Marketing Innovation for MSMEs Products: Building an Affiliate Marketing-Based Website Using the Waterfall Method

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ABSTRACT

The advancement of information technology and the internet has significantly impacted the business world, including Micro, Small, and Medium Enterprises (MSMEs). MSMEs play a crucial role in economic growth, particularly in Asia, as they contribute to a significant portion of exports and serve as key drivers of job creation and income distribution. However, MSMEs require support from various stakeholders to enhance their environmental performance. An effective approach to expanding marketing reach and increasing product sales for MSMEs is through marketing websites. This research aims to develop a marketing website for an MSME using the Waterfall method, focusing on PT. Keloria Moringa Jaya is an herbal supplement company in Medan, North Sumatra, Indonesia. The study will explore the implementation of Affiliate Marketing in the website development process using the Waterfall method. The research intends to enhance the visibility of their products attract more potential buyers and significantly increase sales. The study also aims to contribute to the literature by enriching the understanding of applying the Affiliate Marketing model in the context of MSMEs. Practical implications of this research include providing guidance and recommendations for other MSMEs interested in developing marketing websites using the Affiliate Marketing and the Waterfall method.

Keywords: Micro, Small, Medium Enterprises (MSMEs), Digital Technology, Website Marketing, Affiliate Marketing, Waterfall Method
INTRODUCTION

The development of information technology and the internet has significantly impacted the business world, including Micro, Small, and Medium Enterprises (MSMEs). MSMEs (Micro et al.) are important in economic growth, especially in Asia. MSMEs account for most exports and are key to job creation and income distribution. However, MSMEs also need support from various stakeholders to improve their environmental performance. (Lopes de Sousa Jabbour et al., 2020) (Agan et al., 2013)

In today’s digital era, having an online presence can be one way for MSMEs to take advantage of digital technology (De Simone et al., 2023). One effective way to expand marketing reach and increase sales of MSME products is through marketing websites. The Website can provide businesses with various benefits in marketing and reaching their target audience (Dolega et al., 2021). Meanwhile, to reach a wider audience, an affiliate marketing system can be applied on the Website because by partnering with affiliates, brands can reach a wider audience than they can. (Mangiò & Di Domenico, 2022)

Affiliate Marketing is a marketing strategy with a performance-based approach to online marketing where MSMEs partner with affiliates or publishers to promote their products or services. Affiliates are paid a commission for every sale through their unique affiliate link. (Mangiò & Di Domenico, 2022) This model provides a dual benefit, where MSMEs can increase brand awareness by leveraging an extensive affiliate network. In contrast, affiliate partners benefit by earning a commission for every sale made through their unique affiliate link. This commission-based system allows affiliates to earn money without creating products or services. (Mangiò & Di Domenico, 2022)

The Waterfall method is often used in website development as a structured project approach. The Waterfall method is a popular approach to software development because it provides a clear structure for the development process and ensures that each phase is completed before moving on to the next. The waterfall has stages starting from Analysis (Abdurrahman & Masripah, 2017), design, implementation, testing, and maintenance. (Abdurrahman & Masripah, 2017) The Waterfall approach allows website development to be done in a structured manner, with each stage interdependent and ensuring the smooth running of the project.

The case studies conducted in this research will focus on PT. Keloria Moringa Jaya, an MSME company in Medan City, North Sumatra, uses herbal supplement products developed from moringa plants. PT. Keloria Moringa Jaya has great potential to develop product marketing through websites with an Affiliate Marketing model. However, companies need help implementing the model and using the Waterfall method in their website development.

This study aims to develop an MSME product marketing website with an Affiliate Marketing model using the Waterfall method at PT. Keloria Moringa Jaya. By developing the Website, it is expected that PT. Keloria Moringa Jaya can increase the visibility of their products, attract more potential buyers, and increase product sales significantly.

This research is also expected to provide theoretical benefits by enriching the literature on applying the Affiliate Marketing model in the context of MSMEs. Previous research has shown that the Affiliate Marketing model can drive increased sales where affiliates can promote MSME products or services to their audience, which may have yet to be achieved through traditional marketing efforts. In addition, commission-based systems incentivize affiliates to promote a brand’s products or services more effectively, which
can further increase sales: advantages and impact of this model on MSMEs. However, there are still areas for improvement in research that specifically combines the Affiliate Marketing model with the Waterfall method in developing MSME marketing websites.

