



ZACHMAN FRAMEWORK APPROACH FOR DESIGN SELLING BATIK APPLICATION BASED ON CLOUD

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Abstract–The most important thing in influencing sales turnover in a store is physical location, product quality and price. Consumer will be easier to buy batik that is sold wherever they want by online. The concept of online shopping is much in demand by many people. Cloud-based applications are one form of application for online promotion. This requires designing an online application to address this problem using the zachman framework. With this method will be made in a matrix that will be viewed from the perspective of owner and planner.

Keywords: Zachman Framework; Cloud; Batik; Online Shop;

I. INTRODUCTION

The development of information technology has become a necessity in almost all aspects of life, it is characterized by the development of computer and internet usage in various fields, one of them in the field of business. Competition in today's business world is getting tighter, more and more companies are using advertising media to strengthen their business in promoting and marketing their products. This has led to the shift of offline advertising media to online media like the internet. With the internet media, it is possible to build web-based applications to promote a product more widely and quickly. Along with the development of technology, various companies or stores, especially in Jakarta. The one of traditional knowledge in art and culture that was protected by Indonesia is Batik [1]. Batik is one of the original Indonesian traditional clothing that has been widely known in the territory of Indonesia and batik is also one of the clothing exported to foreign countries. Some cities that are famous batik producers in Indonesia are Pekalongan, Cirebon, Jogjakarta and Solo. The various number of batik pattern causes difficulties in identifying the patterns in Indonesia [2]. However, many artisans and batik sellers in small, medium and large scale still rely on classic and simple ways to market and also sell batik-batik that has been produced to traditional markets, shops, boutiques, shopping malls such as malls etc. Until now, indeed these ways can still run well. Nevertheless, there are many obstacles faced if still relying on simple ways in distributing and selling batik on a large scale. Society is the perpetrator of tourism as a host that has hospitality. With so society that makes batik, people are also selling batik and batik market to tourists [3]. The most important things in influencing sales turnover in a store in physical form are location, product quality and price. Store locations in the middle of the city will tend to be visited by more buyers because it is easily accessible by the public. Then the quality of the product also determines the choice of the consumers who will use the product, in this case the quality of the product will tend to also proportional to the price offered.

The better the quality of the product offered, then the price of the product will also be more expensive. Competitive and competitive prices are also one of the keys to the success of a product to be sold in the market. Excessively high prices will also reduce the number of consumers because of the limited purchasing power of consumers, this will cause only consumers with purchasing power or high economic level alone can afford to buy the product from anywhere. Online shopping has become a trend for customers in Indonesia in purchasing products. Some customers in Indonesia consider that the online product selling patterns has become a part of their life style in the advance of technology and technology alteration challenges eras [4]. So it takes an appropriate way to facilitate the promotion of this batik is to create cloud-based applications designed and built through appropriate programming language in order to facilitate the design of this store in Jakarta.

A. Research Problems

Based on the introduction described in the previous section, in this section the research problem is taken on how to design selling batik application based on cloud with the zachman framework approach and how to map the design in the Zachman framework matrix.

B. Limitation of Research

Here on below, there are some limitations that need to be considered so that the discussion is not widespread or widened and so the discussion is not too far from relevance so that research can be more focused to do. In this study the method used only to design selling batik application based on cloud:

- 1) Objects of this study at one of the Batik Store in Jakarta
- 2) Data of this study used only with drawings and tables
- 3) The results of this study are for design only

C. Purpose And Objectives

The purpose of this research are for design the design selling batik application based on cloudwith the Zachman framework approach and mapping the design in the Zachman framework matrix.

II. THEORY FUNDAMENTAL

Once we know the problems and limitations of this research that have been described earlier, so the authors use the Zachman framework theory to design the design selling batik application based on cloud, which is described below:































