



The Effect of Digital Marketing on the Income of Wooden Batik Micro and Small Enterprises in Kreet Hamlet, Bantul Regency

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Abstract

Digital marketing offers micro and small enterprises opportunities to expand market reach, increase consumer engagement, and strengthen competitiveness. Some wooden batik business owners in Kreet Hamlet, Bantul Regency, already use social media; however, not all have optimized digital media as a marketing channel. This study aims to analyze the effect of digital marketing on income. The study employed a quantitative survey approach using purposive sampling. The sample consisted of 57 wooden batik micro and small enterprise (MSE) owners in Kreet who use social media and the Shopee marketplace and are members of the Sido Katon Cooperative in Kreet Hamlet. Data were collected through questionnaires, observation, and a literature review. Simple linear regression analysis was used to determine the magnitude of the effect of digital marketing on business income. The results show that digital marketing affects business income. This study is expected to provide empirical evidence that implementing digital marketing can increase the income of MSE owners by expanding market access, improving promotional effectiveness, strengthening customer relationships, and reducing marketing costs. A limitation of this study is that it analyzes only one variable, namely digital marketing, as a determinant of income, whereas other variables such as business capital, skills, education, and knowledge may be examined in future research. The findings are expected to provide a basis for local governments, academics, and business owners to formulate human resource capacity-building strategies through the development of digital marketing competencies to support the sustainability of micro and small enterprises.

Keywords *Digital Marketing, MSE Income, Wooden Batik, MSEs, Bantul Regency*

INTRODUCTION

Digital transformation has become one of the most influential forces shaping the business world over the past decade. The growth of the internet, social media, mobile devices, and various digital platforms has changed how consumers search for information, compare products, make transactions, and post reviews of purchased products. These changes have encouraged businesses to adopt more adaptive marketing strategies by using digital technology as part of efforts to improve competitiveness and business sustainability.

Digital marketing is a form of marketing innovation that enables companies and microenterprises to reach consumers more broadly without being constrained by space and time. Various digital media, such as social media, marketplaces, websites, instant messaging applications, and search engines, provide substantial opportunities for businesses to introduce products, build customer relationships, and increase sales volume. Compared with conventional marketing, digital marketing offers advantages in cost efficiency, ease of measuring promotional performance, more precise market segmentation, and the ability to reach consumers at both national and international

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levels ([Kotler et al., 2021](#); [Chaffey & Ellis-Chadwick, 2022](#)).

In Indonesia, digitalizing micro, small, and medium enterprises (MSMEs) has become a priority for national economic development. The government continues to promote digital transformation through various training, mentoring, and digital ecosystem development programs for business owners. Nevertheless, gaps remain in the level of digital technology adoption among MSEs. Many business owners still face constraints such as low digital literacy, limited ability to create marketing content, insufficient understanding of digital marketing strategies, and suboptimal use of e-commerce platforms and social media.

Krebet Hamlet in Bantul Regency, Special Region of Yogyakarta, is a handicraft center with substantial potential for development through digital marketing. Krebet Hamlet is known as a wooden batik handicraft center that produces a variety of high-artistic-value products, such as masks, statues, household items, and souvenirs marketed to both domestic and international tourists. Krebet wooden batik products are distinctive because they combine traditional batik techniques with wood as the medium, resulting in products with both cultural and high economic value.

Despite this considerable potential, some wooden batik MSEs in Krebet Hamlet still rely on conventional marketing through tourist visits, exhibitions, and distributor networks. This dependence on traditional marketing patterns results in a relatively limited market reach and makes sales highly sensitive to economic conditions, tourist volumes, and shifts in consumer behavior. This situation became particularly evident during the COVID-19 pandemic, when tourism declined and directly affected sales of handicraft products.

The shift in consumer behavior toward digital transactions presents both a challenge and an opportunity for wooden batik MSEs. Consumers now obtain more product information through social media, marketplaces, and search engines before making purchases. Therefore, business owners' ability to use digital marketing is an important factor that can determine product marketing success. The use of social media platforms such as Instagram, Facebook, TikTok, and WhatsApp Business, as well as marketplaces such as Shopee and Tokopedia, has the potential to increase product visibility, expand customer networks, and strengthen consumer trust through attractive and interactive information.