The results of this study will provide guidance and recommendations for other MSME companies interested in developing product marketing websites using the Affiliate Marketing model and the Waterfall method. Based on the findings of this study, MSME companies will be able to understand the benefits and challenges of adopting an Affiliate Marketing strategy and applying a Waterfall approach in their website development.

LITERATURE REVIEW

A. Understanding the Website as a Marketing Media for MSME Products

MSME stands for Micro, Small, and Medium Enterprises (Arianty & Siregar, 2021). Which is a small business that has limited resources and employs fewer people as compared to large companies; these are businesses that have a certain annual turnover rate or several employees, depending on the country or region at PT. Keloria Moringa Jaya itself is an MSME whose employees currently have less than 20 employees. Hence, the existence of a website with an affiliate marketing model encourages anyone to join as an affiliate and encourages product marketing. The MSME website promoted and marketed Micro, Small, and Medium Enterprises (MSMEs) products online. With the Website, it becomes a medium for MSMEs to increase their income by reaching a wider audience and expanding their customer base. (Khair, 2021; Rahmat et al., 2019; Tirtayasa et al., 2021)

In the context of MSMEs, this Website is a tool to introduce and promote UMKM products to a wider audience. (Ariyanti et al., 2020) MSMEs can respond quickly and provide good customer service, thus strengthening relationships with consumers.

In the growing digital era, it is important for MSMEs to use product marketing websites to expand market reach and increase profits. MSMEs provide a platform to display products, accept orders and payments, manage sales data, and promote businesses. (Grace et al., 2019). In this study, using MSME product marketing websites will be the main focus in developing marketing strategies by applying the Affiliate Marketing model.

The use of websites as a marketing medium for Micro, Small, and Medium Enterprises (MSMEs) has become increasingly important in the digital age. MSMEs need to adapt their marketing strategies from conventional media to digital media in order to increase their competitiveness and reach a broader market (Suliswanto & Rofik, 2019). By having a website, MSMEs can benefit from high credibility, product and brand development, and online marketing assisted by Search Engine Optimization (SEO), which can increase the brand equity of their products (Suryawardani et al., 2021). Additionally, having a website allows MSME owners to have control over what is displayed and analyze consumer behavior on the website (Suryawardani et al., 2021).

Social media platforms also play a crucial role in digital marketing for MSMEs. They provide a platform for displaying products or services and attracting consumer interest (Watini et al., 2022). Creative content in digital marketing has been found to be effective in attracting consumers' attention (Watini et al., 2022). Therefore, MSME actors need to understand and utilize creative content in their digital marketing strategies (Watini et al., 2022). The internet and digital-based marketing offer several advantages for MSMEs. They reduce promotional costs and expand market reach.
The existence of marketplaces, social media platforms, and accessible website builders provide opportunities for MSMEs to increase their competitiveness in product marketing (Suliswanto & Rofik, 2019). However, it is important to note that not all MSMEs have the capabilities to effectively utilize digital media for their businesses (Suryawardani et al., 2021). Knowledge and understanding of digital marketing strategies, such as using the internet for product communication and knowing the target market, are crucial for successful implementation (Suryawardani et al., 2021).

In terms of specific digital marketing strategies, a study on snack MSMEs in Bogor City identified several strategies, including increasing product durability, providing diverse product flavors, designing attractive packaging and brand appearance, and providing information on product nutritional value (Ratnadianti et al., 2020). Other strategies include determining affordable prices, utilizing appropriate information and promotional media, creating attractive promotions for consumers, and displaying consumer testimonials (Ratnadianti et al., 2020).

Digital marketing is particularly beneficial for MSMEs with limited promotional budgets (Kussujaniatun et al., 2022). The use of social media platforms such as Facebook, WhatsApp, Twitter, Instagram, websites, and TikTok can create brand awareness, engagement, sales, and loyalty (Kussujaniatun et al., 2022). The COVID-19 pandemic has further emphasized the importance of digital transformation for MSMEs. By utilizing social media, online platforms, and e-commerce applications, MSMEs can transform their businesses and have good interactions with consumers online (Watini et al., 2022).

