



WEB BASED INFORMATION SYSTEMS OF E-COMMERCE USER SATISFACTION USING ZACHMAN FRAMEWORK

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Abstract — *The progress in information and communication technologies and the birth of the internet has changed the end user computing experience and environment. This advancement has changed the way of delivering information and services. Information systems can now be web-enabled, unlike the traditional stationary information systems. Web based means the information system includes in the website. Web portals are a part of this advancement. A Web portal is a gateway to information and services from multiple sources in a unified way, using a single, unique user interface. This study will make design of web base online information systems of e-commerce user satisfaction using Zachman framework. The major objectives of this study was to investigate how information system IS measures that influence user satisfaction of the Diponegoro university students, also to design and analysis the implementation of Zachman Framework. Based on the data analysis collected by e-mail, the conclusion were: Design of the website in online store is good implementation because there is majority of respondents agree for customer satisfaction. The analysis of zachman framework for shopme design online store reflected the best solution because describe the more comprehensive coverage for all enterprise architecture stakeholders. The information system is measures the influence user satisfaction of the Diponegoro University students, and the design and analysis the implementation of zachman framework in this study presented a method that provides guidance in the development of an organization's enterprise architecture.*

Keywords — *Web based online; information system; ShopMe; Zachman Framework.*

I. INTRODUCTION

The progress in information and communication technologies and the birth of the internet has changed the end user computing experience and environment. This advancement has changed the way of delivering information and services. Information systems can now be web-enabled, unlike the traditional stationary information systems. Web based means the information systems include in the website. Web portals are a part of this advancement. A Web portal is a gateway to information and services from multiple sources in a unified way, using a single, unique user interface. A Web portal usually features specific functions, such as search mechanisms, access to databases, user registration and personalization options.

Internet marketing for digital products and services is one of the most significant developments in the information systems industry in the last five years. A Web portal usually features specific functions, such as search mechanisms, access to databases, user registration and personalization options. Web portals have been widely used during the last years and can be classified into horizontal portals, which cover many areas of interest and vertical portals, which are focused on one specific area. Web portals serve a variety of purposes, such as personal, governmental, informational, entertaining and educational purposes.

Develop and validate an instrument for measuring user satisfaction in a web-based environment. In this research, three commercial websites were taken as representatives of Web-Based Information Systems (WBIS) for e- services. This study involved testing the validity and reliability of the end-user satisfaction over a set of heuristics, based on responses from users of three e-service websites (Pokrel and Vemalapalli, 2010).

The study was designed to investigate how information system IS measures influence user satisfaction of the Diponegoro University school portal using a conceptual model of Zachman Framework website based. There is another methods such as Web hosting. The reason to use Zachman Framework as follows: relatively simple because it only has two dimensions that are easy to understand, both direct enterprise into a comprehensive way and are able to manage architectures for individual divisions or departments, using non-technical language that helps people to think and and communicate more precisely, can be used for squaring and help understand the broad issue, helping resolve design issues, focusing on the details without losing track overall, help topics taught many different information systems, it is a planning tool that is very helpful, providing a way to better decision making, it is a device or a special independent method.

Research problem is about the factors affecting user satisfaction of website in online store, the design and analysis the implementation of Zachman Framework for user satisfaction.

II. LITERATURE REVIEW

A. INFORMATION SYSTEM (IS)

There are information systems (IS) that range from *hedonic*, developed for pleasure and enjoyment, to *utilitarian*, developed to improve individual and organizational performance. Organizations focus on developing, using, and evaluating utilitarian IS. There is a plethora of utilitarian IS used in organizations, such as decision support systems, computer-mediated communications, e-commerce, knowledge management systems, as well as many others.

B. WEB PORTAL

Portals have become popular among higher education institutions for various reasons. Many institutions believe portals will give them a competitive advantage in recruiting students. To attract the best students, universities want to give the public impression that they're at the forefront of information technology and offer the most convenient services. Universities also believe portals will help make their employees more efficient and productive by centralizing access to needed data services, for example, competitive information, manufacturing and accounting data, information, and other human relations data (Looney and Lyman, 2000).

C. USER SATISFACTION

User involvement in IS development is generally considered an important mechanism for improving system quality and ensuring successful system implementation. User satisfaction as user satisfaction is the sum of feeling or affective responses to distinguishable factors of the computer-based information products and services that are provided within the organization. Lyons says, only the processing system can't be considered good or best in itself, the true one to decide the value of the system are its user and their satisfaction within it (Pokhrel and Vemulapalli, 2010).

