

Analysis of WhatsApp Business Features on the Effectiveness of Marketing Communications for Craft MSMEs in Jambi City

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Abstract

This study analyzes the influence of WhatsApp Business features (Broadcast Message, Quick Reply, Catalog, and Labeling) on marketing communication effectiveness among creative SMEs in Jambi City. Using a mixed methods approach, the results indicate that WhatsApp Business features collectively have a significant effect on marketing communication effectiveness ($R^2 = 0.596$, $p = 0.003$), explaining 59.6% of the variance. Among the four features, only the Catalog feature showed a significant positive influence ($\beta = 0.903$, $p = 0.034$), highlighting its critical role in enhancing customer communication and engagement. The novelty of this research lies in its focus on creative SMEs producing cultural heritage based products in Jambi and its simultaneous evaluation of four key WhatsApp Business features. The findings suggest that SMEs should prioritize optimizing Catalog features through high quality visual content that effectively communicates product value and local cultural identity, while policymakers should support targeted digital literacy programs for heritage based businesses.

Keywords: features, whatsapp, effectiveness, communication, MSMEs.

1 Introduction

In the rapidly accelerating era of digitalization, the advancement of information technology has revolutionized the way businesses operate, including in the marketing sector. Communication platforms such as WhatsApp Business have become strategic tools for business owners, particularly Micro, Small, and Medium Enterprises (MSMEs), to expand market reach and enhance communication efficiency. WhatsApp Business, with its specialized features such as broadcast messages, quick replies, catalogs, and labeling offers practical solutions for MSMEs to manage consumer interactions professionally. In Jambi City, craft-based MSMEs those producing handmade goods of high cultural value face challenges in maximizing their market potential due to limited access to technology and reliance on conventional marketing strategies.

The primary issue is the effectiveness of utilizing WhatsApp Business features in enhancing marketing communication for craft-based MSMEs amid increasing digital market competition. Although this platform is widely popular in Indonesia, few studies have specifically examined the impact of its features on marketing performance, especially within the craft sector in Jambi. As a region rich in local cultural heritage and creative economic potential, Jambi provides a unique context for exploring the dynamics of technology adoption among MSMEs.

Although previous studies have demonstrated that WhatsApp Business contributes positively to MSME marketing performance and customer communication, several important research gaps remain. First, most studies have evaluated WhatsApp Business as a single digital platform without distinguishing the effectiveness of its individual features, making it difficult to identify which specific functionalities generate the greatest marketing value. Second, previous research has predominantly investigated general MSMEs operating in food, retail, or service sectors, while empirical evidence from craft-based MSMEs producing cultural heritage products remains very limited. Marketing communication in this sector differs substantially because purchasing decisions depend not only on product availability but also on visual presentation, cultural narratives, product uniqueness, and intensive interaction with customers. Third, prior studies have mainly relied on quantitative

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approaches, providing limited explanation regarding why certain WhatsApp Business features are more effective than others in real business practices. Consequently, empirical understanding of feature-level effectiveness within culturally embedded creative industries remains insufficient.

This study addresses these gaps by providing a feature-level analysis of WhatsApp Business adoption among craft MSMEs in Jambi City through an explanatory sequential mixed methods approach. Unlike previous studies that evaluate WhatsApp Business as a single construct, this research simultaneously examines the individual effects of Broadcast Message, Quick Reply, Catalog, and Labeling on marketing communication effectiveness. Furthermore, this study combines statistical evidence with qualitative explanations from MSME owners to understand why certain features perform differently in businesses marketing culturally embedded products. Therefore, the novelty of this research lies not only in its empirical context of heritage-based craft MSMEs but also in its integrated evaluation of individual WhatsApp Business features and the combination of quantitative and qualitative evidence to explain digital marketing effectiveness.

Theoretically, this study extends the literature on digital marketing communication by identifying the relative contribution of individual WhatsApp Business features rather than treating the platform as a single technological construct. Practically, the findings provide evidence-based recommendations for MSMEs regarding which features should be prioritized to improve marketing communication effectiveness. From a policy perspective, the results can support government agencies and digital training providers in designing more targeted digital literacy programs for creative MSMEs.

Accordingly, this study seeks to answer the following research question: Which WhatsApp Business features contribute most significantly to marketing communication effectiveness among heritage-based craft MSMEs, and why do these features perform differently in practical implementation? Addressing this question provides a more granular understanding of digital communication strategies that has not been sufficiently explored in previous studies.

2 Literature Review

Digital marketing communication refers to the process of delivering information about products or services to consumers through digital technology-based media. According to [1], an integrated digital marketing strategy can improve business communication effectiveness through the optimal use of various digital platforms. In the context of MSMEs, digital marketing communication is crucial as it enables businesses to reach a wider market with relatively low costs.

Furthermore, the advancement of communication technology has transformed interaction patterns between business actors and consumers to become faster, more interactive, and more personalized. This allows MSMEs to build closer relationships with customers and enhance customer loyalty.

WhatsApp Business is a communication application specifically designed to support business activities, particularly for small and medium enterprises. WhatsApp Business is an effective digital marketing strategy due to its ease of use and features that support direct interaction with customers.

Research by [2] indicates that the use of WhatsApp Business can improve marketing effectiveness through more responsive and personalized communication. Additionally, this platform helps business owners manage customers and enhance service quality.

WhatsApp Business provides several key features that support marketing activities. Broadcast Message is a feature that enables businesses to send the same message simultaneously to multiple customers. This feature is widely used for promotional activities and information dissemination because it can reach many recipients efficiently. However, its use must be carefully managed to avoid excessive messaging that may lead to customer fatigue and reduce engagement.

Quick Reply allows businesses to respond to customer inquiries more quickly through predefined message templates. This feature helps improve response efficiency and maintain service consistency. Nevertheless, excessive reliance on standardized responses may reduce the personal touch in communication, which is often important for building strong customer relationships.