abstractions perspectives	DATA <i>What</i>	FUNCTION <i>How</i>	NETWORK <i>Where</i>	PEOPLE <i>Who</i>	TIME <i>When</i>	MOTIVATION <i>Why</i>
SCOPE <i>Planner</i> contextual	List of Things - Important to the Business 	List of Processes the Business Performs 	List of Locations - in which the Business Operated 	List of Organizations - Important to the Business 	List of Events - Significant to the Business 	List of Business Goals and Strategies 
ENTERPRISE MODEL <i>Owner</i> conceptual	e.g., Semantic Model 	e.g., Business Process Model 	e.g., Logistics Network 	e.g., Work Flow Model 	e.g., Master Schedule 	e.g., Business Plan 
SYSTEM MODEL <i>Designer</i> logical	e.g., Logical Data Model 	e.g., Application Architecture 	e.g., Distributed System Architecture 	e.g., Human Interface Architecture 	e.g., Processing Structure 	e.g., Business Rule Model 
TECHNOLOGY CONSTRAINED MODEL <i>Builder</i> physical	e.g., Physical Data Model 	e.g., System Design 	e.g., Technical Architecture 	e.g., Presentation Architecture 	e.g., Control Structure 	e.g., Rule Design 
DETAILED REPRESENTATIONS <i>Subcontractor</i> out-of-context	e.g. Data Definition 	e.g. Program 	e.g. Network Architecture 	e.g. Security Architecture 	e.g. Timing Definition 	e.g. Rule Specification 
FUNCTIONING ENTERPRISE	DATA Implementation	FUNCTION Implementation	NETWORK Implementation	ORGANIZATION Implementation	SCHEDULE Implementation	STRATEGY Implementation

Fig. 1 Framework Zachman

The Zachman Framework for Enterprise Architecture is a widely used approach to developing or documenting the architecture of companies. Based on the framework Zachman practiced in architecture traditional and engineering. The Zachman framework is a very logical structure of organizing and classifying the various elements of a significant organization of the management and development of its organizational information system [5]. And other define are columns in the matrix to describe the data, function, location (where business resides), the people who should be there and engage in the organization, the time for the events to occur, and the motivations that determine how the business goes. Then, on the line described the aspects of development process are: scope, business model, information system model, technology model, component model, and system functions. Zachman Framework describes the organization's architecture in general and describes it as a complex enterprise system. In the business world, organizations will be required to manage change. The goals of change management are related to the competitive advantage between the organization and its competitors.

Zachman Framework was introduced as a standard that has been used by successful organizations of the world. For example: Johnson and Johnson, Federal Express, Hewlett-Packard, Microsoft, and others [6].

III. METHODOLOGY

In doing this research the authors take steps taken systematically so that what is desired can be achieved. Figure 2 is the steps undertaken by the author of conducting this research. Information [7]:

