



# The Development of “Batik Sendang” and Integrated Marketing Communication Strategy using a Mathematical Model Approach

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## ABSTRACT

The aim of this research are to ascertain, investigate, and evaluate the degree to which the creation of innovative economic products for Sendang Paciran batik clothing and the use of an integrated marketing communication strategy have an impact on the tourism appeal of Sendang Agung and Sendang Duwur Villages Paciran District. The explanatory survey method is employed in this research. The results of the research show that even though the villages of Sendang Agung and Sendang Duwur Paciran have built an integrated marketing communication plan for creative economic products, more work has to be done on it. This is evident from the responses of the vast majority of respondents who concurred with the posed questions. However, of the four forming parts of integrated marketing communications, public relations, publicity, and advertising are the forming factors with the strongest role and are the ones that have been executed the best.

## INTRODUCTION

Indonesia has enormous wealth potential, both human resources, cultural diversity, and natural resources. So that in optimizing the various potentials that it has, Indonesia needs to innovate and be creative in order to be able to optimize the various potential wealth it has. One effort that can be done is through the creative economy. The creative economy has 17 sub-sectors including culinary, fashion, craft, architecture, product design, interior design, music, fine arts, advertising, publishing, animated film and video, photography, visual communication design, applications, game developers, TV and radio, and performing arts (“Subsektor Ekonomi Kreatif,” n.d.). Of the 17 sub-sectors, fashion is one of the sub-sectors that makes the biggest contribution to improving the national economy (“Kuliner, Kriya dan Fashion, Penyumbang

Terbesar Ekonomi Kreatif," 2017), and can reach all groups, as well as being the leading sub-sector in the creative economy in Indonesia.

Lamongan is a district in East Java that has a lot of beauty based on local wisdom. Tourism in Lamongan also varies, there are nature tourism, historical tourism, and religious tourism. Supporting tourism, Lamongan has special culinary and local wisdom-based crafts. Lamongan's typical culinary is "Sego Boran", while a craft product based on local wisdom is "Batik Sendang". Of the various areas in Lamongan, Paciran is one that holds a variety of attractions. Paciran can be said to be a tourism center in Lamongan Regency, because in this area there are many tourism objects and places where local wisdom-based crafts such as batik are made.

Long a part of Indonesian culture, particularly that of Javanese people, batik is a craft with a great artistic value. "Batik Sendang" is a cultural heritage developed by the people of Sendang Agung and Sendang Duwur villages, Paciran District, Lamongan Regency. Sendang Duwur Village is located in Paciran District or not far from the location of Sunan Drajat's tomb. This village deserves to be a recommended tourist spot because of its location which has a height as its location of 72 masl, so it will provide tourists with a direct "view" of the Java Sea from the top of the hill ("Lamongan Tawarkan Wisata Alternatif Desa Sendang Duwur," 2014). In addition, the location of the village has a distinctive character when compared to other villages in Lamongan Regency, which are still attached to local wisdom and have original cultural traditions.

Batik Sendang itself has two types of motifs, namely classic and contemporary (Oktaverina, Hadijah, & Rahayu, 2020). Classical motifs have a deeper meaning and contain local cultural wisdom in the village of Sendang, while contemporary motifs have supernatural and symbolic meanings. Giving color to Batik Sendang is not just for beauty, but has its own meaning and there is a message to remember something. The value of Batik Sendang's local wisdom which is so profound and the potential of the area that it has has not been supported by good human resources and marketing strategies, so it is still not widely known. Even though the potential for the advancement of tourism and the creative economy in this area is enormous and can provide many benefits included boosting foreign exchange revenues, generating employment, and promoting the expansion of the tourist sector.

Tourist attraction can be used as an attraction for someone or potential tourists to visit a tourist destination. Undeveloped attractions are prospective resources that cannot be referred to as tourist attractions unless a specific form of development has taken place. Tourism's foundation is made up of tourist attractions and items. Tourism is difficult to flourish in an area or location without an attraction (I Gusti Bagus Arjana, 2016).

These problems can be overcome with a mathematical model approach in the development of Batik Sendang's creative economy products and IMC strategies based on local wisdom. Good marketing of creative economy and tourism products must be able to increase the attractiveness of the tourism offered. According to Gunawan (Gunawan, Adisaputra, & Asri, 2003) stated that IMC is a marketing strategy that can increase tourism attractiveness. The process of planning and implementing continuing persuasive communication programs for clients and potential clients is known as IMC, so that they can directly affect or have an impact on the behavior of all owned targets. The existence of IMC which is professionally and proportionally managed is expected to foster a positive image of the tourist area, so that it can improve the economy and welfare of the surrounding community.

