Analysis of Information System Impact on Web-Based Directory for "UMKM" by User Satisfaction Index

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Abstract— Indonesia's good economic development helped create the development of diverse micro, small & medium enterprises better known as UMKM in Indonesia. UMKM is present in the midst of the community to help meet the needs of the community in the local area where UMKM are located. Unfortunately when people want to find UMKM to meet the needs, faced with the problem of location search & categorization of UMKM that are around their environment. From the problems presented, the research aims to create a directory system for MSMEs that store location data & web-based UMKM categorization with the aim of facilitating the public in finding information related to UMKM data. In developing the system, this study uses the waterfall method approach. This method used because it is easier to understand with good documentation.

Keywords—UMKM directory, UMKM, Information System Impact, User Satisfaction Index, Web Based Directory

I. INTRODUCTION

Indonesia's economic conditions are getting better every year it has supported the creation of a competitive business climate, the immediate impact that can be seen is the growing development of micro, small & medium enterprises which are increasingly easy to find around the community and in the current era of globalization, The development of technology can grow rapidly due to the progress of culture and civilization levels in humans[1].

With the diverse activities of UMKM in the local area, the community has a choice when they want to use services or buy products from various UMKM. UMKM activities usually use the location of the house that the business owner is the place for MSME activities. So the problem is down somewhere within the location of activities that are not in the location of shops or offices, it is difficult to find the locations by people who want to use services or buy products from UMKM.

With the conditions mentioned, this study aims to create a directory system for UMKM in the area of web-based locations in order to help facilitate the search for UMKM for the community. The directory system model will start from the registration process of UMKM data that is done online from the UMKM by filling in some important data including location data & categorization. From the data that is registered, the directory system can be accessed by the public by offering search features according to the specific UMKM category and will be able to display detailed locations. In addition, the directory system will be equipped with review data from people who have used services or bought UMKM products before. The search and review feature is expected to

help the community in determining the UMKM that are in accordance with the needs of the community concerned.

Facilitate the reader in understanding the results of this study, then the author split the result of this study into five parts: **I. Introduction.** In this section, describe the background, the problem, the purpose of writing and systematic of this study. **II. Fundamental Theory**. In this section, author describe the theory used as the basis of the study**. III. Methods,** Contains some explanation of the methods used in order to do in this study. **IV. Results and Discussions**. Contains analysis result and implementation result of the method. **V. Conclusions.** Contains the conclusions of the overall research framework

II. FUNDAMENTAL THEORY

A. Information System

According to O'Brian cited by Jacob in the introductory book Information System, information systems are a regular combination of the people, hardware, software, communication networks, and data resources that collect, change, information within an organization[2]

B. Geographic Information Systems

Geographic Information System (GIS) according to Riyanto is a special information system that manages data that has spatial information (spatial reference). Or in a narrower sense, is a computer system that has the ability to build, store, manage and display geographic reference information, for example data identified according to its location, in a database[3].

Meanwhile, according to Budiyanto, Geographic Information System is an organized collection of hardware, software, geographic data, and personnel designed to obtain, store, repair, manipulate, analyze, and display all forms of information that are geographic references. Geographic information system data is one of the crucial and important components. In GIS there are two types of data, namely spatial data and attribute / non-spatial data. Spatial data is data that describes a dimension of space. Some types of spatial data include points, lines, and polygons. Point is the simplest graphic representation. This representation has no dimensions but can be identified on a map and can be displayed on the monitor screen. On a certain scale is usually the point used to describe the location of a city, the location of a building or other objects. [4]

C. Customer Satisfaction

Customer satisfactions are a very important factor and determine the success of an enterprise[5]. Customer Satisfaction According to Oliver, as quoted by J. Supranto[6] satisfaction is the level of one's feelings after comparing the performance / results they feel with their expectations. So, the level of satisfaction is a function of the difference between perceived performance and expectations. Basically the definition of customer satisfaction includes the difference between the level of importance and performance or perceived results. Engel and Pawitra[7] say that In determining the level of customer satisfaction, there are five main factors that must be considered by the company, namely: **1. Product quality**. Consumers will feel satisfied if the results of their evaluation show that the products they use are of high quality. **2. Quality of service**, especially for the service industry. Consumers will feel satisfied if they get good service or what is expected. **3. Emotional,** consumers feel proud and get the confidence that others will be amazed by him when using products with certain brands that tend to have a higher level of satisfaction. Satisfaction obtained is not due to the quality of the product but the social value that makes consumers satisfied with a particular brand.

