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E-Commerce Web Based Application for UMKM Products of Rejowinangun Village, Kademangan District, Blitar Regency

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Abstract

Desa Rejowinangun is one of villages located in Kecamatan Kademangan, Kabupaten Blitar. This village has potential in form of Micro, Small and Medium Enterprises. In this village, majority of population make a living as traders or entrepreneurs, so that Desa Rejowinangun is dubbed as UMKM Village. Many of real problems faced by UMKM actors in this village. Most important problem is related to marketing of UMKM products. Business people in Desa Rejowinangun are still relying on conventional methods of carrying out marketing business so far. Using conventional sales model, many UMKM sell their products indirectly to consumers, but through orders or requests from distributors or stores. Production of UMKM, which were mostly sold to second hand, made UMKM not maximal in gaining production profits because profits had to be shared with second hand distributors. Marketing methods carried out until now still use social media such as Instagram, Tokedia and Shoope. Marketing methods through social media have a more limited reach, which can only reach audiences that are connected to the internet and access social media, so that the marketing of these entrepreneurial activists is better and the reach is wider then the idea to develop and change towards digital marketing where one of them is through a media website, a special website will be built to shelter UMKM actors, especially UMKM in Desa Rejowinangun to market their products.UMKM will have advantage of using information technology to increase economic value of UMKM in this village, which is expected to increase income and added value to Desa Rejowinangun as a UMKM village.

Keywords: UMKM, Digital Marketing, Information Technology, Web Based

Introduction

Rejowinangun Village is one of the villages located in Kecamatan kademangan, Kabupaten Blitar. This village has potential for Micro, Small and Medium Enterprises (UMKM). Majority of population activity are traders or entrepreneurs, Desa Rejowinangun has nicknamed as the UMKM Village. There are problems encountered in relation to UMKM located in this village. Entrepreneurship activities in Rejowinangun still rely on conventional methods. With results of current sales model and production, many UMKM sell products not directly to consumers. Many product sometimes sold to the dealer without the UMKM label. The second problem is lack of knowledge about use of information technology, such as use of websites and social media as a means of selling and promoting their products. This results in

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limited product sales. Human resources (HR) and capital assets are one of the most important factors in a company. Therefore, HR and capital assets must be managed properly to improve the effectiveness and efficiency of the organization (Enifah, E. 2012).

Brand and product labels not using UMKM labels as a manufacturer, but using a second party supplier trademark. This sales model does not produce maximum profit for producers. But even more profitable for second party. Whereas the second party only does marketing and brand labeling. This is a problem found in Rejowinangun Village as a rural UMKM.

In developing village potentials, problems must be well recognized so that village potentials can increase. This is needed to improve welfare broadly in accordance with the objectives. Micro, Small and Medium Enterprises (UMKM) have an important role in economy of the Indonesian people, especially in villages. The first important role of UMKM is as a way to escape poverty. The main reason is, high employment provided by UMKM. UMKM also has a very important role in economic equality of community. In contrast to large companies, UMKM have various locations in village. Contribution of Micro, Small and Medium Enterprises (UMKM) in Indonesia to national economic development. This is reflected in oppurtuny absorption of a very large workforce. Because this sector can accommodate workers who cannot be accepted in large scale business. Organizational culture has an influence on improving the performance of an organization or company. In this case UMKM can be developed through an organized organizational culture (Tika, 2014). UMKM is also receiving special attention from the Blitar Regency government. UMKM here continue to improve themselves to compete with other regions. Including developing UMKM products based on processed food products. One way to help UMKM trade process is to use e-commerce. This is in line with growth of electronic commerce (e-commerce) through buying and selling sites in Indonesia. Enterprise Resource Planning (ERP) and its implementation can provide optimal service satisfaction for all stakeholders. This can be achieved one of them by adopting an ERP system (Choldun, 2006).