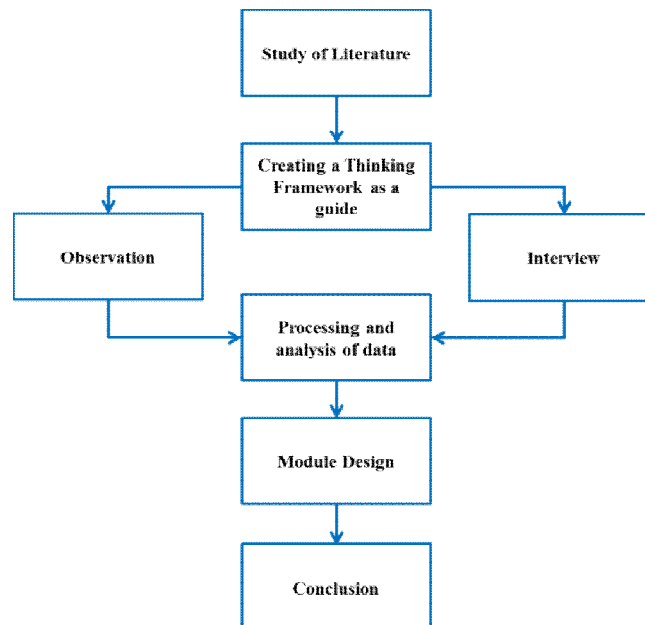


Fig. 2 Stages of Research

- 1) **Study of literature:** At the beginning before the study was conducted, the authors conducted a literature study related for the design selling batik application based on cloud in particular using Zachman framework.
- 2) **Creating a Thinking Framework as a guide:** This stage will be the preparation of Framework of Thinking in research. Preparation of the Thinking Framework is made with Zachman's framework. The Zachman framework is a framework that will guide the design selling batik application based on cloud.
- 3) **Observation:** Observational methods used by researchers to obtain data that cannot be explained through interviews.
- 4) **Interview:** This method is used to collect information relating to data, employees, and processes in the design selling batik application based on cloud.
- 5) **Processing and Analysis Data:** The data that have been obtained from the interview and observation is processed as an ingredient in design selling batik application based on cloud. The data obtained is data onto the process of customer purchased used matrix zachman.
- 6) **Module Design:** The data that have been obtained are then analyzed in order to obtain the design selling batik application based on cloud in the form of flowmap, use case, Activity diagram, and consumer purchase flow.
- 7) **Conclusion:** This stage is a summary of the results of data collection and analysis of the design selling batik application based on cloud.

The main result will be explainon Matrix Zachman with perspective owner and planner. Whenever explain from John Zachman introduced the concept of Information System Architecture (ISA) in 1987 (Zachman1987). The Zachman framework describes stakeholders' views focusing on five Wh-interrogatives ('what', 'who', 'where', 'why', and 'when') and one H-Interrogative ('how'). This focus comes from journalism'sW5H theory. Zachman framework consists of two dimensions: views of a particular stakeholder group of the enterprise from a particular perspective and the description of these views. The description information is gathered by answering six out of the seven English language interrogatives ('what', 'how', 'where', 'who', 'when', and 'why'). Zachman argued that answering these interrogatives from the view point of Owner, Designer, Builder and Sub-Contractor enables the development of Information System Architecture (ISA)[8].

IV. RESULT AND DISCUSSION

In this section will explain the results of the research in the form of a matrix for design selling batik application based on cloud which viewed from the perspective of owner and planner, can be seen the result on below: Table I shows the design selling batik application based on cloud by the Zachman method. Basically Zachman has drawn on the disciplines of architecture and engineering to derive a framework for IS architecture which basically contains the categories what, how, where, who, when, and why (a set of descriptors which appear to have been borrowed from Kipling).

TABLE I - PERSPECTIVE OWNER AND PLANNER WITH MATRIX ZACHMAN

Perspective	Owner - HR Manager (Business Model)	Planner - IT Manager
Asset Data (What)	Consumer Purchase Process	Server, Database, and Resources
Motivation (Why)	Purpose of Design Online Sales Application	Purpose of Enterprise application development needs
Function Process (How)	Activity Diagram	Flowchart
People in Charge(Who)	User	Web Administrator
Location (Where)	Hosting Provider www.rumahweb.com	Enterprise Hosting Package
Time (When)	Project Duration	Time Schedule

Zachman discusses in some detail the descriptors what, how, and where to categorize different IS architectures and suggests that these are independent but “inextricably linked,” and suggests that, for the sake of logical completeness, these should be complemented by who, when and why (Zachman 1987; Sowa and Zachman 1992). Interestingly, Zachman concluded the 1987 paper by suggesting that the framework could be used in a number of areas, including rethinking the nature of software development [9]. A detailed explanation from owner and planner perspective will be explained on below:

A. Asset Data (What)

1) Owner Perspective

In the view of the owner, the Consumer Purchase Process is described in the process below:



Fig. 3 Consumer Purchase Process

2) Planner Perspective

On the side of the planner there are 3 plan perspectives which are: 10GB Space, UNLIMITED Traffic Limit, UNLIMITED Email Account, 10 Domains, UNLIMITED MySQL/MariaDB, Server Location: IIX / US / SG, Free Weebly web builder.

B. Motivation (Why)

1) Owner Perspective

In this section the motivation of the Owner wants the design selling batik application based on cloud.

2) Planner Perspective

In accordance with the perspective of the Owner, as a planner motivation is an application that is made in order to improve the previous application as well as a good business process for the company