The mathematical model approach was chosen because of its accuracy in describing the relationship between parts of an object. Mathematical models can express relationships better than other models. Where in this research the mathematical model approach is embodied in defining the relationship or impact on the research's factors, where the factors' relationships are functional.

## LITERATURE REVIEW

Marketing is to build satisfactory long-term relationships with customers, suppliers and distributors so that they can maintain long-term preferences and business. The marketing network consists of interested parties and supports togetherness with the company so that it can build a mutually beneficial business (Rusmini, 2013). The marketing concept is a company philosophy which states that the desires of buyers are the main requirement for the company's survival. Companies that adhere to this marketing concept do not only sell goods or services, but more than that. Where companies must pay attention to consumers and fulfill their needs in a profitable way so as to satisfy consumers (Kotler & Philip, 2004).

To produce the desired response in the target market by choosing the right combination with the elements contained in the marketing mix known as the 4Ps, namely Product, Price, Place and Promotion. Companies can choose from many variables for one combination, according to their environment (Kotler & Philip, 2004):

1. Products

Attributes of a product such as quality, characteristics and design. Product quality shows the product's ability to carry out its function. Product characteristics are a means of competitiveness for competing companies, while competitors can develop uses and benefits of products that are easy, safe, cheap, simple and economical in production and distribution.

2. Price

Price is a marketing variable that company management needs to pay attention to, because price will directly influence the size of sales volume and profits achieved by the company, because price will directly influence the size of sales volume and profits achieved by the company. The price set must cover all costs or even more so that the company's profits suffer losses.

3. Distribution

Every company needs to implement a distribution function. This is a very important factor in efforts to smooth the flow of goods and services because errors in selecting distribution channels can facilitate the distribution of goods. The process of transferring goods or services from the seller to the buyer (final consumer) is called marketing distribution, while the bodies or organizations or individuals involved in it as well as the means used for this transfer process are called distribution channels.

4. Promotion

Promotion is (marketing communication) which includes all activities carried out by a company to communicate and promote its products to the target market.

Tourism marketing is a system and coordination implemented as a policy for companies operating in the tourism sector, both private and government owned in local, regional, national and international scope to be able to achieve tourist satisfaction by obtaining high profits. reasonable (Yoety, 2000:30). From the description above, it can be concluded that tourism marketing is a whole activity directed at providing information to consumers with the aim of satisfying the desires of tourists as consumers.

## METHODS

The explanatory survey method was employed in this research. In order to find descriptions and correlations between variables, this method conducts research on both large and small populations using data collected from samples that are representative of the population. The variables utilized in this research have a causal link, meaning that the independent variable influences the dependent variable (Sugiyono, 2006). Explanatory study refers to the testing of a hypothesis against observed occurrences. This research's cross-

sectional temporal coverage methodology reflects a description of an event or occurrence that takes place at a specific period (Sekaran & Bougie, 2016).

This research is descriptive and verificative in nature, this refers to the purpose of this study, namely to find out and examine more deeply the research variables studied. An overview or description of the variables under research is the goal of descriptive research. While verification research uses hypothesis testing based on field data to determine the relationship between variables. Data collection in this study was carried out using documentation and questionnaires. Sources of data needed are primary data and secondary data. Primary data is a type of research information that has been gleaned in the form of opinions straight from primary sources without the use of intermediary media or opinions of subjects (people) individually or in groups, which are collected to answer the formulation of problems in research. Meanwhile, secondary data is data obtained from subjects that are not directly related to research problems, but are helpful in providing information for research materials (Aini, 2013). The next phase is data analysis when the necessary data has been gathered. Where in the implementation of data analysis, carried out with a mathematical model approach.

## RESULTS

### 1. Autocorrelation Test

The Durbin-Watson Test (DW Test) was employed in this work as the autocorrelation test. The regression model must include an intercept (a constant) and have no variables between the independent variables in order to utilize the Durbin Watson test, which is only applicable to first-order autocorrelation. Furthermore, the Durbin-Watson autocorrelation test (DW Test) was carried out. The findings of data processing using the SPSS ver 15 for Windows program are shown in Table 1 below.:

**Table 1. Autocorrelation Test Results**

Sample	Durbin Watson Values
13	1.962

Source : Processed Primary Data, 2023

There is neither negative or positive autocorrelation because the DW value of 1,962 is larger than the upper limit (du) of 1.66 and less than 2.34 (4-du). As a result, it is clear there isn't any autocorrelation.

### 2. Test of Multicollinearity

When one or more independent variables may be described as a linear combination of other independent variables, this is known as multicollinearity. The method used to detect the presence or absence of multicollinearity is to perform a regression between the explanatory variables. The presence of multicollinearity is shown if it is significant. To test multicollinearity with the utility provided by SPSS, it is done by examining each variable's VIF value. It can be concluded that there is no significant eMulticollinearity between the independent variables in the model if the VIF value is less than 10. Each variable in the regression model does not exhibit signs of multicollinearity because its VIF value is less than 10, which can be seen by looking at the VIF value in the model. This demonstrates that the multicollinearity test is passed by the regression model.

