



## ***ELECTRONIC COMMERCE BASED MARKETING STRATEGY FOR UMKM IN TANGGAMUS WITH ENTERPRISE ARCHITECTURE PLANNING APPROACH AND SWOT ANALYSIS***

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### **Abstract**

This study aims to design an Electronic Commerce based marketing strategy for Micro, Small, and Medium Enterprises (MSMEs) in Tanggamus Regency using the Enterprise Architecture Planning (EAP) approach and SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis. The EAP approach is used to develop an integrated and systematic business architecture to support the implementation of e-commerce. Meanwhile, SWOT analysis is applied to identify internal and external factors that influence the success of the marketing strategy. The results of the study indicate that the main strength of MSMEs in Tanggamus is the diversity of local products that have the potential to be marketed digitally. The weaknesses found include limited technological knowledge and lack of supporting infrastructure. Great opportunities are seen in the increasing internet penetration and government support for the digitalization of MSMEs, while the main threats come from global market competition and data security issues. Based on the EAP approach, this study produces an architectural plan that includes business process integration, information system development, and training strategies for MSME actors. By utilizing strengths and opportunities, and overcoming weaknesses and threats, the implementation of this e-commerce-based marketing strategy is expected to be able to increase the competitiveness of MSMEs in Tanggamus sustainably.



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## **I. INTRODUCTION**

As time goes by at this time, information technology will continue to develop because the development of information technology is an important part that is very much needed. And without us realizing it, we have entered the modern digital era that makes information communication technology provide benefits that were never expected before. Based on the Director Informatics empowerment, Directorate

General of Informatics Applications of the Ministry of Communication and Information, Septriana Tangkary stated that the growth of the value of electronic commerce (e-commerce) in Indonesia reached 78%, the highest in the world. This condition shows that electronic commerce businesses have good economic value, so that micro, small business actors must medium (SMEs).

Technology can help business people to develop their business to be competitive and superior. Moreover, many people have switched to using cashless methods when shopping, because the shift from manual to digital buying and selling inevitably makes MSME business people adapt. One of the problems faced by MSMEs in Tanggamus is the low sales of their products. MSMEs often have difficulty in marketing and selling their products effectively. Factors that contribute to this problem include a lack of understanding of effective marketing strategies, limited access to a wider market, and inadequate promotion.

This study has also been conducted [1] the application of the e-Business concept to several MSMEs, then a general model of enterprise architecture is proposed that can be used by MSMEs (goods production, service providers and sales of goods) by applying the e-Business concept, using the TOGAF ADM framework, applying value chain analysis, using Enterprise Resource Planning (ERP) and Customer Relationship Management (CRM) applications and utilizing cloud computing technology. With the hope that the design of the model can be used as a reference for all types of MSMEs who want to implement an e-Business-based information system. [2] Alignment between MSME business and technology requires enterprise architecture. In designing the enterprise architecture in this study, the TOGAF ADM method was used. The results of the enterprise architecture design in this study were in the form of an enterprise architecture blueprint for MSMEs Producing Regional Food (company specific) in supporting digital transformation. [3] The results of the Yogya Group's enterprise architecture research design on the sales and marketing function produced an IT roadmap output which is a project priority blueprint containing a predetermined time span. This IT roadmap can be used as a reference in implementing IT which consists of the use of sales and marketing applications, recruitment of the IT division, implementation and use of applications related to sales management and marketing management.

The use of e-commerce systems is a promising solution to overcome these challenges and open up new opportunities for MSMEs in Tanggamus. By detailing the internal strengths of MSMEs, identifying weaknesses that need to be addressed, exploring opportunities that can be utilized, and anticipating potential threats, the SWOT analysis is expected to provide a deep understanding of the conditions that influence the implementation of e-commerce systems. The background of this SWOT analysis aims to provide rational justification and deep understanding of the urgent needs of MSMEs in Tanggamus to adopt e-commerce systems. By detailing these factors, it is expected to produce concrete and strategic

recommendations to support MSMEs in increasing sales, expanding market reach, and strengthening their contribution to local economic growth.

## II. LITERATURE REVIEW

### 2.1. E-commerce

[4] *Electronic commerce* (electronic commerce) or abbreviated as *E-commerce* is a business or trade model that is carried out online by utilizing the internet. [5] *E-commerce* can generally be interpreted as electronic buying and selling transactions via the internet. In addition, *E-commerce* can also be interpreted as a business process using electronic technology that connects companies, consumers and the public in the form of electronic transactions and the exchange or sale of goods, services, and information electronically.