In conclusion, websites and digital marketing play a crucial role in promoting MSME products. They offer benefits such as increased credibility, brand development, and expanded market reach. MSMEs need to adapt their marketing strategies from conventional media to digital media and utilize social media platforms to attract consumer interest. Knowledge and understanding of digital marketing strategies are essential for successful implementation. Specific digital marketing strategies include product durability, diverse flavors, attractive packaging, and providing information on product nutritional value. Overall, digital marketing provides MSMEs with opportunities to increase their competitiveness and reach a broader market.

B. Model Affiliate Marketing

Affiliate marketing is a performance-based marketing model that rewards affiliates with commissions for successful leads. Companies use affiliate marketing to promote their products or services through independent venues and channels, allowing affiliates to be compensated for their actions (Damnjanovic, 2020). This marketing strategy is widely adopted by companies due to its potential to increase revenue at a low investment cost (Rolim et al., 2020). Affiliates play an important role in driving traffic to a company's website and generating sales, often through commission-based fees or revenue-sharing models (Deges, 2020b). The success of affiliate marketing programmes is unevenly distributed, with some affiliates responsible for generating the majority of revenue (Deges, 2020a). To effectively manage and optimise affiliate marketing, companies need to establish a structured monitoring and reporting system, defining relevant quantitative metrics to measure success and guide decision-making (Beleraj, 2018).

Affiliate Marketing model is a marketing strategy with a performance-based approach to online marketing where MSMEs partner with affiliates or publishers to promote their products or services. (Mangiò & Di Domenico, 2022) These affiliate partners can be
individuals or companies that have online channels, such as blogs, websites, or social media. In this model, Affiliate partners promote a business's products or services through their channels, such as websites, social media, or email marketing. When a customer clicks on an affiliate’s unique link and makes a purchase, the affiliate earns a commission. (Rahman, 2022)

The Affiliate Marketing model provides dual benefits for MSMEs and affiliate partners. For MSMEs, it can drive increased sales and brand exposure for businesses while for affiliates to earn commissions by promoting products or services. (Rahman, 2022) Thus, the Affiliate Marketing model creates a win-win situation between MSMEs and affiliate partners.

In this study, the Affiliate Marketing model will be used as an approach to the development of MSME product marketing websites. By integrating this model with websites developed using the Waterfall method, PT is expected. Keloria Moringa Jaya and other MSME companies can maximize the marketing potential of their products, increase sales, and expand market reach through partnerships with affiliate partners.

C. Waterfall Method in Website Development

The Waterfall method is an approach that is often used in software development, including website development. This method is a linear sequential approach to software development that involves breaking down the development process into different phases, with each phase completed before moving to the next phase. In the context of website development, (Abdurrahman & Masripah, 2017) the Waterfall method uses a systematic and sequential approach to software development that starts with the user's needs and takes place through planning, modeling, construction, deployment, and maintenance. (Wahid, 2020)

First, it is the initial stage in which problems are identified and analyzed. It involves studying and evaluating problems to determine system requirements and constraints (Suryadi & Zulaikhah, 2019). Here, MSME companies, such as PT. Keloria Moringa Jaya will gather information about marketing needs, target audience, and desired features. This stage provides a solid foundation for the design stage.

Second, the design stage involves creating a visual design and website architecture. At this stage, the page structure, navigation, and content layout will be determined; this ensures that the website is developed according to the needs and preferences of MSME companies and user needs.

After the design phase is complete, the developer will proceed to the third stage, namely the development stage, where the code and features of the Website will be implemented. Testing is carried out later to ensure the Website functions properly and follows the needs set out earlier.

Finally, the implementation phase involves the launch and active use of the Website by MSME companies and users. After the Website is launched, regular maintenance and content updates must also be carried out to maintain the performance and relevance of the Website.

In this study, the Waterfall method will be used as an approach to developing MSME product marketing websites; with this approach, PT is expected. Keloria Moringa Jaya and other MSME companies can develop websites with a structured and quality structure, improve user experience, and ensure smooth website development projects.
METHOD

This research uses the waterfall method in developing MSME product marketing websites by applying the Affiliate Marketing model at PT. Keloria Moringa Jaya. The waterfall method is a stages model that starts with analysis, design, implementation, testing, and maintenance, which is completed sequentially and must be completed before proceeding to the next stage (Susilo & Kurniati, 2018). This method consists of five stages: needs analysis, design, implementation, testing, and maintenance.