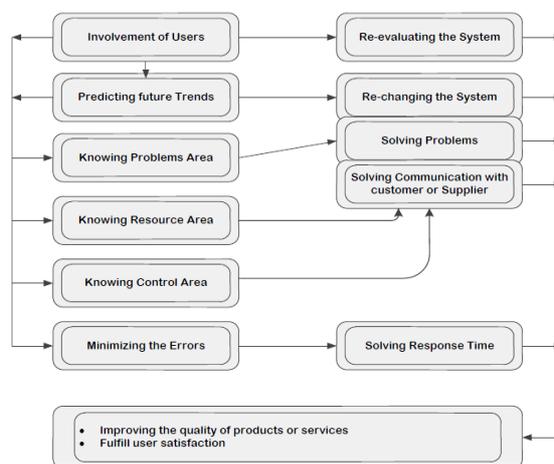


Fig 1. User Satisfaction for IS effectiveness model

D. WEB BASED

A WIS refers to a Web-based information system, or a Web information system, which is an information system based on Web technology. A Web presence is generally a part of a WIS and Web browsers serve as a common interface. Web technologies, such as related protocols and standards, may support the basic functions of the system. WIS have become more pervasive and a basis for e-tailing. Based on Web technology, WIS have the potential to: reach a broad audience; provide rich content and information in a user-friendly interface; operate at a lower cost than systems on proprietary networks; and seamlessly integrate with other systems to support business processes. With increased bandwidth and improved reliability, more businesses are relying on the Web and building WIS.

E. TECHNOLOGY ACCEPTANCE MODEL (TAM)

Technology Acceptance Model (TAM) is one model that is built to analyze and understand the factors that influence the acceptance of the use of computer technology which was first introduced by Fred Davis in 1986. TAM is the result of the development of the Theory of Reasoned Action (TRA), which first developed by Fishbein and Ajzen in 1980. TAM aims to explain and predict the reception (acceptance) users against an information system. TAM provides a theoretical basis to determine the factors that influence the acceptance of the technology within an organization. TAM explains the causal relationship between faith (the benefits of a system of information and ease of use) and behavior, purposes, and the actual use of the user of an information system (Fishbein and Ajzen, 1980).

	Why	How	What	Who	Where	When
Contextual	Goal List	Process List	Material List	Organisational Unit & Role List	Geographical Locations List	Event List
Conceptual	Goal Relationship	Process Model	Entity Relationship Model	Organisational Unit & Role Relationship Model	Locations Model	Event Model
Logical	Rules Diagram	Process Diagram	Data Model Diagram	Role Relationship Diagram	Locations Diagram	Event Diagram
Physical	Rules Specification	Process Function Specification	Data Entity Specification	Role Specification	Location Specification	Event Specification
Detailed	Rules Details	Process Details	Data Details	Role Details	Location Details	Event Details

Fig 2. Zachman Framework

III. METHODS

In this research, using Zachman Framework version 3 , the sample is data input the company information about data consumers, data services/products, etc. and the questionnaires will be spread on the users that are Diponegoro University post graduated students that used Diponegoro University Portal education in Semarang.

In this research, will used input web based information system, such as data products, data suppliers, data consumers, data delivery and another information. After that process is about website design for online store using Zachman framework, analysis process with TAM and questionnaires, to analyze the factors affecting user satisfaction.

IV. RESULT AND DISCUSSION

The web design is always focused on the main page, as can be seen from the main page how to design a website to attract visitors. Main page is home and this is very important because to introduced people about this website. Zachman Framework in ShopMe website can make effective and efficient working. ShopMe has a goal to make its consumers satisfied because the website is easy to cahnge of shop, attractive to see, and easy to link another website of social media. Make the process diagram of the diagram used. Through Zachman Framework, ShopMe can make prototype to reach its goal. Through Zachman Framework, ShopMe can prepare its user and the role in effective work because the customer can shop in three external link, such as Ebay, Amazon and OLX. Location of the company ShopMe is in Semarang. information about ShopMe andrelated to the Process Diagram of Zachman Framework analysis, the process diagram contained more information for the customer about the company for the customers. If consumers want to look External Links, the website will display a some external links, such as A, B, C (hidden name). If consumers want to look External Links, the website will display a some external links.