### 2.2. Marketing Strategy Management

[6] Strategy is defined as the main action pattern chosen to realize the organization's vision through the mission. Strategy forms a decision-making pattern in realizing the organization's vision. Companies can mobilize and direct all organizational resources effectively with patterned actions to realize the organization's vision. [7], [8] Marketing management is the process of planning, implementing, and supervising marketing activities for a product or service to suit the company's goals. This includes determining marketing strategies, market analysis, pricing, product distribution, and promotion. Marketing management aims to understand customer needs, create added value, and achieve sales goals effectively. This involves coordination between various departments in marketing products or services. [9], [10] The functions of marketing management are (1) Strategy Determination determines marketing direction by detailing target markets, product differentiation, and market position, (2) Market Analysis collects and analyzes market information to understand customer needs, trends, and competition, (3) Pricing determines prices that are in accordance with product value and market demand, (4) Product Distribution plans and manages distribution channels so that products can reach consumers efficiently. (5) Promotion develops promotional strategies to increase awareness and sales, involving advertising, direct selling, and digital marketing, (6) Product and Brand Management builds and maintains brand image, and manages the product life cycle, (7) Customer Service provides customer support and ensures customer satisfaction to maintain and increase loyalty.

## III. RESEARCH METHODS

[11] Enterprise Architecture Planning (EAP) is the process of defining the architecture of information

usage in support of the business and the plan for implementing it. [3], [12] EAP is a methodology developed to build enterprise architecture and part of achieving the mission of information systems in the long term. [2], [13] EAP adopts the first two rows and three columns of *the Zachman Framework* and produces a blueprint of data, applications and technology at a high level. [14]–[17] EAP is a methodology based on business motivation and motivation, a stable business model (free from organizational boundaries, systems and procedures) is the foundation for enterprise architecture. [18] Data is defined first before defining applications. Dependencies and finding a series in implementing application systems.

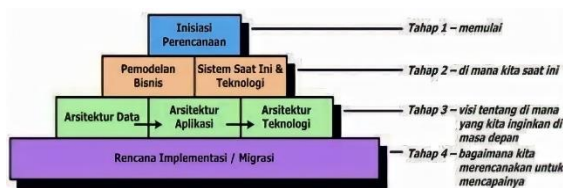


Figure 1. Stages in the EAP methodology

#### IV. DISCUSSION

##### 4.1. Data Needs Analysis

The scope and target of the Enterprise Architecture Planning (EAP) work in this study are the business processes of Micro, Small and Medium Enterprises (MSMEs) in Tanggamus Regency. Based on the interview results, the business processes of MSMEs in Tanggamus Regency as a whole are almost the same. The only difference is that 5 out of 10 MSMEs must carry out the production process first to produce a product that is ready to sell and while the others can immediately sell their merchandise without having to go through the production process. Overall, the main activities of MSMEs are purchasing goods or materials, production of goods and after-sales services. The supporting activities consist of company infrastructure in the form of sales targets, standard operating procedures and so on, human resource management, technology development and procurement.

Data needs analysis conducted on the network design built is an analysis of the data needed as input material to be used in the algorithm analysis to be used to optimize the network at the research site. This analysis defines in detail the data needed in the research.

##### 4.2. Infrastructure Needs Analysis

Infrastructure needs analysis in EAP sales of MSMEs requires a deep understanding of the characteristics of the business and technology involved. First, identify the daily transaction volume

and peak times to ensure adequate server capacity. Next, it is necessary to calculate the bandwidth requirements to support the number of users and product uploads or images.

Security is a crucial aspect, requiring infrastructure with strong firewalls, data encryption, and cyber-attack protection mechanisms. Flexibility and scalability are also important so that the infrastructure can grow as the SME business grows. It is important to consider redundant hardware and backup systems to address the risk of hardware failure or data loss. Finally, real-time monitoring is needed so that the IT team can identify and respond to problems quickly, maintaining the smooth operation of the SME sales EAP. The hardware specifications used in the research can be seen in table 1:

Table 1. Specifications Devices Hard

No	Devices Hard	Specification
1	Computer	Asus Brand
2	Laptop	Acer RAM 4
3	Network and internet connection	ICONET Wifi
4	Projector	Acer Brand

The software used in the research can be seen in table 2:

Table 2. Specifications Software

No	Software	Process
1	Adobe creative cloud	Functioning For edit photo /video marketing of UMKM products
2	Dropbox	storage that allows users to store and share files online.