The first stage in the waterfall method is needs analysis, where researchers conduct initial studies to understand the needs and objectives of developing MSME product marketing websites with the Affiliate Marketing model. This needs analysis was conducted through interviews with the management of PT. Keloria Moringa Jaya and a review of related documents. The results of this need analysis become the basis for the next stage, namely design.

The second stage design, where researchers design the features and appearance of MSME product marketing websites following the needs and goals of the company. At this stage, researchers use references from relevant journals to ensure effective design and follow good design principles.

The third stage is implementation, where the development team codes and implements the website design. Researchers work with the development team using appropriate technology and platforms to develop MSME product marketing websites with the Affiliate Marketing model.

The fourth stage is testing, where researchers conduct functional testing and user testing on websites that have been developed. This test aims to ensure that the website functions properly, according to user needs, and produces a good user experience.

The last stage is maintenance, where researchers perform routine website maintenance to ensure optimal availability, security, and performance. Maintenance includes monitoring website performance, updating content, and handling problems that may arise.

The waterfall method was chosen in this study because it provides a structured approach and ensures that the stages of developing MSME product marketing websites with the Affiliate Marketing model are carried out systematically. This method also allows the company to have careful planning and complete documentation for successful website development.

RESULTS

Needs Analysis
The results of the needs analysis in the development of MSME product marketing websites with the Affiliate Marketing model at PT. Keloria Moringa Jaya shows several aspects that need to be considered in depth.
1. First, companies need a website platform to integrate and present comprehensive MSME product information.
2. Second, potential customers need an intuitive and accessible user experience as well as providing practical guidance in designing an attractive website interface that is easy to understand by users.
3. Third, the importance of the Affiliate Marketing feature that allows cooperation with affiliate partners to increase the visibility of MSME products and get potential visitors.
In conducting interviews and documentation studies, it was found that PT. Keloria Moringa Jaya still relies on conventional marketing strategies and needs to utilize the potential of online marketing well. There are several MSME product marketing websites with an Affiliate Marketing model on the market, but they need to meet the needs and expectations of the company.

Based on the needs analysis results, we developed an MSME product marketing website with an Affiliate Marketing model that aims to provide a platform that integrates product information, provides an optimal user experience, and allows cooperation with affiliate partners. We adopt the waterfall method as a structured and systematic software development approach in this development.

Developing this MSME product marketing website through the needs analysis stage is an important first step in the waterfall method to ensure that the developed website can meet the company's needs well. The results of this need analysis form the basis for the next stages in the waterfall method, such as design, implementation, testing, and maintenance. In these stages, we will design website features and interfaces that follow the identified needs, implement the design into a functional website, test the features that have been built, and carry out periodic maintenance to maintain the quality and availability of the website.

**Design**

In the second stage of developing MSME product marketing websites with the waterfall method, namely design, a feature design, and website appearance have been carried out. Before the design is implemented, researchers make mockups to visualize the structure and layout of the website to be built. The user then validates this design to ensure suitability.

![Figure 1. Main Page Display Design](image-url)
Figure 2. Register Page Display Design

Figure 3. Login Page Display Design
Figure 4. Product List Display Design

Figure 5. Payment Checkout Page Display Design
Validation is done by involving several related users to use the mockup that has been created. Users are prompted to provide feedback on the proposed appearance, navigation, and features. The results of this validation are then analyzed to determine the aspects that need improvement and change. Thus, the design stage is carried out by directly paying attention to the user's needs.

Based on the mockup validation results, several things were found that needed to be improved and adjusted. Some users propose adding certain features to improve the user experience in shopping for MSME products. Users' feedback also helps improve the appearance and layout of the proposed website. This allows researchers to make improvements and adjustments to the initial design that has been made.
In this design stage, researchers produced a design of features and website appearance that suits user needs. Through mockup validation, researchers can identify the advantages and disadvantages of the design that has been made, as well as make the necessary improvements and adjustments. In the next stage, the validated design will be implemented into an MSME product marketing website that suits user needs.

