking data from interviews, surveys, and observations to identify correlations between digital marketing awareness and business growth.

#### **2.5.3 Effectiveness Evaluation:**

Assessing the direct impact of digital marketing strategies on market reach, customer loyalty, and business sustainability.

### **2.6 Recommendation**

Based on the analysis results, the researcher developed strategic recommendations aimed at helping Kundasang Aquafarm optimize their digital marketing efforts. These recommendations include:

**2.6.1** Increasing the frequency and quality of social media content to maintain audience engagement.

**2.6.2** Strengthening website features with technology-based customer service, such as chatbots and interactive FAQs.

**2.6.3** Integrating the barcode system with deeper analytics to gain insights into customer preferences.

## **III. APPROACH JUSTIFICATION**

This approach is relevant as businesses like Kundasang Aquafarm, which are rooted in modern agribusiness, require marketing strategies that emphasize awareness of technological innovation. By adopting digital marketing, Kundasang Aquafarm can maximize market potential and foster stronger connections with their customers. Moreover, the systematic stages in this study allow for a thorough and contextually relevant analysis of their business environment.

Through these stages, the research reveals that awareness of digital marketing is not only a key factor in the success of Kundasang Aquafarm, but also opens up opportunities for innovation that can propel them to become leaders in sustainable agribusiness in the digital era.

#### **IV. RESEARCH RESULT**

Kundasang Aquafarm's awareness of the importance of digital marketing not only motivates them to leverage various digital platforms but also enables them to remain relevant in a competitive market. Digital marketing offers Kundasang Aquafarm the opportunity to reach a broad audience at relatively low costs compared to traditional marketing. This awareness also encourages Kundasang Aquafarm to continuously seek innovations that enhance efficiency and customer engagement.

##### **4.1 Effectiveness of Digital Platforms**

The use of Instagram and TikTok has proven effective in increasing the brand visibility of Kundasang Aquafarm. Instagram provides an advantage in building brand image through professional and informative visual content, while TikTok allows Kundasang Aquafarm to leverage viral short videos to reach younger audiences. Their website also plays a strategic role as an information and transaction hub, offering flexibility for customers to learn more about the products and make direct purchases.

##### **4.2 Innovation through Digitalization**

The use of barcodes as a tool to receive customer feedback exemplifies the effective application of digital technology. This system creates an easier communication channel between customers and Kundasang Aquafarm, enabling them to gather critical data to improve their services and products. This step demonstrates Kundasang Aquafarm's commitment to innovation and responsiveness to customer needs.

##### **4.3 Challenges in Content Consistency and Optimization**

Although Kundasang Aquafarm's digital marketing strategies have shown success, challenges remain. One key challenge is maintaining consistency in producing relevant and engaging content on social media. Additionally, their website requires enhancements in interactive features, such as integrating a chatbot to support customer service. These improvements are crucial for creating a better customer experience and fostering long-term relationships.

##### **4.4 Opportunities for Further Development**

Awareness of digital marketing presents significant opportunities for Kundasang Aquafarm to continue growing. By utilizing data analytics from their digital activities, Kundasang Aquafarm can gain deeper insights into customer needs and design more effective marketing strategies. Furthermore, collaborating with influencers or strategic partners on digital platforms could be the next step to expand their market reach.

#### **V. CONCLUSION**

The findings of this study indicate that awareness of digital marketing has had a significantly positive impact on Kundasang Aquafarm's business strategies. The utilization of social media, websites, and technological innovations such as barcodes has enabled them to enhance brand visibility, foster closer relationships with customers, and create opportunities for further advancement. However, additional efforts are required to maintain content consistency and improve digital service features to fully realize the potential of these strategies. This awareness has not only made Kundasang Aquafarm more innovative but also highlights how digitalization can serve as a strategic tool in navigating competition within the agribusiness sector.

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