##### Application Architecture Design

###### a. Use Case Diagram

*Use Case diagrams* explain the benefits of an application when viewed from the perspective of someone outside the system (actor). Use Case diagrams perform specific tasks such as logging into a system, crating products, and more.

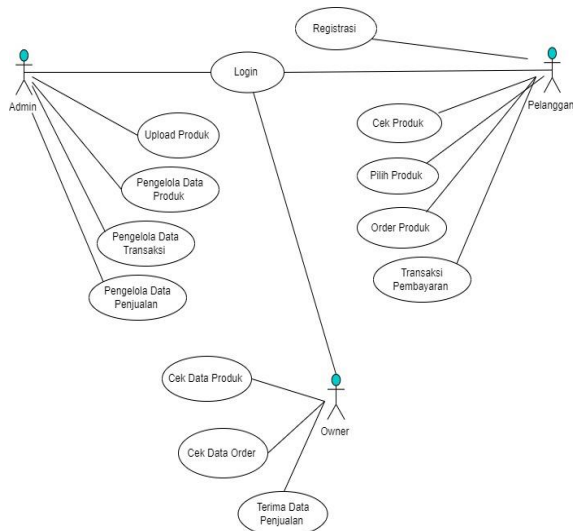


Figure 3. Use Case Diagram

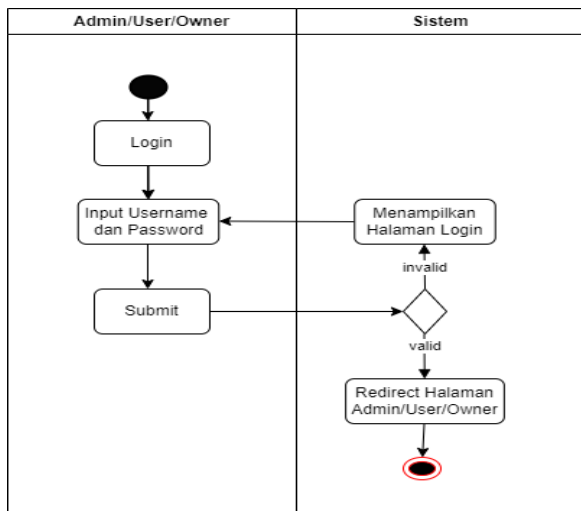


Figure 4. Activity Diagram Use Case Login

**b. Class Diagram**

Class Diagram provides an overview of the relationship between tables in a database. Each class has attributes and methods or functions according to the process that occurs.

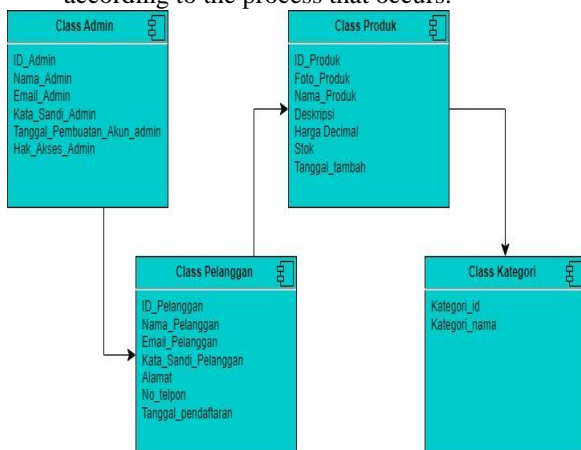


Figure 5. System Class Diagram

**c. Sequence Diagram**

Sequence Diagram explains the interaction between objects in and around the system in the form of messages arranged in a time sequence, namely the sequence of events carried out by an actor in running the system. This diagram shows how the details of the operation are carried out, what messages are sent and when they occur.