The Catalog feature enables businesses to display products visually, complete with descriptions and pricing information. By providing customers with easy access to product information, catalogs can enhance the shopping experience and support purchasing decisions. Previous studies have shown that digital catalogs have a significant positive influence on consumer purchase intentions.

Meanwhile, the Labeling feature helps businesses categorize customers based on specific characteristics or stages in the sales process. This classification makes customer management more organized and allows businesses to deliver more targeted and effective communication. Labeling contributes to greater efficiency in customer relationship management and communication activities.

These features play an important role in enhancing the efficiency and effectiveness of marketing communication when utilized properly.

Marketing communication effectiveness refers to the extent to which the messages delivered by a business are understood, accepted, and capable of influencing consumer behavior. Effective marketing communication not only ensures that information reaches the target audience clearly but also encourages positive responses and actions from consumers. According to Sunahri (2024), marketing communication effectiveness can be assessed through several aspects, including the clarity of the message conveyed, the speed of response provided to customers, the level of customer engagement generated through communication activities, and the extent to which the communication increases consumers' purchase intentions. When these aspects are achieved, marketing communication can be considered effective in supporting business objectives and strengthening relationships with customers. [3]

Previous studies indicate that the use of digital media, including WhatsApp Business, can improve marketing communication effectiveness when supported by appropriate strategies and engaging content.

MSMEs play a significant role in the economy but often face limitations in adopting technology. Wiweko (2025) states that digital transformation is key to enhancing MSME competitiveness in the digital era. [4]

However, challenges such as low digital literacy, limited resources, and lack of training remain major obstacles. Therefore, support from various stakeholders, including government and academics, is needed to improve the digital capabilities of MSME actors. [5]

Several previous studies are relevant to this research and provide empirical support for the use of digital communication platforms in marketing activities. Pratiwi (2023) found that WhatsApp is an effective medium for marketing communication among MSMEs, as it facilitates direct and efficient interaction between businesses and customers. Similarly, Sumeta (2025) demonstrated that the use of WhatsApp Business has a positive impact on the marketing performance of MSMEs by improving communication processes and customer engagement. In addition, Tulipa (2024) stated that social media-based marketing strategies can enhance the effectiveness of business decision-making by providing broader access to information, customer feedback, and market insights. These findings indicate that digital communication tools and social media platforms play a significant role in supporting marketing effectiveness and business development. [6], [7], [8]

Based on these studies, it can be concluded that WhatsApp Business has great potential to improve marketing communication effectiveness, but it requires proper management to achieve optimal results.

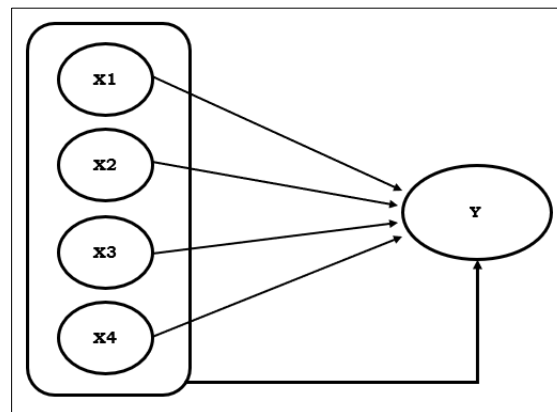
3 Research Method

This research uses a combination of quantitative and qualitative approaches to produce comprehensive and valid findings. This approach was chosen because it can answer research questions that involve statistical measurement (the influence of WhatsApp Business features on communication effectiveness) and context exploration (local implementation, technical challenges, and cultural integration). The following are the details of the research methods:

This study employed a mixed methods approach, combining quantitative and qualitative methods to obtain a comprehensive understanding of the role of WhatsApp Business features in enhancing marketing communication effectiveness among craft MSMEs.

The quantitative method was used to measure the influence of WhatsApp Business features, namely Broadcast Messages, Quick Replies, Catalogs, and Labeling, on marketing communication effectiveness. Data collected through questionnaires were analyzed using multiple linear regression to identify the significance and magnitude of each feature's effect.

Figure 1 illustrates the conceptual framework employed in this study, showing the relationships between Broadcast Message (X1), Quick Reply (X2), Catalog (X3), Labeling (X4), and Marketing Communication Effectiveness (Y).



Where:

Y = Marketing Communication Effectiveness
X1 = Broadcast Message
X2 = Quick Reply
X3 = Catalog
X4 = Labeling

The qualitative method was conducted through interviews and case studies with selected MSME owners to explore how WhatsApp Business features are implemented in practice, identify technical and operational challenges, and understand strategies for integrating local cultural elements into marketing communication.

The qualitative findings were used to complement and explain the quantitative results. While the regression analysis identified which WhatsApp Business features significantly affected marketing communication effectiveness, the interview data provided deeper insights into the reasons behind these statistical relationships. For example, qualitative evidence helped explain why the Catalog feature had a stronger influence than other features by revealing that customers preferred visual product information and easier access to product details. Similarly, qualitative findings highlighted practical barriers that limited the effectiveness of Broadcast Messages, Quick Replies, and Labeling, thereby enriching the interpretation of the quantitative results. Through this integration, the study provides both statistical evidence and contextual understanding of WhatsApp Business adoption among craft MSMEs.

This study adopted an explanatory sequential mixed methods design, where quantitative analysis was conducted first to identify significant relationships, followed by qualitative inquiry to explain and interpret the quantitative findings in greater depth.

Research Target/Subject

The population of this study consists of all craft-based MSMEs in Jambi City that utilize WhatsApp Business as a marketing tool. To ensure that the sample adequately represents the characteristics of the population, different sampling techniques are applied for the quantitative and qualitative components of the research.

For the quantitative phase, a stratified random sampling technique is employed to ensure representation across several important categories, including business scale, product type, and level of digital literacy. Business scale is categorized into micro and small enterprises, while product types include woven products, handicrafts, and woodcarving products. The inclusion of digital literacy as a stratification factor helps ensure that respondents reflect varying levels of technological capability in using WhatsApp Business for marketing purposes.