**Table 2. Multicollinearity Test Results**

Model		Collinearity Statistics	
		Tolerance	VIF
1	Constant I.M.C	0.905	1.000

Source : Processed Primary Data, 2023

There is no correlation between the independent variables, as can be seen from the table above, where the results of computing the tolerance value demonstrate that no independent variables have a tolerance value smaller than 0.10. The findings of the Variance Inflation Factor (VIF) computation confirm this finding, showing that no independent variable has a VIF value greater than 10. Therefore, it may be said that the regression model's independent variables do not exhibit multicollinearity.

### 3. Regression Analysis

By examining the coefficient of determination (R Square), the results of multiple linear regression analysis with the SPSS ver. 15 for Windows program are meant to examine the scope of the influence of risk management variables on the credit granting system. One independent variable, integrated marketing communication strategy, and one dependent variable, tourism appeal, are both present in this research. Based on this, the analytical method used is simple regression.

The outcomes of data processing from the regression analysis performed using the SPSS ver 15 for Windows program are shown in table 3 below:

**Table 3. Regression Analysis**

Model		Unstandardized Coefficients		Standardized Coefficient	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	26.572	2.363		7.921	.000
	I.M.C	.591	.038	.217	2.812	.000

Source : Processed Primary Data, 2023

Based on the table above, the regression equation obtained is as follows:

$$Y = 26,572 + 0,591X$$

Information:

Y = Tourism Attractiveness

X = Integrated Marketing Communication Strategy

The definition of the relationship or influence between variables used in this study is formulated in a mathematical model in the regression equation. The mathematical model equation above shows that the integrated marketing communication strategy influences tourism attractiveness. This is shown from the regression coefficient of the integrated marketing communication strategy which is positive 0,591.

The results of the analysis of the correlation coefficient between independent variables can be presented in the following table:

**Table 4. Correlation Coefficient Results**

Coefficient Between	Correlation Coefficient	Sign	Explanation
$X_1 \leftrightarrow X_2$	0,849	0,000	significant
$X_2 \leftrightarrow X_3$	0,721	0,000	significant
$X_3 \leftrightarrow X_4$	0,695	0,000	significant
$X_1 \leftrightarrow X_3$	0,647	0,000	significant
$X_1 \leftrightarrow X_4$	0,550	0,000	significant
$X_2 \leftrightarrow X_4$	0,613	0,000	significant

Source : Processed Primary Data, 2023

The total influence of the influence of advertising, sales promotion, public relations publicity and interactive marketing on the following tourism attractiveness:

- The advertising variable has a total influence on the tourism attractiveness variable of 13,9%.
- The sales promotion variable has a total influence on the tourism attractiveness variable of 16,3%.
- Publicity public relations variable has a total influence on the tourism attractiveness variable of 16,5%.
- The interactive marketing variable has a total influence on the tourism attractiveness variable of 5,7%.

As for the total influence (coefficient of determination) of the variables of advertising, sales promotion, public relations publicity and interactive marketing on tourism attractiveness, expressed by the magnitude of the coefficient of determination which is 52,4% while other factors not included in the research model affect the remaining 47,6%.

#### 4. Partial Hypothesis Test (T-Test)

Based on table 4.23 above, as can be seen, the p value for significance is a probability value is 0.000 or less than 0.05 or 5% and the regression coefficient is positive 0.591, which means the hypothesis that says integrated marketing communications strategy has a positive and significant effect on power tourism attraction in the Sendang Agung and Sendang Nduwur Villages, Paciran District, Lamongan Regency can be proven. This is supported by research conducted by (Sutiksno, 2010) which states that integrated marketing communications has a positive effect on a person's trust to visit an object. This means that advertising has a significant role in increasing tourism attractiveness. This condition illustrates that advertising has attracted the attention of tourists. This can be seen from the reactions of tourists who are very interested in the advertisements. Because the delivery of advertisements is very interesting and has promoted all types of tourism and the latest facilities available through print and electronic media, so that the frequency and reach of advertisements is very wide throughout Indonesia and can even reach foreign countries. This is also supported by Internet marketing (websites). In terms of internet marketing through websites, it is considered quite good, but not many tourists, especially domestic tourists who visit, know of a website. Therefore, the tourism manager

should be able to socialize the website more to the Indonesian people, namely through the design of a tourism sticker as well as the tourism logo on the tourism website address. In addition, on the banners and billboards that are installed on the main road, the website is also listed. The tourism manager should be able to promote their products more through their website. For example, natural fiber craftsmen can sell online. For tourists who buy online will get a discount of 10% to 20%. Indonesia's large population has the potential to become a potential tourist.