Based on background described above, several problems can be formulated in this research. UMKM marketing methods are not optimal, because they still rely on conventional sales methods. The second problem is selling excellent UMKM products in Rejowinangun Village that are not directly in the hands of consumers. In an effort to increase the economic value of UMKM Desa Rejowinangun, the idea is arose to develop and change towards digital marketing. Solution is to build a special website for UMKM. Information technology is a set of tools that helps you work with information and perform tasks related to information processing (Haag and Keen, 1996). This project will benefit, UMKM can sell their products directly. It also means utilizing information technology through digital marketing through website media. Sales of UMKM products are direct to consumers and not through second parties. So this marketing model reach of UMKM becomes better and wider.

The goal is, UMKM marketing going better and wider. So this is an idea for developing and changing towards digital marketing. One method is through media websites. A website will be built to facilitate UMKM, especially UMKM in Rejowinangun Village to market their products.

Research Method

Information is data that is processed into more valuable and meaning for its recipients, while data is source of information which describe a scene (group of facts). Information system, according to Leitel and Davis on their book “Accounting Information System” define it as “Information System is a system within an organization which unites daily transaction management needs, backs up operational, spatially managerial, and strategic activities of an organization and provides necessary reports or other outer parties”.

In common definition, information system is a system within an organization which process data into more useful form to achieve a purpose (Jogiyanto, 2005). This system is consists of several element such as process and output, as seen as Picture 1 (Scott, 1996). According to (Jogiyanto, 2005) in his book

named Analysis and Design of Information System, it is explained that: “System is a network of interrelated procedures, gather together to conduct an activity to fulfill a certain goal”. Information systems using ICT (Information and Communication Technology) are implemented to improve the way organizations operate and to help ease work (T.Cornford and M.Shaikh, 2013).

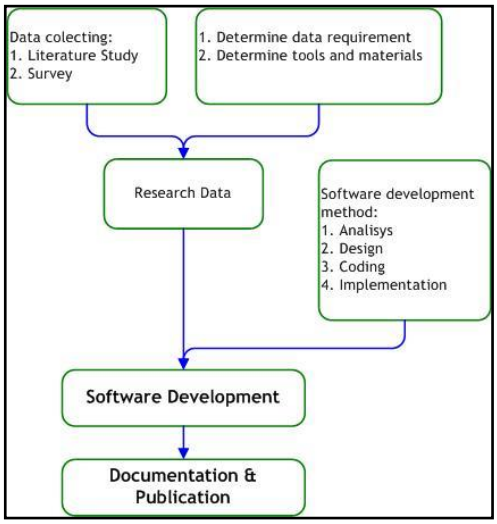

Figure 1. Research Design

Waterfall model is the earliest SDLC approach that was used for software development. In “The Waterfall” approach, the whole process of software development is divided into separate phases. The outcome of one phase acts as the input for the next phase sequentially. This means that any phase in the development process begins only if the previous phase is complete. The waterfall model is a sequential design process in which progress is seen as flowing steadily downwards (like a waterfall) through the phases of Conception, Initiation, Analysis, Design, Construction, Testing, Production/Implementation and Maintenance. As the Waterfall Model illustrates the software development process in a linear sequential flow; hence it is also referred to as a Linear-Sequential Life Cycle Model.