D. Unified Modelling Language

According to Dennis, Unified Modelling Language (UML) is the standard language for visualization, specification, construction and documentation of the artefacts of a software, and can be used for all stages in the system development process from analysis, design to implementation, according to Denn [8]. UML provides some standard notation and diagrams that can be used as a communication tool for system developers in the process of system analysis and design. Diagrams in UML are defined as information in various forms that are used or produced in the software development process.
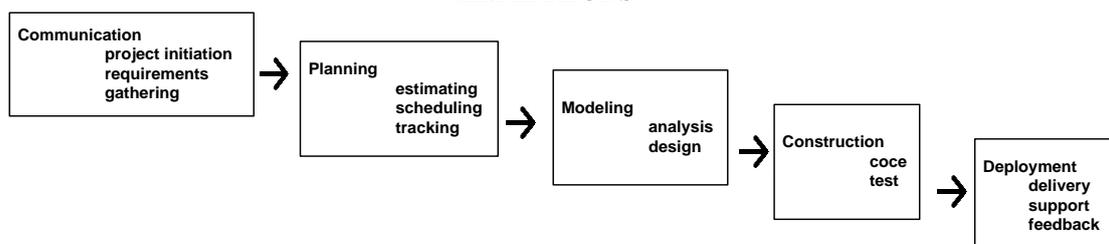
III. METHODS

Fig 1. Waterfall Presman

In Fig. 1 an explanation of the steps taken in the Waterfall Model[9]:

1. Communication: The initial stage requires communication with the user to achieve the goal to be achieved. The result of such communication is the initialization of the project, such as analyzing problems encountered and gathering the necessary data, and helps determine the features and functions of the software. Additional data collection can be taken from journals, articles, and the internet.
2. Planning: After the communication, then set the plan describes the software workmanship that includes the technical tasks to be done, the risks that can occur, the resources required in the system creation, product work to be generated, scheduling work to be done, and tracking system work processes.
3. Modelling: This modelling stage is a design stage in software that focuses on designing data structures, software architectures, interface views, and programming algorithms. The goal is to know what to do.
4. Construction: At this stage described the process of translation in the form of design into a code or language that can be read by the machine. After the encoding results are complete, testing is required from pre-made systems and codes. Aim to find any errors that may occur for later repair.
5. Deployment: Stages of deployment are the stages of software implementation to the user, regular software maintenance, software upgrades, software evaluation, and software development based on the feedback provided so that the system can continue to run and evolve according to its function

IV. RESULT AND DISCUSSIONS

A. **System Requirement Analysis**

In this stage, I do some things that are needed in the analysis phase, namely the Feasibility Study and determines the business process of the UMKM

1. Feasibility Study

The analysis that will be carried out is analyzing the procedure or method of work for each data needed as well as data generated from the existing system in UMKM. Problem identification is the first step taken in the system analysis phase. Problems that exist in UMKM are: **a. Difficulty in finding UMKM which are in a certain area, b. UMKM find it difficult to market their products more widely, c. The existing UMKM data collection is still done manually**

2. Problems Identification

In this study developed a directory system of UMKM to help market products from several UMKM that are in an area. Then it is necessary to identify the users involved in the MSME marketing and data collection process, the information processes that are available, the data needed. Here are some issues that need to be known: a. Knowing system development policies, b. Knowing the actors involved in the product catalog process, business profile, product data, c. The process of finding UMKM according to the appropriate categories, d. Data relating to product catalogs, business profiles, business categories, e. User of information on local UMKM directory, f. The marketing process of UMKM businesses registered is still manual so that they cannot reach interested ones from outside the city

3. Data Requirement Identification

Based on the discussion of the identification of problems and information of the data needed, the proposal for business process of the local UMKM directory is like the diagram below:
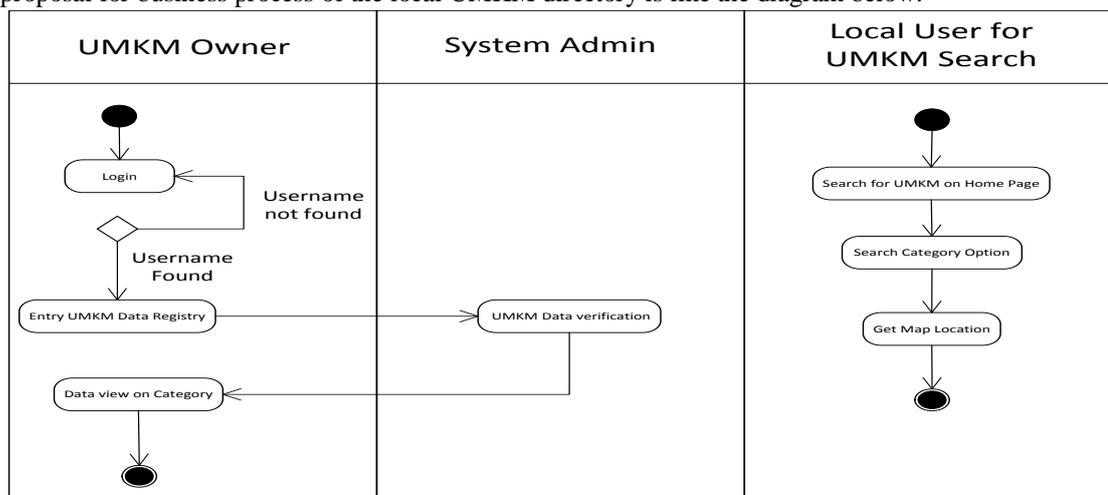