#### 5. Simultaneous Hypothesis Testing

The SPSS version 15 for Windows application produced the following findings for the concurrent significance test (F-test):

**Table 5. Simultaneous Test Results**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	486.286	3	126.762	3.921	.001a
	Residual	2282.021	90	24.336		
	Total	2765.308	94			

Source : Processed Primary Data, 2023

Based on the table above, as can be seen, the p value is 0.000, which indicates that the significance of the likelihood is less than 5% or 0.05 and the difference between the two values, 3.921 for the fcount and 1.752 for the ftable thus the integrated marketing communication component which consists of publicity, public relations, sales promotion, and advertising as well as interactive marketing have a favorable and significant impact on the tourism appeal concurrently of Sendang Village, Paciran The goal of marketing communication is to inform the general public, particularly target consumers, about the existence of products on the market. Meanwhile, according to (Pickton & Broderick, 2001) states, Marketing communications are all promotional elements of the marketing mix which involve communication between the organization and its target audience on all issues related to marketing performance. This concept of marketing communications inspired the emergence of Integrated Integrated Marketing Communications (IMC) or Marketing Communications (MC). By recognizing the relevance of a comprehensive plan that assesses the strategic importance of several communication disciplines, such as internet marketing, personal selling, public relations, direct marketing, sales promotion, advertising, and combines this knowledge to produce a clear communication impact, consistent and optimal. Therefore, efforts to communicate products and services are now carried out with various approaches, the goal is to win a position in the hearts and minds of consumers.

#### 6. Goodness of Fit Model

To measure how far the independent variable's ability to explain the dependent variable is used a test of the coefficient of determination from the price of  $R^2$ . The calculation of the regression results of SPSS data processing is shown in the following table:

**Table 5. Coefficient of Determination**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.543 <sup>a</sup>	.381	.311	4.15387

Source : Processed Primary Data, 2023

According to the SPSS model summary's output display, the adjusted R<sup>2</sup> is 0.381, which indicates that integrated marketing communications strategy can explain or have an impact on 38.1% of the dependent variable for tourism attractiveness, while 61.9% of the data are explained by factors not included in this model, which include the availability of facilities and infrastructure, environmental cleanliness, road access and so on. Tourism Facilities are facilities and companies that provide services to tourists either directly or indirectly. The progress of tourism facilities depends on the number of tourist visits. Tourism facilities include the availability of travel companies, transportation companies, travel agencies and so on. Although all of the primary or fundamental facilities are necessary for tourism facilities to exist and grow in order to offer services to tourists. Included in this is the infrastructure for transportation and tourism, which consists of things like: airports, stations and railroads, bus terminals and bridges, roads, electrical installations, clean water installations, health infrastructure (like hospitals and community health centers), security infrastructure, entertainment venues, and educational institutions.

## CONCLUSION

Based on the results of the research, it shows that in general an integrated marketing communication strategy for creative economic products in Sendang Agung and Sendang Nduwur Villages, Paciran District, Lamongan Regency has been implemented. This is evident from the responses of the vast majority of respondents who concurred with the posed questions. Aspects of public relations, publicity, and advertising, however, are the four constituting parts of integrated marketing communications that play the strongest role and have been put into practice. Overall, the creative economy tourism industry players agree on the importance of integrated marketing communications and have carried out promotions to introduce Sendang batik to potential tourists and the general public through social media. The regression equation obtained is as follows:

$$Y = 26,572 + 0,591X$$

The definition of the relationship or influence between variables used in this study is formulated in a mathematical model in the equation.

In general, the tourism attraction of Paciran District, Lamongan Regency, especially Sendang Agung and Sendang Duwur Villages as a tourism destination from a tourist point of view is quite good because of its location which has a height as its location of 72 masl, so it will provide a direct "view" of the Java Sea from above. hills for tourists, and there is the tomb of Sunan Drajat as a religious tour. Supported by local wisdom which is still very thick and creative economic products in the form of Sendang batik. This can also be seen from the answers of respondents



who agreed with the questions posed in the questionnaire posed in the tourism attractiveness questionnaire. In this case it shows that tourists represent the positive tourism offered, which is inseparable from the participation of the local community, creative economy actors and local village officials who provide facilities and support the development of the Creative Economy in Sendang Agung and Sendang Duwur Villages. However, for the advancement of tourism and the creative economy in Sendang Village, it must continue to develop in various aspects so that it can be more attractive to tourists and consumers. So that the tourism sector and the creative economy of Batik Sendang can survive and provide innovations in batik motifs in order to preserve local wisdom and keep up with the times.

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