C. Function Process (How)

1) Owner Perspective

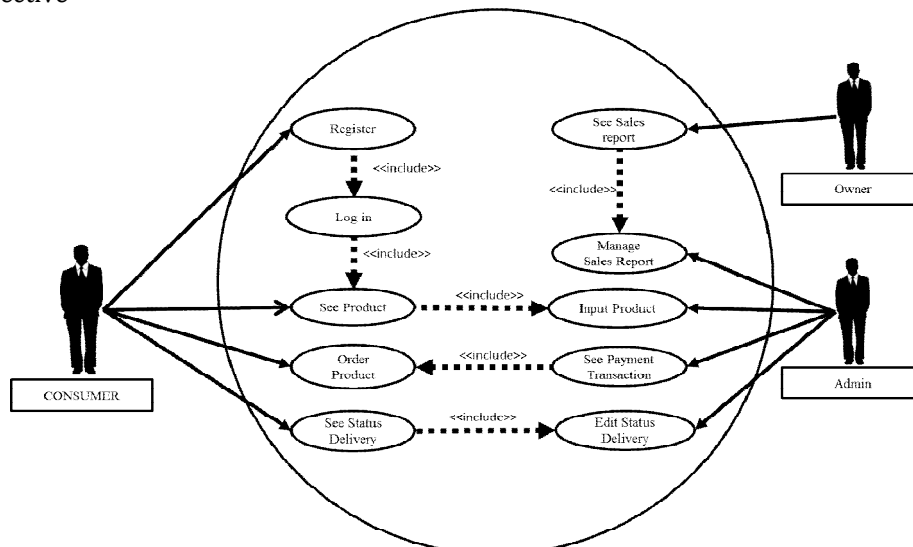


Fig. 4 Use Case Diagrams

2) Planner Perspective

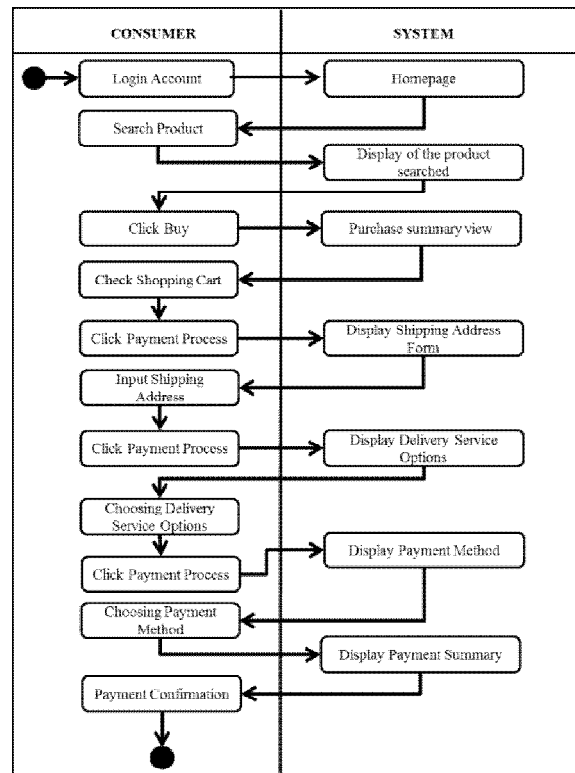


Fig. 5 Activity Diagram

D. People in Charge (Who)

1) Owner Perspective

In this section anyone who is assigned to operate this application is User.

2) Planner Perspective

In this section anyone who is assigned as an operator on the application is the Web administrator. Operator will help the system troubleshooting and prevent from system malfunction.

E. Location (Where)

1) Owner Perspective

In this section to answer problems that have been explained Owner focus on systems that can reach the overall access that is by using a cloud system that is with the hosting provider www.rumahweb.com.

2) Planner Perspective

Planner plans to choose an enterprise hosting package because in accordance with the planned specifications, easy to build websites and can use corporate e-mail.

F. Time (Time)

1) Owner Perspective

In this section explains the perspective of the owner in the implementation, which is expected to be done for 1 month in January 2018.

2) Planner Perspective

This section describes the proposed time schedule in the design selling batik application based on cloud:

Tabel 2. Time Schedule

Nama Kegiatan	January			
	w1	w2	w3	w4
Initiation Gathering Information				
Design UI Application				
Implementation Development Frontend dan Backend				
Testing dan Go Live				

V. CONCLUSION

In the application of Zachman Framework method how to design selling batik application based on cloud there are 6 columns of perspective of the owner and planner which must be explained to support the system selling batik application based on cloud according to Zachman Framework method that is what, why, how, who, where, time and this research produced the design of application modules that can provide solutions to problems in the process of system selling batik application based on cloud in the form of zachman matrix and consumer can purchase the batik quickly and easily.

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