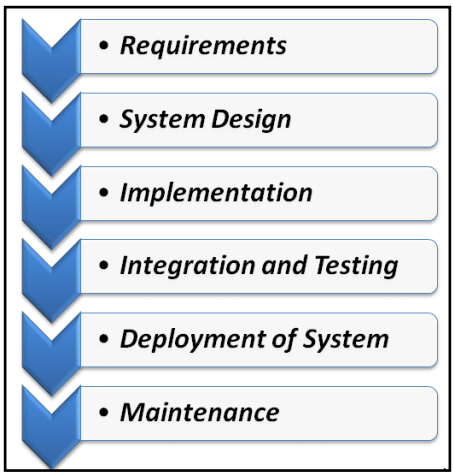

Figure 2. Sequential Phases in Waterfall Model

Requirements is first phase involves understanding what needs to design and what is its function, purpose, etc. Here, the specifications of the input and output or the final product are studied and marked. Information systems studies have begun to influence other disciplines through concept of the company's point of view of information management (Laudon and Laudon, 2006). System Design is requirement specifications from the first phase are studied in this phase and system design is prepared. System Design helps in specifying hardware and system requirements and also helps in defining overall system architecture. The software code to be written in the next stage is created now. In implementation step, with inputs from system design, the system is first developed in small programs called units, which are integrated into the next phase. Each unit is developed and tested for its functionality which is referred to as Unit Testing. Then integration and Testing, All the units developed in the implementation phase are integrated into a system after testing of each unit. The software designed, needs to go through constant software testing to find out if there are any flaw or errors. Testing is done so that the client does not face any problem during the installation of the software. Deployment of System is mean once the functional and non-functional testing is done, the product is deployed in the customer environment or released into the market. Last Step is maintenance. This step occurs after installation, and involves making modifications to the system or an individual component to alter attributes or improve performance. These modifications arise either due to change requests initiated by the customer, or defects uncovered during live use of the system. The client is provided with regular maintenance and support for the developed software. All these phases are cascaded to each other in which progress is seen as flowing steadily downwards (like a waterfall) through the phases. The next phase is started only after the defined set of goals are achieved for the previous phase and it is signed off, so the name "Waterfall Model".

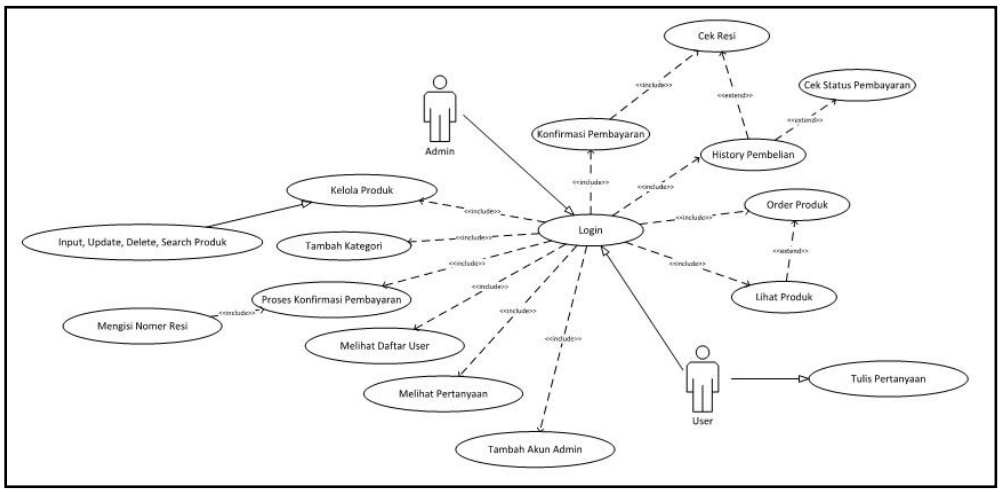

Figure 3. Use Case Diagram of System

This system design uses Use Case Diagrams. There are two users for this e-commerce system, User Admin and User Member. User Admin is operator of UMKM who trade through this e-commerce. User Members are users of this system who act as buyers. Guests can also use this system, but their use is limited only to view the products presented.

Login is required to enter this system, from admin and buyer side. This is necessary for security of system and achievement of trading activities. Admin users have multiple access rights. Access rights possessed include managing products, adding categories, confirming payments, viewing buyer data, and viewing a list of questions that arise. In the product management process, admin user can make additions, deletions, and changes from the product.

User members also have access rights. These access rights include viewing products, ordering products, viewing purchase data, confirming payments, checking shipping receipts, and checking payment status. All of these permissions require logging in first. For users who are not logged into system, access rights can only write questions sent to manager of this system.