Fig 2. Propose business process

On the diagram above, it contain two main process of the directrory, **First** are registration for entry UMKM data on directory. UMKM owner must have registration themself to get username and password to manage their profile. Then they must have login to entry the UMKM data in directory. After they have registered the UMKM data, System admin will verificate the data and every one can see the data

when they search. **Second** is the local user for UMKM search can search for UMKM data on the home page then choose the search category option. Then system will show the map location.

4. User Identification

Based on the identification of data needs and based on the analysis of existing problems, the user is technically in the design of information systems to facilitate the UMKM business marketing process as follows:

a. Local User for UMKM search

TABLE I
USER IDENTIFICATION: LOCAL USER FOR UMKM SEARCH

Type	Local User for UMKM Search
Responsibilities	Looking for UMKM based on category, Searching for UMKM location.
Success Criteria	Data search for UMKM found and fit to category.
Involvement	System User
Deliverable	UMKM Data
Comments / Issue	User must be able to easily find and see UMKM location

b. System Admin

TABLE II
USER IDENTIFICATION: SYSTEM ADMIN

Type	System Admin
Responsibilities	Approval of registration of UMKM conducted by business owner., business data input, check the type of business, Business confirmation
Success Criteria	User can do approval, User can manage business data
Involvement	System User
Deliverable	Business Status
Comments / Issue	The user must confirm the business data according to the category.

5. Functional Identification

Based on the identification of the above user, the functional identification of the program is as follows:

TABLE III
FUNCTIONAL IDENTIFICATION: SYSTEM FUNCTION

Type	System Function
Local User for UMKM Search	Display businesses according to categories, Make an order, Obtain detailed business information, View maps of UMKM business locations
System Admin	Verify registration, Update registration status
UMKM Owner	Make a business registration, Upload business photos, Upload location map