For the qualitative phase, purposive sampling is used to select participants who can provide rich and relevant information regarding the use of WhatsApp Business. A total of 10 to 15 business owners are chosen based on their differing experiences and levels of utilization of WhatsApp Business features, ranging from users who have optimized the platform extensively to those who use only a limited number of features. In addition, three to five key informants are included to strengthen and validate the research findings. These key informants consist of academics, digital marketing

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practitioners, and representatives from the cooperative office, all of whom possess expertise and insights relevant to the development and implementation of digital marketing strategies among MSMEs.

Research Procedure

The research procedure is designed systematically and comprehensively with a mixed methods approach (quantitative and qualitative combination) to answer research problems about the influence of WhatsApp Business features on marketing communication effectiveness for creative MSMEs in Jambi City. Research implementation is carried out through the following stages:

Preparation Stage

The research began with in-depth literature study and identification of research variables based on marketing communication theory and digital technology. Next, research instruments were prepared in the form of questionnaires with a 1-5 Likert scale that had undergone content validation by experts. The questionnaire was designed to measure independent variables (Broadcast Message, Quick Reply, Catalog, and Labeling) and dependent variables (Marketing Communication Effectiveness). Before full implementation, the instrument was tested to ensure its validity and reliability.

Data Collection Stage

Data collection was conducted in October 2025 using a stratified random sampling technique targeting creative MSMEs in Jambi City that utilize WhatsApp Business as a marketing tool. To obtain comprehensive and reliable data, several data collection methods were employed. The primary data were gathered through questionnaires distributed both online via Google Forms and offline through direct administration to accommodate respondents with varying levels of digital literacy. Respondents were asked to provide ratings on questionnaire items that had previously been validated.

In addition to the survey, in-depth interviews were conducted with selected MSME owners to gain deeper insights into their strategies for utilizing WhatsApp Business features, the technical challenges they encountered, and the ways they incorporated local cultural values into their promotional communications. Participatory observation was also carried out to examine interactions between MSME owners and customers through WhatsApp Business, enabling researchers to better understand communication patterns and the practical use of specific platform features. Furthermore, documentation techniques were utilized by collecting secondary data, including sales records, chat histories, and WhatsApp Business account activity reports, which served as supporting materials for data analysis and interpretation.

Instruments, and Data Collection Techniques

Types of data

This research employs two main types of data that are collected in an integrated manner, namely quantitative data and qualitative data. Quantitative data consist of numerical information obtained through structured questionnaires using a five-point Likert scale. These data include respondents' demographic characteristics, such as gender, age, and type of business, as well as the level of usage of WhatsApp Business features, including Broadcast Message, Quick Reply, Catalog, and Labeling. In addition, quantitative data capture business owners' perceptions regarding the effectiveness of marketing communication and provide measurement scores for both independent and dependent variables, which can be analyzed statistically to examine the relationships among variables.

Qualitative data, on the other hand, consist of narrative information gathered through several complementary methods. These include in-depth interviews conducted to explore strategies for utilizing WhatsApp Business features, direct observations of interactions between business owners and customers through WhatsApp Business, and the collection of secondary documents such as sales records, chat histories, and WhatsApp Business account activity reports. Furthermore, field notes recorded during observation and interview sessions were used to enrich the analysis by providing contextual insights into the experiences and practices of MSME owners in their use of WhatsApp Business for marketing communication.

Data Collection Techniques

1. Survey with Questionnaire

The primary data collection technique in this study is a survey conducted through structured questionnaires distributed to craft MSME owners in Jambi City. The questionnaire administration process involves several stages to ensure the accuracy and completeness of the collected data. Researchers adopt a direct approach by visiting respondents personally to explain the objectives of the study and provide guidance on how to complete the questionnaire correctly. This approach helps respondents better understand the purpose of the research and the meaning of each questionnaire item.

To address variations in digital literacy among respondents, researchers also provide assistance during the questionnaire completion process whenever necessary. This support ensures that all respondents are able to participate effectively and that their responses accurately reflect their perceptions and experiences. Furthermore, each completed questionnaire is carefully verified by the researchers to ensure data completeness and answer consistency. This verification process is intended to improve data quality and minimize potential errors before the data are analyzed.

2. In-depth Interviews

In-depth interviews are conducted using the using interview guides while remaining flexible to explore in-depth information

3. Participatory Observation

The observation technique in this study is carried out through a comprehensive approach to gain a deeper understanding of marketing communication activities conducted via WhatsApp Business. Researchers conduct direct observation by monitoring how business owners utilize WhatsApp Business features in their interactions with customers, including the communication patterns that emerge during marketing activities. This approach allows researchers to capture real-world practices and behaviors as they naturally occur.

In addition to direct observation, participant observation is employed in certain situations where researchers become involved in the communication process to obtain a more in-depth understanding of the interaction dynamics between business owners and customers. Through this involvement, researchers can gain richer insights into the experiences, challenges, and communication strategies used in the marketing process.

To ensure systematic data collection, all observation activities are documented through detailed field notes that record important events and findings. Supporting documentation is also collected in the form of photographs, taken with the respondents' permission, and screenshots of communication interactions that do not contain personal or confidential information. These materials serve as supplementary evidence and help strengthen the interpretation and analysis of the research findings.

Data analysis technique

1. Pre-Analysis Requirement Tests

Before conducting the main data analysis, a series of prerequisite tests are performed to ensure that the data meet the necessary statistical assumptions and that the research instruments are suitable for analysis. The first step involves a validity test using Pearson correlation analysis to assess the extent to which each questionnaire item accurately measures the intended construct. Questionnaire items are considered valid when they demonstrate a significant correlation with the total score of the corresponding variable, indicated by a significance level of $p < 0.05$ or $p < 0.01$. Subsequently, a reliability test is conducted using Cronbach's Alpha (α) to evaluate the internal consistency of the research instrument. An instrument is regarded as reliable when the Cronbach's Alpha coefficient reaches or exceeds 0.70, indicating that the questionnaire items consistently measure the same construct.