Several previous studies have shown that digital marketing is positively associated with improved business performance. [As'adi and Sularsih \(2022\)](#) found that digital transformation contributes to increased MSME income by improving marketing effectiveness and expanding market access. [Firmansyah et al. \(2022\)](#) also reported that digital transformation has a positive effect on business performance, particularly through increased operational efficiency and a greater ability to reach consumers. In addition, [Hadiono et al. \(2023\)](#) explained that digital marketing innovation can improve business competitiveness through the optimal use of digital technology.

Nevertheless, research on the effect of digital marketing on the income of wooden batik MSEs in Krebet Hamlet remains relatively limited. Most previous studies focus on MSMEs in general, whereas culture-based handicraft businesses face distinct challenges, particularly in marketing, market segmentation, and the development of product added value. Therefore, research is needed that specifically examines the relationship between digital marketing and increased income in the wooden batik handicraft center of Krebet Hamlet.

This study aims to analyze the effect of digital marketing on the income of wooden batik MSEs in Krebet Hamlet, Bantul Regency. In this study, digital marketing is viewed as the use of social media as a communication channel that enables business owners to build direct relationships with consumers. Platforms such as Instagram, WhatsApp, and TikTok provide opportunities to increase brand awareness, promote products, and build customer loyalty through the delivery of engaging content.

The findings are expected to contribute to the development of digital marketing studies in creative-industry-based micro enterprises and to offer practical recommendations for local governments, academics, and business owners on designing human resource capacity-building programs that strengthen digital marketing competencies. In addition, this study is expected to serve as a reference for developing MSE digitalization strategies aimed at increasing income, competitiveness, and business sustainability in the digital economy era. The findings are also expected to provide a basis for local governments, academics, and business owners to formulate human resource capacity-building strategies by developing digital marketing competencies to support the sustainability of micro and small enterprises.

LITERATURE REVIEW

Digital Marketing

The development of information technology has shifted the marketing paradigm from conventional approaches to digital marketing. Digital marketing is the process of marketing products or services through digital media to reach a wider range of consumers, build long-term relationships, and increase customer value. The use of the internet, social media, search engines, mobile applications, and electronic commerce platforms enables businesses to conduct marketing activities more effectively, efficiently, and measurably.

According to [Kotler et al. \(2021\)](#), digital marketing is part of the evolution of marketing, integrating digital technology with human interaction to create more personalized customer experiences. In the Marketing 5.0 era, technology serves not only as a communication tool but also as a means of creating value through data, artificial intelligence, and marketing automation.

[Chaffey and Ellis-Chadwick \(2022\)](#) explains that digital marketing is the use of digital technology to acquire customers, maintain customer relationships, and increase customer value through integrated digital communication. This concept emphasizes the importance of using multiple digital channels in an integrated manner to ensure marketing strategies achieve optimal performance.

[Ryan \(2021\)](#) states that digital marketing is the process of building two-way communication between companies and consumers through digital media. Unlike traditional marketing, which is one-way, digital marketing gives consumers opportunities to provide direct feedback, thereby creating more interactive relationships.

In the context of micro enterprises, digital marketing plays an increasingly important role because it can help overcome limitations in promotional budgets. Social media, marketplaces, and communication applications enable business owners to introduce their products to a broader market at relatively low cost compared with conventional media.

Dimensions of Digital Marketing

The measurement of digital marketing in this study draws on the concepts developed by [Chaffey and Ellis-Chadwick \(2022\)](#), [Ryan \(2021\)](#), and [Kotler et al. \(2021\)](#), which include the following key dimensions.

- 1. Social Media Marketing**

Social media serves as a communication channel that enables business owners to build direct relationships with consumers. Platforms such as Instagram, Facebook, TikTok, and YouTube provide opportunities to increase brand awareness, promote products, and build customer loyalty by delivering engaging content.

- 2. Marketplace**

A marketplace is a digital platform that connects buyers and sellers within an electronic

trading system. Using marketplaces such as Shopee and Tokopedia can expand marketing reach, increase consumer trust, and facilitate transactions.

3. Content Marketing

Content marketing is a strategy for delivering valuable, relevant, and engaging information to build long-term customer relationships. High-quality content can increase consumer engagement and encourage purchasing decisions.

4. Website

A website serves as a business's digital identity by providing information about products, the business profile, and customer communication channels. An informative and easily accessible website can enhance business credibility.

5. Digital Communication

Digital communication through applications such as WhatsApp Business, email, and social media enables business owners to provide faster, more responsive, and more personalized service, thereby increasing customer satisfaction.

