International Journal of Engineering & Technology, 7 (2.27) (2018) 231-237

International Journal of Engineering & Technology

Website: www.sciencepubco.com/index.php/IJET

Research paper

Design of online transaction model on traditional industry in order to increase turnover and benefits

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Abstract

Online transactions are transactions made sellers and buyers online through the Internet media, there is no direct encounter between buyers and sellers. Currently with the rapid development of technology and the Internet in Indonesia, has had a great impact on the change of industrial business. That is starting from the way advertising, buying and selling, how to interact between humans, and so forth. With e-commerce has changed a lot in the process of buying and selling. Panda Alami is one of the banana chips industry established since 1998 in Cipadang Pesawaran village. This banana chips industry still uses manual way in transaction process. To increase the turnover and profit that is the purpose of this study, the transaction model is developed with SDLC (System Development Life Cycle) and software used to design and design this application is PHP programming language, MySQL Database and Adobe Photoshop CS3. Features include product search, order, delivery and payment confirmation and thus provide integration of the entire inventory unit sales network. An equally important factor is trust. In this process trust is the main capital. Because without the trust of both parties, then the process of online transactions can not happen and done.

Keywords: *E-Commerce; Online Transaction; Traditional Industry; Internet.*

1. Introduction

1.1. Background

The world of business and industry is now increasing [1-3]. The wide range of competition between industries to dominate the market looks very huge towards the concern in managing the appropriate strategic initiation [4-6]. This condition must be immediately observed in order to get around the competition that happened. This makes the industry increasingly through popping up in various types of industrial fields in various places [7-9].

In Pesawaran, chip industry is very abundant. Almost every district there is a chips industry with various types of materials used such as cassava, sweet potatoes, banana and many others. The crispy snack made from banana is the most widely produced and desirable chips due to banana materials are abundant and easily obtainable [10-12].

Banana Chips Natural Panda is an industry engaged in the production and sales of banana chips. In marketing and sales of Panda Alami banana chips is less than the maximum. This is because the marketing is still a manual way. The stage of marketing and sales is entrusted banana store chips - shops or buyers come directly to the place of choosing banana chips are available and then make transactions. Omzet and profit gained not too large because the scope of marketing area is just around Pesawaran district where the industry is located.

Therefore one step in increasing turnover and profit is the need to build a website for online transactions. Customers can access the website and can see banana chips that are sold with various flavors without having to come to the place of manufacture. Customers can directly make transactions for banana chips that they want online and wait for goods at home or place of interest.

1.2. Objectives

a) Generate a transaction model with online handling that provides information on the goods sold.
b) Generate online transactions in verifying and validating transactions.

1.3. Boundaries

a) Model deals with online handling and provide information on goods sold, involving web administrators and customers.
b) Payment is made by bank transfer / ATM, so the validation will be sent via email or SMS.

2. Literature review

2.1. E-Commerce

E-Commerce is a new system or paradigm in the business world, which shifts the paradigm of traditional commerce into electronic commerce that is by utilizing ICT technology (Information and Communication Technology) [13-16]. With this regard, the entire effort to deliver the internet basis using technology adoption has to be involved with expanding the application strategy enhancement [17-20]. In particular, e-commerce in general refers to the process of buying, selling, whether in the form of goods, services or information, which is done through the internet media [21-24]. The definition of e-commerce is Business conducted electronically involving business activities in the form of business to business or business to consumen through internet technology [25-28]. This initiative might need to get access the appropriate means in facilitating the best transmission of product and service [29-32]. In attempting the online transaction through using electronic media, it is necessary to point out expanding the initiative in delivering the service and product with the process [33-36]. To this point, the entire process through purchasing about a particular product with the several uses of ICT technology is widely a pivotal opportunity in accessing the good result [37-40].

2.2. PHP

PHP is the language (scripting language) designed specifically for use on the web. PHP is a tool for creating dynamic web pages. Rich in feature that makes web design and programming easier, PHP is used on 13 million domains (according to the Netcraft survey on www.php.net/usage.php. PHP stands for HyperText Preprocessor. At the beginning of its development by Rasmus Lerddorf, he called it tools Personal Home Page [41-43].
Like other programming languages PHP in getting the entire process to all the commands that are in the PHP script within the web server and display its output into the client's web browser. PHP is a scripting language that produces HTML output or other output as desired by the program (eg PDF) running on the server side. That is, all the syntax we provide will be fully executed on the server while sent to the browser only the result only.
PHP is so fast popular and growing so fast because PHP has several advantages that is:

1) Fast, because embedded in the HTML code, so the response time to be short.
2) Not expensive - free. In reality, PHP is free and can get it without having to pay.
3) Easy to use. PHP contains the special features and functions needed to create dynamic web pages. The PHP language is designed to be easily inserted in HTML files.
4) Runs on multiple operating systems. It runs on multiple operating systems, windows, Linux, Mac OS, and most variations of UNIX.
5) Technical support is widely available because PHP provides free support via e-mail discussion list.
6) Secure. Users do not see the PHP code, because the code displayed in the browser is HTML code designed to support the database [44-46]. PHP includes capabilities designed to interact with a specific database. Among the customization process, an open source licenses allow programmers to modify PHP software, add or modify features needed for their own environment [47-50].