In addition, several classical assumption tests are carried out to ensure the suitability of the data for regression analysis. A normality test, using the Shapiro-Wilk and Kolmogorov-Smirnov methods, is performed to verify whether the residuals are normally distributed. A heteroscedasticity test is then conducted using the Glejser method to determine whether the residuals exhibit unequal variance across observations. Finally, a multicollinearity test is

performed using the Variance Inflation Factor (VIF) to examine the correlations among independent variables. The absence of multicollinearity is confirmed when VIF values are below 10, indicating that no perfect or excessively high correlation exists among the predictor variables.

2. Regression Analysis and Hypothesis Testing

After confirming that the data satisfy all prerequisite assumptions, the main statistical analysis is conducted to examine the influence of WhatsApp Business features on marketing communication effectiveness. Multiple linear regression analysis is employed to estimate the relationship between the dependent variable and the independent variables using the regression model equation: $Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + e$. This model enables the researcher to determine the direction and magnitude of the influence exerted by each independent variable on the dependent variable.

To assess the explanatory power of the model, the coefficient of determination (R^2) is calculated. This statistic indicates the proportion of variation in the dependent variable that can be explained collectively by the independent variables included in the regression model. A higher R^2 value suggests that the model has a stronger ability to explain variations in marketing communication effectiveness.

Furthermore, an F-test is performed to evaluate the simultaneous effect of all independent variables on the dependent variable. The regression model is considered statistically significant when the significance value is less than 0.05, indicating that the independent variables jointly influence the dependent variable. In addition, a t-test is conducted to examine the partial effect of each independent variable individually. An independent variable is considered to have a significant influence on the dependent variable when its significance value is less than 0.05, demonstrating that the variable contributes meaningfully to explaining variations in marketing communication effectiveness.

4 Results and Analysis

The study titled “*Analysis of WhatsApp Business Features on the Effectiveness of Marketing Communication for Craft MSMEs in Jambi City*” aims to examine the specific impact of four WhatsApp Business features on marketing communication effectiveness, understand implementation challenges within the local context, and formulate strategic recommendations.

Instrument Validity Test

The validity test was conducted to determine the extent to which the research instrument accurately measures the constructs it is intended to measure. The results of the validity test, using the Pearson correlation technique, indicate that the majority of the questionnaire items are valid. The following presents the validity test results for all variables employed in this research.

Table 1 presents the results of the validity test for all questionnaire items using the corrected item-total correlation method.

Table 1 Results of the validity test (corrected item-total correlation)

Variabel	Item	Calculated r-value	Critical r-value (N=11, A=0.05)=0,602	Result
X1 (Broadcast)	X1.1	0,757**	0,602	Valid
	X1.2	0,851**	0,602	Valid
	X1.3	0,892**	0,602	Valid
	X1.4	0,808**	0,602	Valid
X2 (Quick Reply)	X2.1	0,875**	0,602	Valid
	X2.2	0,849**	0,602	Valid
	X2.3	0,880**	0,602	Valid
	X3.4	0,876**	0,602	Valid
X3 (Catalog)	X3.1	0,886**	0,602	Valid
	X3.2	0,761**	0,602	Valid

Variabel	Item	Calculated r-value	Critical r-value (N=11, A=0.05)=0,602	Result
X4 (Label)	X3.3	0,886**	0,602	Valid
	X3.4	0,886**	0,602	Valid
	X4.1	0,963**	0,602	Valid
	X4.2	0,963**	0,602	Valid
	X4.3	0,964**	0,602	Valid
Y (Efektivitas)	X4.4	0,947**	0,602	Valid
	Y.1	0,840**	0,602	Valid
	Y.2	0,718*	0,602	Valid
	Y.3	0,902**	0,602	Valid

Based on the validity test results, all questionnaire items were found to be valid, as indicated by significance values (p -values) below the threshold of $\alpha = 0.05$, ranging from 0.000 to 0.013. Furthermore, each item demonstrated a statistically significant item–total correlation at either the 0.01 or 0.05 significance level. These findings confirm the validity of all measurement items across the Broadcast Message (X1.1–X1.4), Quick Reply (X2.1–X2.4), Catalog (X3.1–X3.4), Labeling (X4.1–X4.4), and Marketing Communication Effectiveness (Y.1–Y.3) constructs.

Table 2 summarizes the significance values of each questionnaire item used to determine construct validity.

Table 2 Significance test results

Item	Significance Values	Status
X1.1	0,007	Valid (Sig Value < 0,05)
X1.2	0,001	Valid (Sig Value < 0,05)
X1.3	0,000	Valid (Sig Value < 0,05)
X1.4	0,003	Valid (Sig Value < 0,05)
X2.1	0,000	Valid (Sig Value < 0,05)
X2.2	0,001	Valid (Sig Value < 0,05)
X2.3	0,000	Valid (Sig Value < 0,05)
X2.4	0,000	Valid (Sig Value < 0,05)
X3.1	0,000	Valid (Sig Value < 0,05)
X3.2	0,007	Valid (Sig Value < 0,05)
X3.3	0,000	Valid (Sig Value < 0,05)
X3.4	0,000	Valid (Sig Value < 0,05)
X4.1	0,000	Valid (Sig Value < 0,05)
X4.2	0,000	Valid (Sig Value < 0,05)
X4.3	0,000	Valid (Sig Value < 0,05)
X4.4	0,000	Valid (Sig Value < 0,05)
Y.1	0,001	Valid (Sig Value < 0,05)
Y.2	0,013	Valid (Sig Value < 0,05)
Y.3	0,000	Valid (Sig Value < 0,05)

Instrument Reliability Test

The reliability test was conducted to evaluate the consistency of the research instrument in measuring the same construct across multiple items. The reliability analysis, using Cronbach's Alpha, indicated that all research variables demonstrated satisfactory internal consistency and reliability. The following presents the reliability test results for all variables employed in this study.