B. **Implementation**
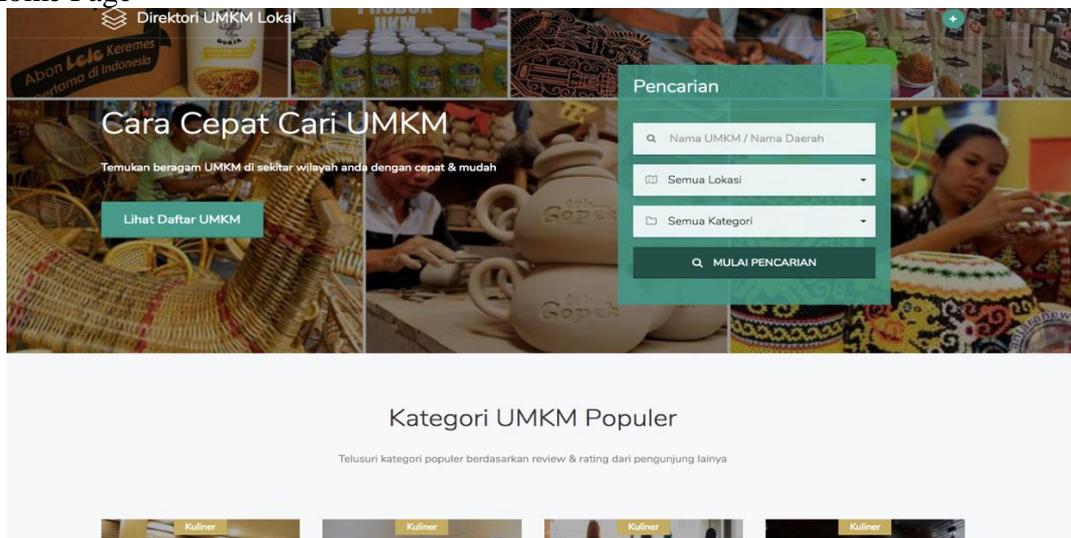
1. Home Page

Fig 3. Home Page

2. Search Form Display
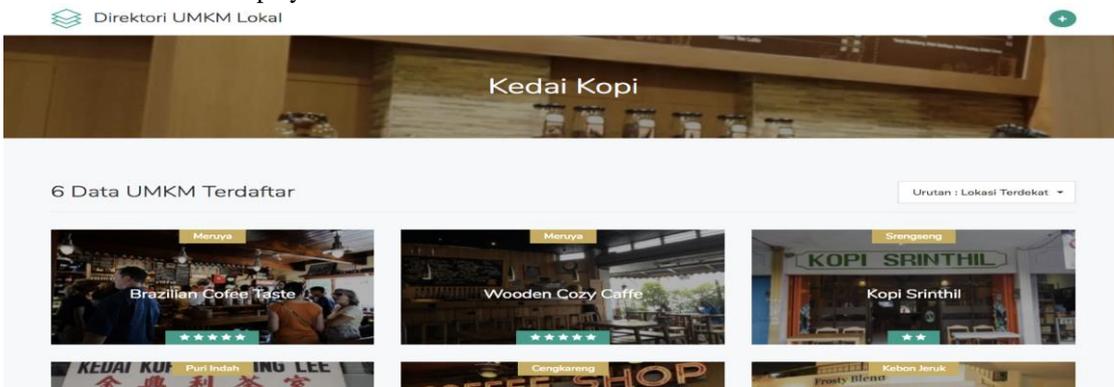

Fig 4. Search Form

3. Data UMKM Form Display

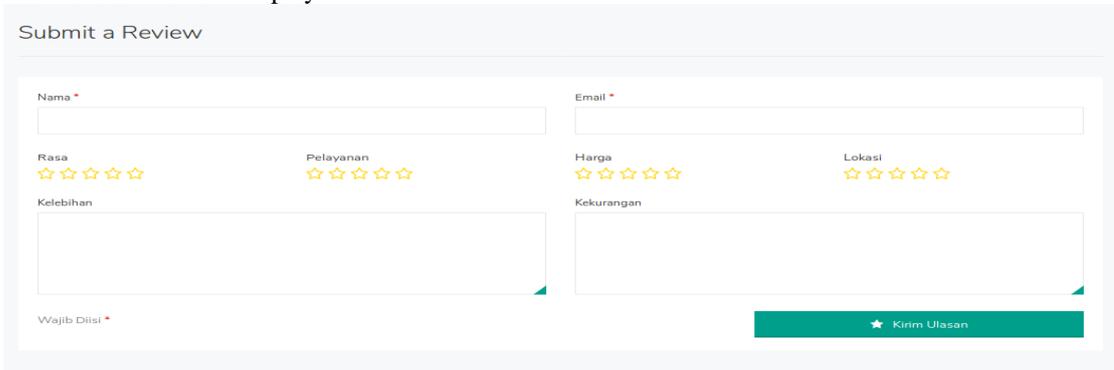Fig 5. Data UMKM Form

4. Submit User Review Display

Fig 6. Submit User Review

5. Visitor Review Display
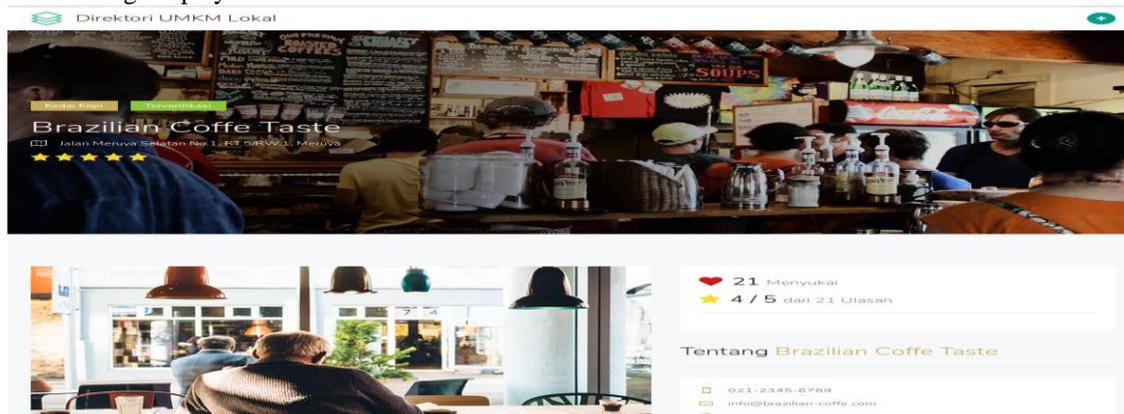

Fig 7. Visitor Review

6. User Rating Display

Fig 8. User Rating

V. CONCLUTIONS

Based on the results obtained in this study, it can be concluded as follows:

A. E-Commerce that is built can help the store in promoting its products and make it easier for consumers from outside the city to know the information of each product offered to consumers without having to go to the store.

B. The e-Commerce built can facilitate the marketing of products sold in Jihan Baby Shop to consumers who are outside the city.

C. E-Commerce built can make it easier for shop owners to manage sales reports.

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