2.3. HTML

HTML stands for Hyper Text Markup Language. HTML is the language used to create a website or Homepage. Every document in the web is written in HTML format. All document formats, clickable hyperlinks, images, multimedia document and content about the particular product and service [51-53]. It points out giving an insightful value with performing the particular feature of HTML within the online-based digital device [54-55]. Actually, an HTML document is just a plain text document and is called a markup language that is a language that contains a marker code called an HTML tag that is used to set the display format of a document. This code is inserted into the HTML text used to set the display format of a document. This code is inserted into HTML text, serves to control the format and layout in the document, point to a hyperlink, and others.

2.4. MySQL

MySQL is a derivative of one of the main concepts in the database since a long time, namely SQL (Structured Query Language). SQL is a concept of database operation especially can be done easily and automatically [20-22]. MySQL popularity is possible because of its ease of use, fast query performance, and sufficient for database needs of small medium-sized companies. MySQL is a database used by reputable sites on the Internet to store its data. MySQL database software is now released as an open source database software, formerly a shareware database software. Shareware is a software that can be freely distributed for personal use, but if it is used commercially then the user must have a license from the manufacturer. Open source software allows software to be distributed freely and can be used for personal or commercial purposes, including the source code of the software. MySQL is an application or system for managing databases or data management. To store our data and computer information using data, for example we store employee data on a company and put in a file. These data files are called databases, and MySQL is responsible for managing and managing databases on databases [27-29].

3. Research methods

This method is a method often used by system analyzers in general. The core of the waterfall method is the workmanship of a system performed sequentially or in a linear manner. So each stage must be completed in full before proceeding to the next stage to avoid repetition of stages. The waterfall method has the following steps: System Survey, System Analysis, System Design, System Creation, System Implementation, System Maintenance.

3.1. System survey

The benefit of the investigation or survey phase of this system is to determine the problems or needs that arise. It requires the development of the system as a whole or whether there is another effort that can be done to solve it [23-25]. One alternative answer may be a decision not to make any changes to the system running. In other words the existing system is still running without the need for changes or new system development. This can happen because the need can not be implemented or suspended for a certain period of time. Other alternatives may only require improvements to the system without having to replace them.

3.2. System analysis

The analysis phase starts with activity activities and tasks where the running system is studied more deeply, conceptions and suggestions are made to become the foundation for the new system to be built. At the end of this stage half the activities of the information system development effort have been completed. One of the most important goals at this stage is to define the road system. The procedures are documented according to the system user's perspective so that system users will participate and understand all problems encountered and provide refinement proposals [53-55]. The system which users adopt is usually contained the particular component with analyzing the entire work together to outline the needs and capabilities of the new system to be proposed [56-59].

3.3. System design

At this stage, most computer-oriented activities are carried out. Hardware and software (HW / SW) specifications that have been compiled in the previous stage are reviewed and also about the program. Training for system users begins. In the end by participating authors of system users, a thorough system test is performed. If the system user is satisfied with the results of the testing, the steering committee begins its approval for the next stage.

3.4. System implementation

This stage is a procedure undertaken to complete the design of existing systems in approved system design documents and to test, install and start the use of new systems or systems that have been improved. The purpose of this implementation phase is to complete an approved system design, test and document the necessary system programs and procedures, ensure that the personnel involved can operate the new system and ensure that the old system's conversion to the new system works properly and correct.

3.5. System maintenance

The maintenance here refers to the attempts in delivering the strategic plan to give the secure in well performed basis. It contains two stages of review that must be implemented. The first time is not too long after the implementation of the system, where the project team is still there and each member still has fresh memories of the system they make. The next review can be implemented approximately after six months. The goal is to ensure that the system is running in accordance with the original purpose and whether there is still improvement or improvement that must be done. In addition this stage is also a form of evaluation to monitor that the information system operated can run optimally and in accordance with the expectations of users and organizations that use system. Eventually each year, the organization uses 10% - 25% of the initial system cost to maintain the system. The purpose of this system maintenance process is to perform a system evaluation quickly and efficiently, perfecting the system maintenance process by always analyzing the information needs generated system and minimize the disturbance control and disruption of operations caused by system maintenance process.

4. Analysis of needs and designs

4.1. Hardware requirements

Table 1 shows hardware requirements.