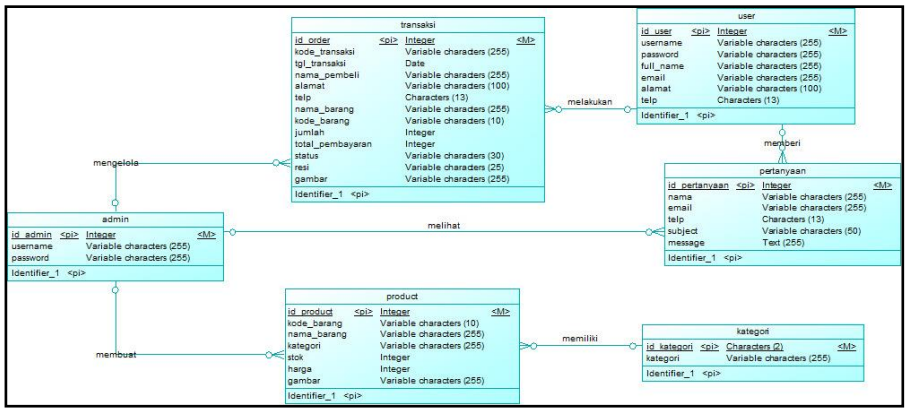

Figure 4. Conceptual data model of system

A conceptual data model identifies the highest-level relationships between the different entities. Features of conceptual data model includes the important entities and the relationships among them. No attribute is specified in CDM, and no primary key is specified. From Figure 4, we can see that the only information shown via the conceptual data model is the entities that describe the data and the relationships between those entities. No other information is shown through the conceptual data model. There are six entities formed. Each entity has an attribute. Relations between entities have been adjusted to the needs of this system.

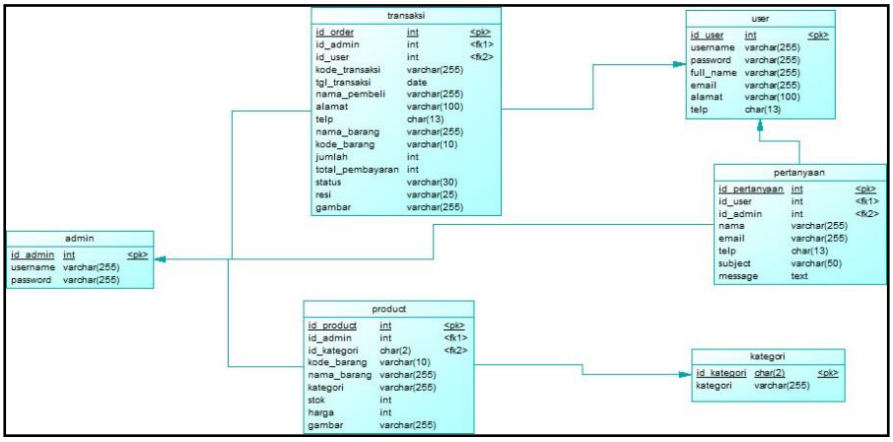

Figure 5. Physical data model of system

Physical data model represents how the model will be built in the database. A physical database model shows all table structures, including column name, column data type, column constraints, primary key, foreign key, and relationships between tables. Database is a data or collection of data that is mechanical, shared, formally defined and controlled centrally in the organization (Gordon C. Everest 2005). Features of a physical data model include specification all tables and columns. Foreign keys are used to identify relationships between tables. Denormalization may occur based on user requirements. Physical considerations may cause the physical data model to be quite different from the logical data model. Physical data models are generated from the Conceptual Data Model. Physical data model of this

system can be seen in Figure 5. The results of this generate form the arrangement of 6 tables. The table that has been formed is a requirement of the system to be made. The tables are admin, transaksi, product, user, pertanyaan, and kategori table.

Result and Discussion

Based on design that has been made, system is implemented on a website application. Various forms are created to carry out activities prepared on system design. Page that first seen when opened is main page. This page shows a brief description of contents of website. Main page that show on Figure 6, users can find various menus in left sidebar which are available UMKM choices. From here, users can begin to find needs about product sought. Product search starts from the UMKM link on left side.