Table 3 presents the Cronbach's Alpha coefficients used to evaluate the reliability of each research variable. Table 4 presents the item-total statistics for the Broadcast Message variable.

Table 3 Reliability test results (cronbach's alpha)

Variabel	Cronbach's Alpha	Status
X1 (Broadcast)	0,846	Reliabel
X2 (Quick Reply)	0,892	Reliabel
X3 (Catalog)	0,783	Reliabel
X4 (Labeling)	0,969	Reliabel
Y (Efektivitas)	0,809	Reliabel

Table 4 Item–total statistics for the broadcast message variable

	<i>Scale Mean if Item Deleted</i>	<i>Scale Variance if Item Deleted</i>	<i>Corrected Item-Total Correlation</i>	<i>Cronbach's Alpha if Item Deleted</i>
X1.1	11.64	4.855	.586	.843
X1.2	11.64	4.455	.734	.784
X1.3	11.82	3.964	.784	.757
X1.4	11.82	4.364	.637	.825

The Broadcast Message variable achieved a Cronbach's Alpha coefficient of 0.846 across four measurement items, indicating a high level of internal consistency and reliability. This alpha value exceeds the recommended minimum threshold of 0.70, confirming that the instrument is reliable. Furthermore, the Corrected Item–Total Correlation analysis revealed that all items were positively correlated with the overall scale score, with item X1.3 exhibiting the highest correlation coefficient (0.784).

Table 5 Item–total statistics for the quick reply variable

	<i>Scale Mean if Item Deleted</i>	<i>Scale Variance if Item Deleted</i>	<i>Corrected Item-Total Correlation</i>	<i>Cronbach's Alpha if Item Deleted</i>
X2.1	12.09	4.891	.767	.859
X2.2	12.18	5.164	.732	.871
X2.3	12.27	5.218	.791	.852
X2.4	12.27	4.818	.764	.860

Table 5 shows the item-total statistics for the Quick Reply variable. The Quick Reply variable achieved a Cronbach's Alpha coefficient of 0.892 across four measurement items, indicating an excellent level of internal consistency and reliability. The Corrected Item–Total Correlation analysis showed that item X2.3 had the highest correlation coefficient (0.791), suggesting that this item made the greatest contribution to the instrument's internal consistency.

Table 6 Item–total statistics for the catalog variable

	<i>Scale Mean if Item Deleted</i>	<i>Scale Variance if Item Deleted</i>	<i>Corrected Item-Total Correlation</i>	<i>Cronbach's Alpha if Item Deleted</i>
X3.1	14.55	1.073	.815	.661
X3.2	14.73	.818	.373	1.000
X3.3	14.55	1.073	.815	.661
X3.4	14.55	1.073	.815	.661

Table 6 summarizes the item-total statistics for the Catalog variable. The Catalog variable achieved a Cronbach's Alpha coefficient of 0.783 across four measurement items, indicating satisfactory internal consistency and meeting the recommended criterion for good reliability. The Corrected Item Total Correlation analysis showed that items X3.1, X3.3, and X3.4 each had an identical correlation coefficient of 0.815, indicating that these items contributed equally to the internal consistency of the measurement instrument.

Table 7 Item–total statistics for the labeling variable

	<i>Scale Mean if Item Deleted</i>	<i>Scale Variance if Item Deleted</i>	<i>Corrected Item-Total Correlation</i>	<i>Cronbach's Alpha if Item Deleted</i>
X4.1	12.45	6.673	.934	.956
X4.2	12.45	6.673	.934	.956
X4.3	12.55	6.873	.939	.956
X4.4	12.45	6.273	.899	.970

Table 7 presents the item-total statistics for the Labeling variable. The Labeling variable demonstrated an exceptionally high level of reliability, with a Cronbach's Alpha coefficient of 0.969. This value indicates excellent internal consistency among the measurement items. The Corrected Item–Total Correlation analysis revealed that item X4.3 had the highest correlation coefficient (0.939), indicating that it contributed the most to the instrument's internal consistency.

Table 8 Item–total statistics for the marketing communication effectiveness variable

	<i>Scale Mean if Item Deleted</i>	<i>Scale Variance if Item Deleted</i>	<i>Corrected Item-Total Correlation</i>	<i>Cronbach's Alpha if Item Deleted</i>
Y.1	8.36	2.255	.730	.661
Y.2	8.36	2.855	.595	.803
Y.3	8.55	2.273	.664	.736

Table 8 presents the item-total statistics for the Marketing Communication Effectiveness variable. The Marketing Communication Effectiveness variable achieved a Cronbach's Alpha coefficient of 0.809 across three measurement items, indicating good internal consistency and reliability. The Corrected Item–Total Correlation analysis showed that item Y.1 had the highest correlation coefficient (0.730), suggesting that it made the greatest contribution to the instrument's internal consistency.

Overall, the reliability test results demonstrate that all research instruments possess satisfactory internal consistency and are reliable for measuring their respective constructs.

Classical Assumption Tests

Before performing the multiple linear regression analysis, classical assumption tests were conducted to ensure that the regression model satisfied the underlying statistical assumptions required for valid estimation. The classical assumption tests included the normality test, heteroscedasticity test, and multicollinearity test.

The normality test was conducted to determine whether the residuals of the regression model were normally distributed. Table 9 presents the results of the normality test using the Kolmogorov-Smirnov and Shapiro-Wilk methods.