MSE Income

Income is one of the primary indicators of business success. According to [Sukirno \(2019\)](#), income is the revenue a business receives from the sale of goods or services over a specific period. An increase in income signals growth in business activities and reflects the effectiveness of marketing and operational strategies.

From a marketing management perspective, income is influenced not only by product quality but also by a business's ability to reach markets, build customer relationships, and increase consumer loyalty. Thus, an effective marketing strategy is a key factor in increasing business income.

For micro enterprises, income is often measured using several indicators, namely:

1. Growth in sales turnover;
2. Increase in the number of customers;
3. Increase in transaction frequency;
4. Increase in business profit; and
5. Income growth over a certain period.

Relationship between Digital Marketing and Income

Digital marketing enables business owners to expand their markets without geographical limitations. Through digital media, products can reach consumers in different regions and even abroad. In addition, digital marketing makes it easier for business owners to obtain information about consumer behavior so that promotional strategies can be adjusted to market needs.

According to [Kotler et al. \(2021\)](#), digital technology improves marketing effectiveness by making communication with customers faster, more personalized, and more interactive. [Chaffey and Ellis-Chadwick \(2022\)](#) adds that digital media enable companies to measure promotional effectiveness in real time, allowing marketing decisions to be made more accurately.

For wooden batik MSEs in Krebet Hamlet, digital marketing is expected to increase the number of customers through broader promotion, create more transaction opportunities, and increase business income. Digital marketing also helps reduce dependence on tourist visits because products can be marketed online to consumers in various locations.

Previous Studies

The study by [Erawati and Pramelia \(2022\)](#) showed that the use of social media has a positive effect on digital marketing effectiveness and increases the market reach of MSMEs.

As'adi and Sularsih (2022) found that digital transformation and the use of financial technology positively affect MSME income during the pandemic. Their study indicates that digitalization is an important strategy for maintaining business continuity.

Firmansyah et al. (2022) concluded that digital transformation significantly improves business performance, particularly through increased operational efficiency, promotional effectiveness, and market expansion.

Hadiono et al. (2023) explained that digital marketing innovation can improve business competitiveness through the use of social media, marketplaces, and content-based marketing strategies.

Arianty and Julita (2016) stated that an appropriate marketing strategy increases MSME sales and income. Their findings indicate that business success is determined not only by product quality but also by the effectiveness of the marketing strategies implemented.

Based on these studies, it can be concluded that digital marketing is positively associated with increased business income. However, studies that specifically examine the effect of digital marketing on the income of wooden batik MSEs in Krebet Hamlet remain limited; therefore, this study is expected to help address this research gap.

The development of digital technology has changed how consumers obtain information and make transactions. Consumers increasingly rely on digital media to search for product information, compare prices, read reviews, and make purchases. This shift encourages business owners to integrate digital technology into their marketing strategies.

According to the Marketing 5.0 theory proposed by Kotler et al. (2021), the use of digital technology enables companies to deliver better customer experiences, increase interaction with consumers, and create added value through more effective communication. Thus, digital marketing can drive increases in sales and revenue.

Chaffey and Ellis-Chadwick (2022) explains that digital marketing improves marketing effectiveness by enabling broad consumer reach, offering more cost-efficient promotion, and facilitating the evaluation of campaign success. Business owners who can use digital media effectively have greater opportunities to increase sales volume than those who rely solely on conventional marketing methods.

For wooden batik MSEs in Krebet Hamlet, the use of social media, marketplaces, and digital communication is expected to expand market access beyond the Yogyakarta region. Products that were previously marketed only to in-person tourists can be promoted to consumers in various regions through digital platforms. Increased product exposure has the potential to increase the number of customers, transaction frequency, sales turnover, and ultimately business income.

The findings of Erawati and Pramelia (2022), Firmansyah et al. (2022), As'adi and Sularsih (2022), and Hadiono et al. (2023) show that digital marketing has a positive effect on marketing performance and increases business income. These findings strengthen the expectation that the better digital marketing is implemented by wooden batik MSEs, the higher the income they obtain. Based on the theoretical framework and the findings of previous studies, the research hypothesis is formulated as follows:

H₁: Digital marketing has a positive and significant effect on the income of wooden batik MSMEs in Krebet Hamlet, Bantul Regency.