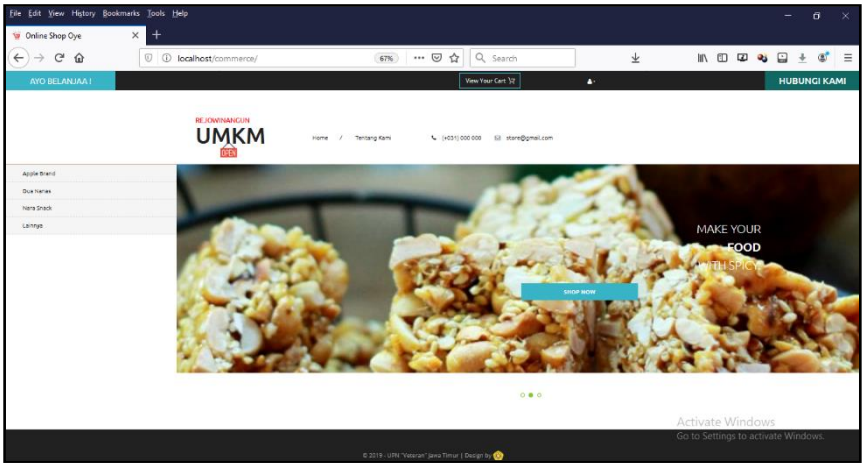

Figure 6. Main Page e-Commerce Web

In addition to menu that has been explained on main page. There is another option menu that can provide information to website visitors. Examples include inclusion of telephone numbers. In addition to telephone numbers, there are also other supporting menus. Web visitors can view photo galleries of products for sale. With the display of photos of UMKM products, it aims to make it more interesting for visitors to immediately buy.

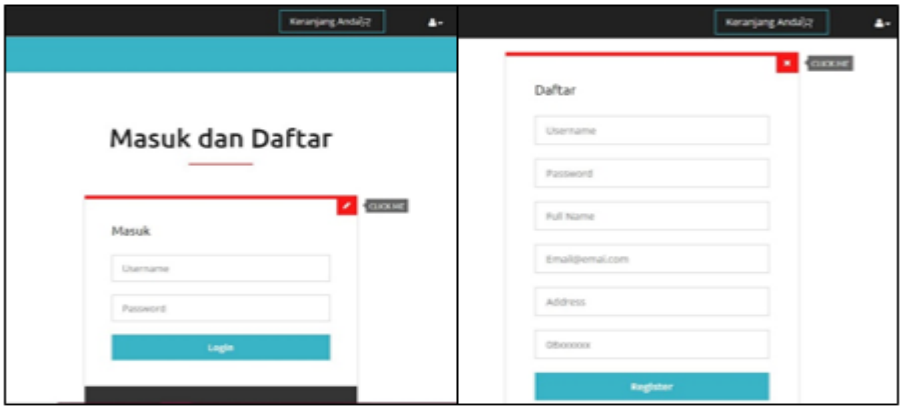

Figure 7. Login Form & Register Form

Login Form is used to restrict access for users to view and interact with data on this system. Only registered users can access and make purchase transactions. It also said, login is the process of entering system by completing an account identity consisting of a username and password to get access rights. Both the username and password, both must be precise so that there are no typos when used to login. These usernames and passwords are related so that they cannot be separated. In Figure 7, a login form and data registration form are shown. Users who have an account can directly log in. while users who do not have an account, can immediately register on this system. Users who have already registered will get a username and password to enter the system.