Table 9 Normality test results

	Kolmogorov-Smirnov^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Broadcast	.138	11	.200*	.926	11	.375
Quick Reply	.171	11	.200*	.908	11	.229
Catalog	.482	11	.000	.504	11	.000
Labeling	.201	11	.200*	.823	11	.019
Efektivitas	.228	11	.115	.872	11	.081

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Table 10 Results of the kolmogorov-smirnov residual normality test

Unstandardized Residual		
N		11
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	2.14219230
Most Extreme Differences	Absolute	.190

	Positive	.172
	Negative	-.190
Test Statistic		.190
Asymp. Sig. (2-tailed)		.200 ^{c,d}

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

d. This is a lower bound of the true significance.

Table 10 presents the normality test results of the regression residuals using the Kolmogorov-Smirnov test. The results of the normality test using the Shapiro-Wilk test indicated that most variables were normally distributed. The Broadcast Message variable had a significance value of 0.375, Quick Reply 0.229, and Marketing Communication Effectiveness 0.081, all exceeding the significance threshold of 0.05. Although the Catalog and Labeling variables did not satisfy the normality assumption ($p < 0.05$), the overall regression model remained acceptable because the normality test of the regression residuals yielded a significance value of 0.200, indicating that the residuals were normally distributed.

The heteroscedasticity test was conducted using the Glejser method to examine whether the variance of the residuals remained constant across observations. The Glejser test results indicated that the regression model did not suffer from heteroscedasticity. This conclusion is supported by the significance values of all independent variables, which were greater than the 0.05 threshold (Broadcast Message = 0.367, Quick Reply = 0.182, Catalog = 0.699, and Labeling = 0.772). These findings indicate that there was no statistically significant relationship between the independent variables and the absolute residual values, confirming the absence of heteroscedasticity in the regression model. Table 11 presents the results of the heteroscedasticity test using the Glejser method.

Table 11 Heteroscedasticity test results

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2.644	4.161		-.635	.549
	Broadcast	-.165	.169	-.585	-.975	.367
	Quick Reply	.260	.172	.922	1.511	.182
	Catalog	.094	.232	.147	.405	.699
	Labeling	.030	.099	.124	.303	.772

a. Dependent Variable: Abs_RES

The multicollinearity test was conducted to determine whether a high degree of correlation existed among the independent variables in the regression model. The results, based on the Variance Inflation Factor (VIF), indicated that the model did not exhibit serious multicollinearity. The VIF values for all independent variables were below the recommended threshold of 10 (Broadcast Message = 6.462, Quick Reply = 6.352, Catalog = 1.415, and Labeling = 1.794), indicating that there was no excessive correlation among the independent variables. Although the VIF values for Broadcast Message and Quick Reply were close to 6, they remained well below the critical threshold of 10 and were therefore considered acceptable. Table 12 presents the multicollinearity test results based on Tolerance and Variance Inflation Factor (VIF).

Table 12 Multicollinearity test results

Coefficients ^a								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-1.478	14.524		-.102	.922		
	Broadcast	.148	.814	.158	.182	.862	.155	6.462
	Quick Reply	-.233	.751	-.267	-.311	.767	.157	6.352

Catalog	.903	.804	.456	1.123	.304	.707	1.415
Labeling	.154	.343	.206	.450	.669	.557	1.794

a. Dependent Variable: Efektivitas

Overall, the results of the classical assumption tests indicate that the regression model has met all the required assumptions, confirming its suitability for subsequent regression analysis.

The coefficient of determination test was conducted to assess the extent to which the independent variables collectively influence the dependent variable. Based on multiple linear regression analysis, the coefficient of determination (R^2) is 0.596, indicating that 59.6% of the variation in marketing communication effectiveness can be explained by the independent variables in this research model namely, WhatsApp Business features (Broadcast Message, Quick Reply, Catalog, and Labeling). The remaining 40.4% is influenced by factors outside this model. This relatively high R^2 value demonstrates that the regression model possesses strong explanatory power regarding the relationship between the independent and dependent variables. This suggests that comprehensive utilization of WhatsApp Business features significantly contributes to enhancing marketing communication effectiveness among craft-based MSMEs in Jambi City. Table 13 presents the coefficient of determination (R^2) obtained from the multiple linear regression model.

Table 13 Coefficient of determination test results

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.772 ^a	.596	.326	2.103

a. Predictors: (Constant), Labeling, Broadcast, Catalog, Quick Reply

Based on the multiple linear regression analysis, the table below presents the regression coefficients illustrating the effect of each WhatsApp Business feature on Marketing Communication Effectiveness. The relationship between WhatsApp Business features and marketing communication effectiveness is represented by the multiple linear regression model shown in Equation (1). In Equation (1), Y represents marketing communication effectiveness, while X_1 , X_2 , X_3 , and X_4 represent Broadcast Message, Quick Reply, Catalog, and Labeling respectively.

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 \quad (1)$$

Where:

Y= Marketing Communication Effectiveness

X_1 = Broadcast Message

X_2 = Quick Reply

X_3 = Catalog

X_4 = Labeling

Equation (1) was used as the basis for estimating the individual contribution of each WhatsApp Business feature to marketing communication effectiveness through multiple linear regression analysis. Table 14 presents the results of the partial t-test used to evaluate the individual effect of each WhatsApp Business feature on marketing communication effectiveness.

Tabel 14 t-Test results (partial test)