RESEARCH METHOD

This study used a quantitative survey with purposive sampling. The sample comprised 57 wooden batik MSE owners in Krebet who use social media and the Shopee marketplace and are members of the Sido Katon Cooperative in Krebet Hamlet. Data were collected via questionnaires, surveys, and a literature review. Simple linear regression was used to assess the magnitude of the

effect of digital marketing on business income.

Research Design

This study used a quantitative approach with a survey method. The quantitative approach was selected because the study aims to test the effect of digital marketing on the income of wooden batik micro and small enterprises (MSEs) in Kreet Hamlet, Bantul Regency, using statistical hypothesis testing. The survey method was used to collect primary data from respondents through a questionnaire developed based on the indicators of the research variables.

Research Location

The study was conducted in Kreet Hamlet, Sendangsari Village, Pajangan District, Bantul Regency, Special Region of Yogyakarta. Kreet Hamlet was selected as the research location because it is a wooden batik handicraft center that has developed into a creative tourism destination and has considerable potential for digital marketing.

Population and Sample

The study population comprised all wooden batik MSME owners actively operating businesses in Kreet Hamlet. Based on data from the artisan group and the local government, the study included 57 MSME owners.

The sampling technique used was purposive sampling, a method of selecting samples based on specific criteria so that respondents matched the study's objectives. The respondent criteria were as follows:

1. Own a wooden batik business that is still actively operating.
2. Have operated the business for at least one year.
3. Have used or are familiar with digital media as a means of product promotion or sales.
4. Are willing to participate as research respondents.
5. Are MSMEs registered with the Sido Katon Cooperative.

Because 57 people met these criteria, all of them were included in the research sample.

Types and Sources of Data

The study used two types of data:

1. Primary data were obtained through questionnaires and field observations.
2. Secondary data were obtained from scientific books, national and international journals, government reports, publications from relevant institutions, and documents relevant to the study.

Data Collection Techniques

The data collection techniques consisted of:

1. Survey to obtain an overview of business activities and the implementation of digital marketing.
2. Questionnaire, the primary instrument for collecting data on respondents' perceptions of the research variables.
3. Literature review conducted by examining various sources related to digital marketing and business income.

Data Analysis Techniques

The data analysis tools used to test the hypothesis included simple linear regression, a t-test for partial testing, and the coefficient of determination (R^2) to assess the goodness of fit of the

regression model.

Operational Definition of Variables

This study uses one independent variable and one dependent variable.

1. Independent Variable (X): Digital Marketing

Digital marketing encompasses marketing activities that use digital media to promote products, build customer relationships, and increase sales. The digital marketing indicators, based on Chaffey and Ellis-Chadwick (2022), Kotler et al. (2021), and Ryan (2021), include:

1. Use of social media.
2. Use of online marketplaces.
3. Quality of digital content.
4. Use of websites or other digital media.
5. Intensity of digital communication with customers.

2. Dependent Variable (Y): Income

Income is the total revenue earned by MSME owners from the sale of wooden batik products over a specific period. Income indicators include:

1. Increase in sales turnover.
2. Increase in the number of customers.
3. Increase in transaction frequency.
4. Increase in business profit.
5. Growth in business income.

FINDINGS AND DISCUSSION

The results of the descriptive analysis of respondents by gender are as follows:

Table 1. Frequency Distribution of Respondents by Gender

No.	Gender	Frequency	Percentage
1.	Male	49 MSMEs	84.21%
2.	Female	8 MSMEs	5.79%
	Total	57 MSMEs	100%

Source: Data processed by the authors.

Table 2. Frequency Distribution of Respondents by Length of Business Operation

No.	Length of Business Operation	Number	Percentage
1.	> 5 Years	57	100%

Source: Data processed by the authors.

Based on Table 2, data from 57 MSME owners show that 100% had operated their businesses for more than five years.

Table 3. Frequency Distribution of Respondents by Age

No.	Age	Number	Percentage
1.	< 20 Years	3	5.2%
2.	> 20 Years	55	91.5%
	Total	57	100%

Source: Data processed by the authors.

Based on the analysis, data on the ages of MSME respondents were obtained. Of the 57 respondents included in the study sample, 3 MSME owners (5.2%) were under 20 years old, whereas 55 people (94.8%) were over 20 years old.

Digital Marketing

The results show that MSME owners in Krebet, Pajangan, Bantul use digital marketing platforms—particularly Shopee, Instagram, and WhatsApp—and that these practices effectively increase their income. The analysis shows that the highest concentration of responses was in the “Agree” category (score 4), with percentages ranging from 76.53% to 96.37%, followed by the “Strongly Agree” category (score 5), with percentages ranging from 11.07% to 29.83%.