**DISCUSSION**

**Implementation**

After the design phase is complete, the next step in the waterfall method is implementing or constructing the website. It is developed at this stage based on the design created in the previous stage. (Safitri & Supriyadi, 2015) The design approved by the user is developed into a website that can be accessed online. In this study, researchers used WordPress CMS with an affiliate plugin to build MSME product marketing websites with an Affiliate Marketing model for PT. Keloria Moringa Jaya.

WordPress CMS was chosen because of its high flexibility in meeting user needs, as well as its ease of use, even for people who do not have a technical background. In addition, the use of affiliate plugins allows the management of learning content, including materials, assignments, and exams. At the implementation stage, the user interface design is realized according to the design done in the previous design stage. The following are the results of the implementation of the appearance of the website.

![Figure 8. Main Page Display Implementation](image-url)
Figure 9. Register Page Display Implementation

Figure 10. Login Page Display Implementation
Figure 11. Product List View Implementation

Figure 12. Payment Checkout Page Display Implementation
The result of this implementation stage is a marketing website for MSME products that are ready to be used by users. In developing this website, researchers ensure that the website meets the needs and preferences of users and functions properly according to the desired specifications.

Testing
After the implementation stage is complete, functional testing is carried out on the MSME product marketing website that has been built. Functional testing ensures that every feature on the website runs properly according to its specifications. The system is tested at this stage to ensure that it meets the requirements and works as expected. (Asri & Didik, 2021) Here are the results of the functional tests performed:
Functional testing is an important stage in developing MSME product marketing websites with the waterfall method. A positive test result shows that the website has functioned properly and meets users’ needs. Thus, this website can be launched and widely used to support the marketing activities of MSME products of PT. Keloria Moringa Jaya.

Maintenance
The final stage in the waterfall method is maintenance. After the development and testing are complete, the developer's task is to ensure that the MSME product marketing website continues functioning properly and meeting user needs. At this stage, website repairs and maintenance are carried out regularly to overcome technical problems and improve functionality.

One of the important maintenance measures is monitoring the performance and security of the website. This can be done using website performance analysis tools and security testing tools to identify vulnerabilities that need to be addressed. In addition, bug fixes and the development of new features should be done regularly. Feedback from users about the functionality of the website is very valuable, so improvements and development of new features can be made according to user needs. By carrying out routine maintenance, this MSME product marketing website will continue to operate well and meet user needs effectively and efficiently.

CONCLUSION
Based on research conducted in developing MSME product marketing websites with an affiliate marketing model using the waterfall method, the development of this website has been successfully carried out well and following user needs. The research begins with the needs analysis stage, where researchers conduct initial studies and interviews with users and collect related documents to identify user needs and wants. The analysis results show that users need an MSME product marketing website that is easily accessible, easy to use, and equipped with features that support marketing activities. Furthermore, at the design stage, researchers design the features and appearance of the MSME product marketing website according to user needs. The user then validates the design to ensure suitability to the needs. The website design is developed at the implementation stage into a website that users can use. WordPress CMS with Affiliate plugins adapted for the marketing needs of MSME products with an affiliate marketing model is very helpful in developing this website. In the testing phase, researchers...
conduct functional testing on websites built to ensure performance and suitability with user needs. Finally, at the maintenance stage, researchers make regular repairs and maintenance of the Website to ensure its availability and functionality. From the results of this study, the waterfall method can be used to develop MSME product marketing websites with an affiliate marketing model that meets user needs. The waterfall method in this research has provided an organized and systematic structure for website development. The test results show that this website is easy to use and meets users’ needs well. Therefore, developing MSME product marketing websites with an affiliate marketing model using the waterfall method can be the right solution to meet user needs and increase the effectiveness of MSME product marketing at PT. Keloria Moringa Jaya.

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DECLARATION OF CONFLICTING INTERESTS
At this moment, the author declares that no conflicting interests could affect the objectivity and integrity of writing this article. The author does not have any personal relationships that could create unbalanced interests or biases in the context of this research. The author aims to provide unbiased, accurate, and objective information in this article without any conflicts of interest that could influence the research findings or their interpretation.

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