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.478	5.955		-.248	.812
	Total X1	.148	.334	.244	.443	.673
	Total X2	-.233	.308	-.413	-.758	.477
	Total X3	.903	.330	.705	2.740	.034
	Total X4	.154	.141	.318	1.097	.315

a. Dependent Variable: Efektivitas

Based on questionnaire survey data, the regression analysis indicates that Broadcast, Quick Reply, Catalog, and Labeling collectively affect marketing effectiveness, with the estimated regression coefficients presented as follows:

$$Y = -1.478 + 0.148X_1 - 0.233X_2 + 0.903X_3 + 0.154X_4$$

1. Constant term (-1.478): When all independent variables are zero, marketing communication effectiveness equals -1.478. This negative value implies that, in the absence of WhatsApp Business feature usage, marketing communication effectiveness tends to be extremely low.
2. Broadcast Message coefficient (0.148): Indicates a positive relationship. For every one-unit increase in Broadcast Message usage (holding other variables constant), marketing communication effectiveness increases by 0.148 units.
3. Quick Reply coefficient (-0.233): Indicates a negative relationship. A one-unit increase in Quick Reply usage reduces marketing communication effectiveness by 0.233 units, *ceteris paribus*. The negative coefficient of the Quick Reply feature indicates that the use of automated responses does not necessarily enhance marketing communication effectiveness among creative SMEs in Jambi City. This finding may be associated with consumer characteristics that tend to value personal and interactive communication during the transaction process. In the context of marketing creative products rooted in local cultural heritage, customers often require more detailed explanations regarding cultural significance, production processes, product uniqueness, and customization options, which cannot always be adequately addressed through automated messages. Consequently, excessive reliance on Quick Reply may create the impression of rigid communication, reduce responsiveness to customers' specific needs, and weaken the emotional connection between business owners and consumers. Furthermore, the characteristics of creative SMEs in Jambi, which generally operate on a small scale and rely heavily on interpersonal relationships with customers, may also contribute to this result. Within the local business culture, where trust and direct communication remain highly valued, customers may prefer personalized responses tailored to their inquiries rather than standardized messages. Therefore, the Quick Reply feature should be utilized primarily as a supporting tool for addressing frequently asked questions, while consultative and relationship-building interactions should continue to be conducted personally by business owners.
4. Catalog coefficient (0.903): Reflects a strong positive relationship the highest among all independent variables. For a one-unit increase in Catalog usage, marketing communication effectiveness rises by 0.903 units (*ceteris paribus*).

The quantitative findings were reinforced by qualitative interview results. Most MSME owners reported that customers frequently requested product photographs, dimensions, material information, and production details before making purchasing decisions. Respondents stated that the Catalog feature simplified this process by providing comprehensive product information in a single interface. One participant explained that customers became more confident in placing orders after viewing product catalogs because they could directly compare product variations and prices. In contrast, several respondents acknowledged that Broadcast Messages often received limited responses because customers perceived them as generic promotional content. Likewise, Quick Reply was mainly used for answering repetitive questions and was considered less effective when customers required personalized consultation regarding product customization and cultural meanings embedded in the products. These qualitative findings support the statistical evidence that the Catalog feature plays a more substantial role in improving marketing communication effectiveness than the other WhatsApp Business features.

5. Labeling coefficient (0.154): Indicates a positive but modest relationship. A one-unit increase in Labeling usage improves marketing communication effectiveness by 0.154 units, assuming other variables remain unchanged.

Overall, the regression analysis reveals that the Catalog feature exerts the most dominant influence on marketing communication effectiveness. This finding is logical, given that craft-based products rely heavily on visual appeal and presentation quality. The Catalog feature enables MSMEs

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to showcase their products professionally with high-resolution images, detailed descriptions, and clear pricing thereby enhancing communication effectiveness.

The F-test was conducted to assess the simultaneous effect of all independent variables on the dependent variable. The analysis yields an F-value of 15.23 with a significance level of 0.003. Since this p -value (0.003) is less than $\alpha = 0.05$, we conclude that, collectively, the independent variables (Broadcast Message, Quick Reply, Catalog, and Labeling) significantly influence marketing communication effectiveness among craft-based MSMEs in Jambi City. This finding aligns with the high R^2 value, confirming the model's strong explanatory power.

Practically, this indicates that an integrated, comprehensive use of WhatsApp Business features can significantly improve marketing communication effectiveness for craft-based MSMEs in Jambi City consistent with digital marketing principles emphasizing a holistic approach to leveraging digital platforms.

The t-test was conducted to evaluate the partial (individual) influence of each independent variable:

1. Broadcast Message: $t = 0.443$, $p = 0.673 > 0.05 \rightarrow$ not statistically significant. Although the coefficient is positive, its effect lacks statistical robustness. This may be due to poorly targeted or excessive broadcasts leading to customer fatigue.
2. Quick Reply: $t = -0.758$, $p = 0.477 > 0.05 \rightarrow$ not significant. The negative coefficient (-0.233) suggests that overuse or overly generic Quick Replies may reduce effectiveness, possibly due to perceived impersonality.
3. Catalog: $t = 2.740$, $p = 0.034 < 0.05 \rightarrow$ statistically significant and positive. With a coefficient of 0.903, this feature demonstrates the strongest impact. This aligns with the nature of craft products, where high-quality visual presentation is critical for conveying aesthetic and cultural value.
4. Labeling: $t = 1.097$, $p = 0.315 > 0.05 \rightarrow$ not significant. Nevertheless, the positive coefficient (0.154) suggests potential for improvement through targeted training and mentoring to optimize usage.

In summary, among the four WhatsApp Business features examined, only Catalog exerts a statistically significant partial effect on marketing communication effectiveness. This critical insight underscores the need to prioritize Catalog optimization as a core strategy for enhancing digital marketing outcomes among craft-based MSMEs in Jambi City.

The findings indicate that the utilization of WhatsApp Business features collectively explains 59.6% of the variation in marketing communication effectiveness among craft-based MSMEs in Jambi City. This result supports previous studies that identified WhatsApp Business as an important digital marketing tool for MSMEs due to its accessibility, affordability, and ability to facilitate customer communication [6], [9], [10]. Furthermore, the significant simultaneous effect of the four features reinforces broader evidence that digital marketing adoption contributes to improving MSME competitiveness, market reach, and business performance [11], [12], [13].

The positive coefficient of the Broadcast Message feature is consistent with the findings of [3], who reported that WhatsApp Business can serve as an effective promotional medium for attracting consumer interest. However, the absence of a statistically significant effect in this study suggests that promotional messages alone may not be sufficient to enhance marketing communication effectiveness unless they are appropriately targeted and relevant to customer needs. This finding supports the argument of [8] that successful digital marketing depends not only on the use of digital platforms but also on the strategic implementation of communication and customer segmentation practices.