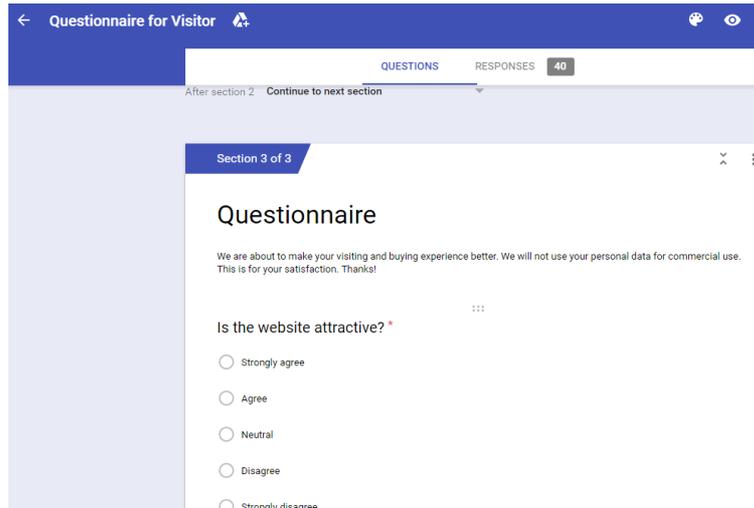


Fig 3. Google Docs Questionnaires

Data collected by distributed questionnaires via google docs.

QUESTIONNAIRES RESPONS

Is the website attractive? (40 responses)

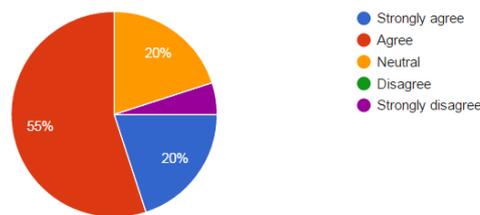


Fig 4. Website ShopMe Attractive

From the figure 4. it can be see that majority respondents in this research is agree (55%) that website ShopMe attractive, neutral (20%) that website ShopMe attractive, strongly agree (20%) that website ShopMe attractive and strongly disagree (5%) that website ShopMe attractive.

Is the website contains more information that very useful? (40 responses)

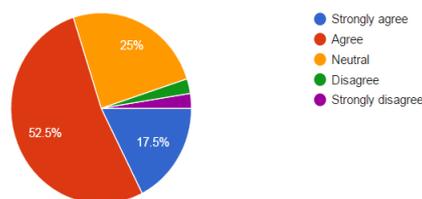


Fig 5. Website ShopMe contains usefull information

From the figure 5. it can be see that majority respondents in this research is agree (52.5%) that website ShopMe contains usefull information, neutral (25%), strongly agree (17,5%) that website ShopMe contains usefull information, strongly disagree (2,5%) that website ShopMe contains usefull information, and disagree (2,5) that website ShopMe contains usefull information.

Is the transaction through the website is very easy? (40 responses)

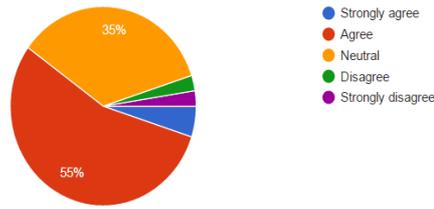


Fig 6. Transaction through Website ShopMe very easy

From the figure 6. it can be see that majority respondents in this research is agree (55%) that transaction through website ShopMe very easy, neutral (35%) that transaction through website ShopMe very easy, strongly agree (6%) that transaction through website ShopMe very easy, strongly disagree (2%) that transaction through website ShopMe very easy, and disagree (2%) that transaction through website ShopMe very easy.

Is the e-commerce website easy to access? (40 responses)

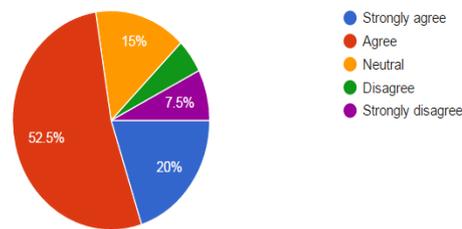


Fig 7. E-Commerce Website ShopMe easy to access

From the figure 7. it can be see that majority respondents in this research is agree (52.5%) that e-commerce website ShopMe easy to access, neutral (15%) that e-commerce website ShopMe easy to access, strongly agree (20%) that e-commerce website ShopMe easy to access, strongly disagree (7.5%) that e-commerce website ShopMe easy to access, and disagree (5%) that e-commerce website ShopMe easy to access.

Is the security has granted when I become customer? (40 responses)

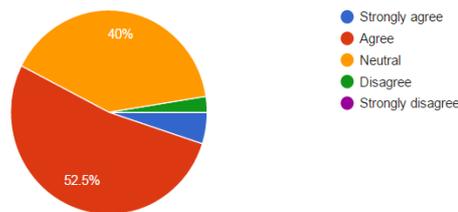


Fig 8. Security granted

From the figure 8. it can be see that majority respondents in this research is agree (52.5%) that security granted in website ShopMe, neutral (40%) that security granted in website ShopMe, strongly agree (5%) that security granted in website ShopMe, and disagree (2.5%) that security granted in website ShopMe.