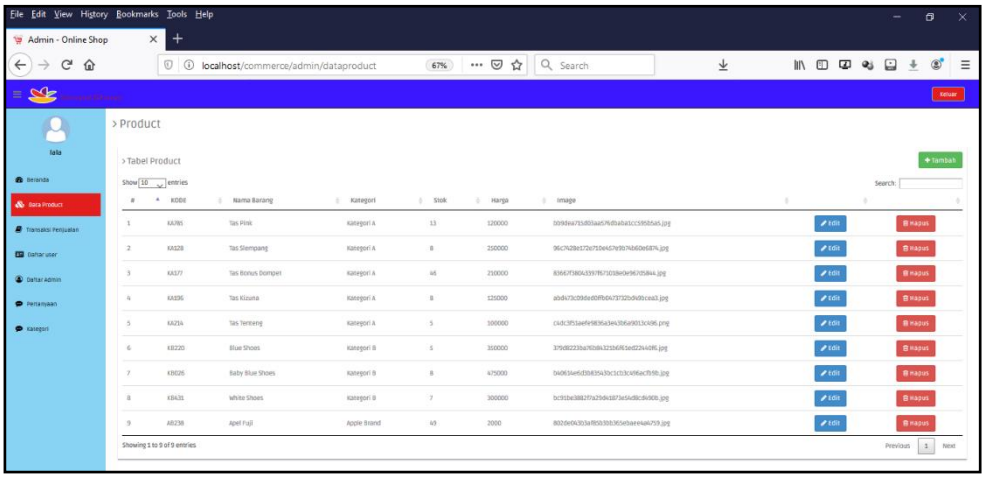

Figure 8. Master Data of Product

Every UMKM that sells using e-commerce web is given access as an admin. This is done to facilitate UMKM owners to be able to manage their product data properly. Data that is always updated will convince potential buyers not to think long about buying the product. The product master data can be seen in Figure 8. Admin user can make additions, changes, deletions of product data being sold. In this master data, each product is given an identity in the form of a product code, product name, category, amount of stock, price, and product image.

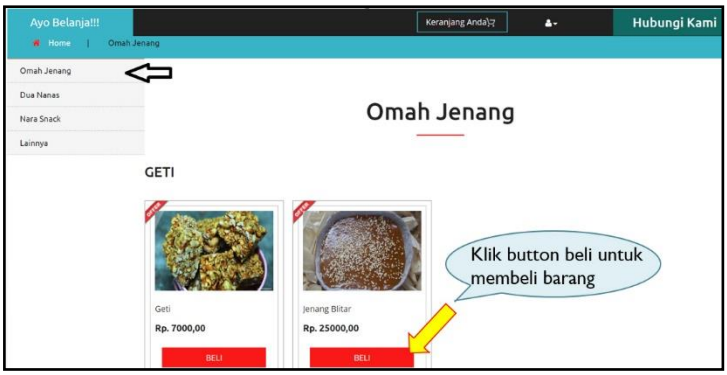

Figure 9. Buy Simulation on Omah Jenang Store

The product displayed is the flagship of the UMKM. This means the product can be ordered online. This e-commerce application is a means to order the products displayed. At the bottom of the product photo there is a "buy" button, members who are logged in can make purchases on the available buttons. Process of ordering and purchasing can be seen in Figure 9. After that, the next procedure will continue.

Members will be asked to complete purchase data, shipping addresses, and payment methods. All this is done with an online system, so that there is no need to negotiate every time make a transaction. After all the initial procedures are carried out, then the buyer can make payments at the designated place. After making a payment, the buyer confirms the purchase on the website. Shortly after, the Admin will confirm the intended purchase transaction. If all stages have been completed, then its time to product preparing and send product to buyer. Confirmation stage by UMKM admin about product ordering can be seen in Figure 10. This is all done online and without face-to-face meetings. This makes every transaction more effective and efficient.

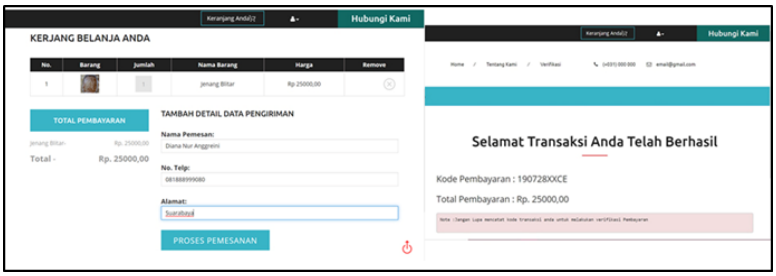

Figure 10. Validation of Sell and Buy Activity

Conclusion

After all the stages and testing on e-commerce system are run, some conclusions can be drawn. E-commerce applications for sale of UMKM products can run well in accordance with design made. This e-commerce application can be used by UMKM to market their products more broadly. Sales of products using e-commerce have made UMKM label increasingly recognized in community. This certainly increases economic value of UMKM at Desa Rejowinangun.

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