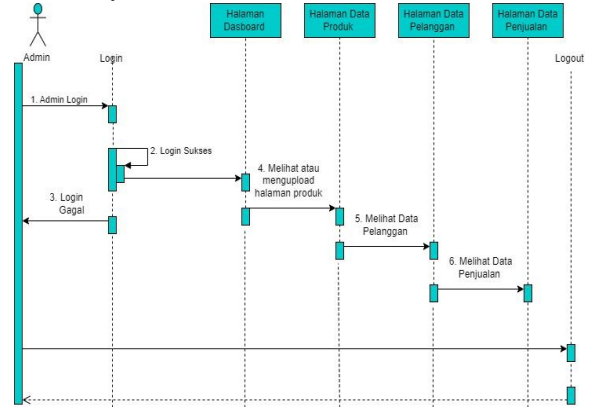


Figure 6. Admin/Owner Sequence Diagram

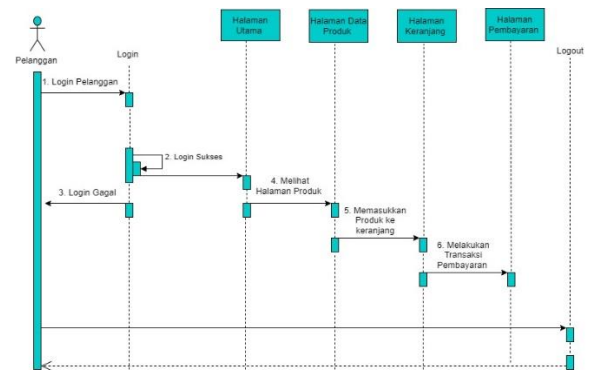


Figure 7. Customer Sequence Diagram

**d. Technology Flow**

In this study, using MAN (Metropolitan Area Network) technology in Tanggamus MSMEs shows significant progress. With this infrastructure, MSMEs can be connected in metropolitan areas, enabling efficient data exchange, collaboration between businesses, and fast access to shared resources. This increases the productivity and competitiveness of Tanggamus MSMEs in an increasingly digitally connected business world.

**4.3. SWOT Analysis**

[19] SWOT analysis is a class analysis initiated by Albert Humphrey, in 1960-1970. SWOT is an acronym for the words strengths, weaknesses, opportunities, threats. According to Freddy Rangkuti, this SWOT analysis systematically identifies various factors to formulate a company strategy. SWOT can basically maximize weaknesses and threats. [20] To formulate a

company strategy, it is necessary to develop a mission, goals, strategies and company policies both internal and external conditions because this is a reference in planning future strategies. The main purpose of SWOT analysis is to help organizations or individuals in planning more effective strategies. By analyzing strengths, weaknesses, opportunities, and threats and in addition the purpose of SWOT analysis is to determine the company's strategy and direction in the future and to carry out strategic planning before carrying out business activities.

Internal factors in a SWOT analysis involve the company's strengths and weaknesses, such as management capabilities, resources, and organizational structure. Meanwhile, external factors involve opportunities and threats that come from the company's external environment, such as market trends, industry competition, and regulatory changes. A SWOT analysis helps a company understand its strategic position by evaluating the combination of these factors.

1. Strengths  
Advantages or skills, relative to competitors or market needs.
2. Weaknesses  
Limitations or deficiencies in resources, skills that hinder the effectiveness of the company.
3. Opportunity  
Important situations that benefit the company
4. Threats  
An unfavorable situation in a corporate environment.



Figure 8. SWOT System Analyst

Based on the data obtained, the internal and external factors in the system are as follows:

### 1. Strength

Increasing the reach of the E-commerce market allows MSMEs in Tanggamus to reach wider customers through online platforms. The e-commerce system can increase efficiency in inventory management, order management, and transaction processes.

### 2. Weakness

3. Technology limitations MSMEs may face obstacles in adopting e-commerce technology due to lack of

knowledge or resources. Limited digital infrastructure in certain areas can be a barrier.

### 4. Opportunities

Digital Awareness Enhancement an opportunity to increase digital awareness among MSMEs and customers. MSMEs can partner with established e-commerce platforms to increase exposure and sales.

### 5. Threats

Tight online competition in the online market can be a threat, requiring product differentiation and effective marketing strategies. Threats related to online transaction security can affect customer trust.

## V. CONCLUSION

This study produces a business process model of MSMEs in Tanggamus Regency, both internally and externally, which is described using a SWOT analysis model, which then finds a way to increase the productivity of MSMEs in Tanggamus Regency. By implementing *Enterprise Architecture Planning* (EAP), a proposal for a future information system is obtained to achieve competitive advantage. The application of EAP in preparing an Enterprise Architecture plan facilitates the process of identifying business processes to a portfolio of information system implementation plans. The use of EAP simplifies the conversion from business processes to data processes and the identification of information system needs is obtained.

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