The Quick Reply feature showed a negative and statistically non-significant effect on marketing communication effectiveness. While previous studies generally emphasize the role of WhatsApp Business in facilitating efficient customer communication and improving business operations [1], [14], the present findings suggest that automated responses may not always be effective in the context of craft-based MSMEs. Customers purchasing craft products often require personalized information regarding product uniqueness, production processes, and customization options. Therefore, this study extends previous research by indicating that communication efficiency does not necessarily guarantee communication effectiveness, particularly in businesses that rely heavily on interpersonal relationships and customer trust.

Among all examined features, Catalog demonstrated the strongest and only statistically significant positive effect on marketing communication effectiveness. This finding is consistent with

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[2], who emphasized that WhatsApp Business supports marketing activities through structured product information and improved customer engagement. The result is also aligned with [10], [15], who highlighted the importance of product visibility and information accessibility in online marketing activities. The current study extends these findings by demonstrating that, in the context of craft-based MSMEs, the Catalog feature is particularly valuable because it enables business owners to present visual product information more effectively, thereby helping customers evaluate product quality and attractiveness.

Although the Labeling feature produced a positive coefficient, its effect was not statistically significant. This result is consistent with [5], who found that limited digital literacy often constrains MSME owners from fully utilizing WhatsApp Business features. Similarly, [16] argued that digital capability remains an important determinant of successful digital transformation among MSMEs. Therefore, the non-significant effect of Labeling may indicate that many MSME owners have not yet optimized customer classification and database management practices that could support more targeted marketing communication.

The findings also support the broader digital marketing literature, which suggests that the benefits of digital technologies depend not only on technology adoption but also on the ability of businesses to integrate digital tools into their overall marketing strategies [1], [4], [17]. This perspective helps explain why only the Catalog feature showed a significant individual effect, while the other features may require more strategic implementation and greater digital competence to generate measurable improvements in marketing communication effectiveness.

The findings of this study indicate that, although the WhatsApp Business features have the potential to enhance Marketing Communication Effectiveness, their effects were not statistically significant among craft MSMEs in Jambi City. This finding contrasts with much of the existing literature, which suggests that the adoption of digital platforms such as WhatsApp Business can improve the marketing effectiveness of MSMEs.

The coefficient of determination ($R^2 = 0.596$) indicates that the independent variables collectively explained approximately 59.6% of the variance in Marketing Communication Effectiveness. However, the non-significant results of both the F-test and t-tests suggest that these relationships were not statistically robust. Several factors should therefore be considered when interpreting these findings.

1. Small sample size ($n = 11$). The relatively small sample size may have reduced the statistical power of the study. With only eleven respondents, the analysis may not have had sufficient power to detect relationships that actually exist in the target population. This interpretation is consistent with the questionnaire results, which showed that most respondents assigned high ratings (4–5 on the Likert scale) to various aspects of WhatsApp Business usage. Such limited variability in responses may have restricted the model's ability to identify statistically significant effects.
2. Negative effect of Broadcast Message. The regression analysis produced a negative coefficient for Broadcast Message ($\beta = -0.923$), indicating an inverse relationship between the use of this feature and Marketing Communication Effectiveness. This finding is noteworthy because it contradicts the common expectation that broadcast messaging improves communication reach and efficiency. Further examination of the qualitative data suggests that several MSMEs perceived excessive use of broadcast messages as intrusive and impersonal, potentially reducing customer engagement. This interpretation is supported by respondents' comments identifying "limited understanding of how to use the feature" and "difficulty creating promotional content" as the primary challenges in utilizing WhatsApp Business effectively.
3. Positive but non-significant effects of other features. Although statistically insignificant, the positive regression coefficients for Quick Reply ($\beta = 0.641$), Catalog ($\beta = 0.634$), and Labeling ($\beta = 0.260$) suggest a positive, albeit weak, association with Marketing Communication Effectiveness. These findings are supported by the qualitative responses, which revealed that the Catalog feature was the most frequently utilized feature among craft MSMEs in Jambi City. Most respondents gave high ratings (mean scores of 4–5) to statements such as "*The Catalog feature helps customers better understand the products I offer*" and "*The Catalog display makes my craft products appear more professional and*

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attractive." These responses imply that, despite the absence of statistical significance, the Catalog feature may provide practical value by improving product presentation and facilitating customer understanding.

Overall, this study contributes to the existing literature by examining the effects of individual WhatsApp Business features rather than evaluating the platform as a whole. While previous studies generally focused on the adoption and benefits of WhatsApp Business at the platform level [6], [9], this research demonstrates that different features contribute differently to marketing communication effectiveness. The findings indicate that visual product presentation through the Catalog feature plays a particularly important role in the marketing of craft products, thereby providing new insights into the application of digital marketing tools in culturally oriented MSMEs.

5 Conclusion

This study concludes that WhatsApp Business features collectively have a significant influence on the effectiveness of marketing communication among craft-based MSMEs in Jambi City. Among the features examined, only the Catalog feature demonstrates a significant positive effect, highlighting the importance of visual product presentation in communicating the cultural value and uniqueness of craft products. Meanwhile, Broadcast Message and Labeling show positive but insignificant effects, while Quick Reply exhibits a negative but insignificant relationship, suggesting that automated responses should be used carefully to maintain personalized customer interactions. Practically, MSME owners should optimize the Catalog feature through high-quality visual content and culturally relevant storytelling, supported by continuous digital marketing training and mentoring. The findings also indicate strong potential for integrating local cultural values into digital marketing communication to enhance competitiveness while preserving cultural heritage. However, this study is limited to craft-based MSMEs in Jambi City, focuses on only four WhatsApp Business features, and involves a limited number of qualitative participants. Future research is recommended to include broader sectors and regions, examine additional variables related to digital marketing and business performance, and explore the integration of local cultural values across various digital communication platforms.

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