Is the information to be accurate about all the products sell? (40 responses)

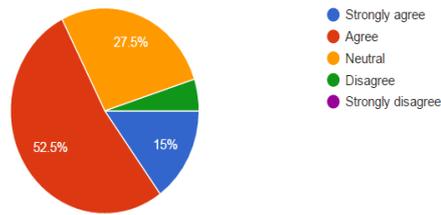


Fig 9. Information accurate about products sell

From the figure 9. it can be see that majority respondents in this research is agree (52.5%) that information accurate about all products sell in ShopMe, neutral (27,5%) that information accurate about all products sell in ShopMe, strongly agree (15%) that information accurate about all products sell in ShopMe, and disagree (5%) that information accurate about all products sell in ShopMe.

Is the website well designed? (40 responses)

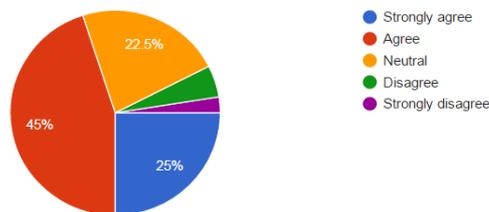


Fig 10. Website Well Designed

From the figure 10. it can be see that majority respondents in this research is agree (45%) that website ShopMe well designed, neutral (27,5%) that website ShopMe well designed, strongly agree (25%) that website ShopMe well designed, disagree (5%) that website ShopMe well designed, and strongly disagree (2,5%) that website ShopMe well designed.

Is the website user friendly? (40 responses)

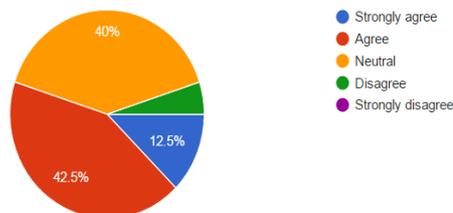


Fig 11. Website user friendly

From the figure 11. it can be see that majority respondents in this research is agree (42.5%) that website ShopMe is user friendly, neutral (40%) that website ShopMe is user friendly, strongly agree (12,5%) that website ShopMe is user friendly, and disagree (5%) that website ShopMe is user friendly.

Is the website easy to use? (40 responses)

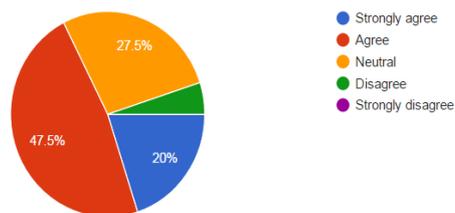


Fig 12. Website easy to use

From the figure 12. it can be see that majority respondents in this research is agree (47.5%) that website ShopMe is easy to use, neutral (27,5%) that website ShopMe is easy to use, strongly agree (20%) that website ShopMe is easy to use, and disagree (5%) that website ShopMe is easy to use.

Is the website sell a lot variant of products? (40 responses)

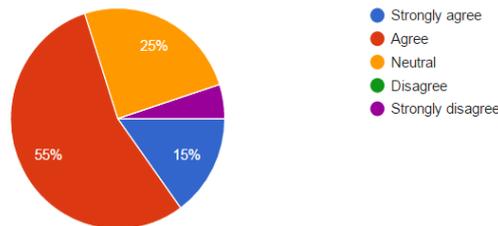


Fig 13. Website sell a lot variant of products

From the figure 13. it can be see that majority respondents in this research is agree (55%) that website ShopMe sell a lot variant of products, neutral (25%) that website ShopMe sell a lot variant of products, strongly agree (15%) that website ShopMe sell a lot variant of products, and strongly disagree (5%) that website ShopMe sell a lot variant of products.

V. CONCLUSIONS

Design of the website in online store is good implementation because there is majority of respondents agree for customer satisfaction. The analysis of Zachman Framework for ShopMe design online store reflected the best solution because describe the more comprehensive coverage for all enterprise architecture stakeholders. The information system IS measures that influence user satisfaction of the Diponegoro university students, and the design and analysis the implementation of Zachman Framework in this study presented a method that provides guidance in the development of an organization's Enterprise Architecture, contributing significantly to information system management and above all to the understanding of the architectural components. Almost everyone knows the Zachman Framework. In the relation of Zachman framework analysis, the Goal list can be see on Home Page About Us and the goal of the company built to make effective and efficient working, ShopMe has a goal to make the customers satisfied. The process diagram can be see on Figure flowchart diagram, meanwhile the data model diagram and event diagram descibe the figure that implementation Zachman framework in ShopMe.

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