For the analysis of Variable Y (Income), the highest concentration of ratings was at score 4 (Agree), with an average of 73.63%, followed by score 5 (Strongly Agree) at 31.97%. The percentage of neutral (N) responses was 13.64%. Overall, the majority of respondents provided positive assessments of the questionnaire items.

Validity and Reliability Tests

The instrument validity analysis indicated that the 8 items for Variable X and the 8 items for Variable Y were valid because the calculated r-value (0.732) exceeded the critical r-value. Cronbach’s alpha, calculated in SPSS, yielded reliability coefficients of 0.851 for Variable X and 0.882 for Variable Y. Because both values exceeded the 0.60 threshold, both variables were deemed reliable.

Table 4. Results of Simple Linear Regression Analysis

Model	B	Std. Error	Beta	t
1 (Constant)	9.353	1.840	–	5.083
Digital Marketing	0.488	0.038	0.790	12.755

Source: Data processed by the authors.

Based on the data analysis using SPSS 27, the regression equation is as follows:

$$Y = 9.353 + 0.488X + e$$

The regression equation above describes the partial relationship between the Digital Marketing variable and the income of MSME owners. The equation shows a constant (intercept) of 9.353; this means that if the Digital Marketing variable is zero ($X = 0$), the income of MSME owners in Krebet, Pajangan, Bantul increases by 9.353 units. The Digital Marketing regression coefficient is 0.488, which means that if the Digital Marketing variable (X_1) increases by 1%—assuming the constant (a) is zero—the income of MSME owners will increase by 0.695 units. This indicates that the Digital Marketing variable contributes positively to income growth among MSME owners in Krebet, Pajangan, Bantul. The calculated t-value was 2.539, which was greater than the critical t-value of 2.086. Therefore, the null hypothesis (H_0) was rejected and the alternative hypothesis (H_1) was accepted, indicating a significant effect of Digital Marketing on the income of MSME owners in Krebet, Pajangan, Bantul.

Table 5. Results of the Coefficient of Determination (R^2) Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.790 ^a	0.624	0.620	2.416

Source: Data processed by the authors.

The R-squared value in this study is 0.624, or 62.4%. This indicates that digital marketing explains 62.4% of the variation in MSME income, while the remaining 37.6% (100% – 62.4%) is influenced by variables outside the scope of this study. Overall, the findings confirm that digital marketing makes a significant contribution to increasing MSME income. Therefore, MSME owners are encouraged to continue optimizing their use of digital marketing to maximize income potential. A limitation of this study is that it analyzes only one digital marketing variable affecting income, whereas other variables, such as business capital, human resource skills, education, and knowledge, may be examined in future research. This study is consistent with previous findings by [Rahmatullah and Hidayati \(2024\)](#). Entrepreneurial characteristics, human resource development, and human resource competencies influence business performance. These findings indicate that strengthening skills, knowledge, creativity, and technological capabilities is very important for increasing productivity and ensuring business sustainability ([Kussujaniatun & Hartati, 2026](#)).

CONCLUSIONS

In digital marketing, almost all MSMEs use social media platforms such as Instagram and WhatsApp, along with substantial use of the Shopee marketplace. The majority of respondents gave positive assessments of the digital marketing variable, indicating that digital marketing was considered 62.4% effective in increasing MSME income in the area. Assessments of the income variable also showed positive results.

Simple linear regression analysis shows that the digital marketing variable (X) has a positive and significant effect on MSME income (Y). A regression coefficient of 0.624 indicates that each 1% increase in digital marketing use is associated with a 0.624-unit increase in MSME income. The partial test (t-test) yielded a significance value of 0.020—lower than the 0.05 threshold—so the null hypothesis (H0) was rejected and the alternative hypothesis (H1) was accepted. This confirms that digital marketing has a significant effect on MSME income in Kreet, Pajangan, Bantul.

LIMITATIONS & FURTHER RESEARCH

A limitation of this study is that it examines only one digital marketing variable affecting business income, whereas other variables, such as business capital, human resource skills, education, and knowledge, may be examined in future research. The findings are expected to provide a basis for local governments, academics, and business owners to formulate human resource capacity-building strategies through digital marketing development to support the sustainability of micro and small enterprises.

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