Table 1: Hardware Requirements

No	Hardware	Requirements
1	Processor	Intel Pentium (R) Dual-Core
2	Harddisk	320 GB
3	Memory RAM	2 GB
4	VGA	384 MB
5	Supporters	Monitor, Keybord, Mouse, Modem

4.2. Software requirements

Table 2 shows software requirements.

Table 2: Software Requirements

No	Software	Specification
1	Operating System	Windows XP SP2
2	Web server	Xammp Versi 1.7.0
3	Web Browser	Mozila Firefox, Google Chrom, Internet Explorer
4	Database Server	Mysql 5.0.51
5	Program Editor	Notepad++
6	Text Editor	Photoshop Cs 3
7	Drawing Diagram	Microsoft Visio 2003
8	Documentation	Microsoft Word 2003

4.3. Database design with diagram

Context diagram is a data flow that serves to describe the interrelation of data flow between the systems with the outer part. In the system made in the industry of natural banana panda chips consumers who are interested will buy banana chips will choose then order it through the form that is on the page basket transactions online industry panda banana chips natural. Furthermore, the system will inform the admin in the form of report how many consumers are ordering on that day. After admin check the report including the funds from the consumer, then the admin will issue a letter order authorization of goods to the online transaction information system of natural banana panda chips. The order authorization letter then proceeds to the delivery department for packing to make delivery to the consumer. This shipping section will issue a report on the delivery of goods to the online transaction information system of natural panda banana chips. After the goods are shipped then the online transaction system of banana panda naturally will report to the consumer that the goods have been shipped. It refers to the entire attempt through expanding the order to accept the initiative from internet. The online transaction information system of natural panda banana chips will report to the director in the form of sales reports.
ERD is used in building a database to illustrate the relation or relationship of two files or two tables. ERD consists of two main components of entities and relationships. Both components are further described through attributes or properties. The connection among the number of entities here could be viewed as occurring E-Commerce system that will be designed can be seen in Entity Relationship Diagram.

4.4. Web page design

Figure 1 shows main menu page design.

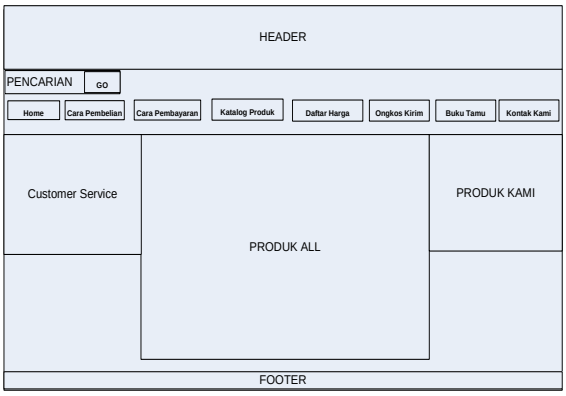

Fig. 1: Main Menu Page Design.

Figure 2 shows shopping cart page design.

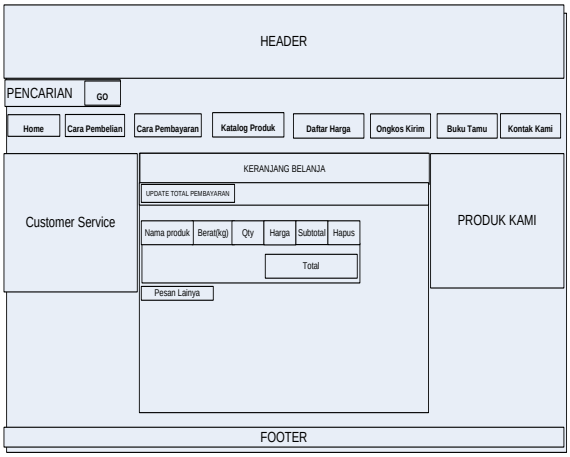

Fig. 2: Shopping Cart Page Design.

Figure 3 shows product pricelist page design.

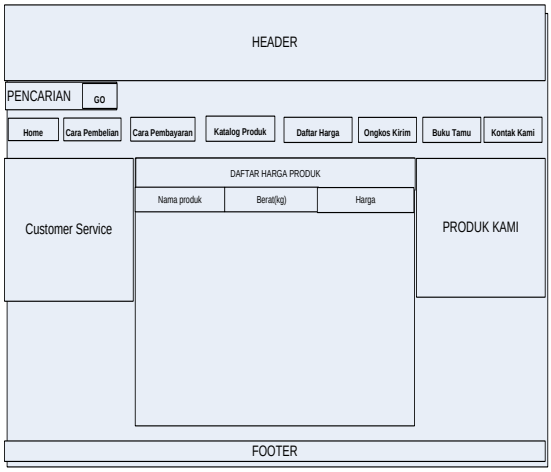

Fig. 3: Product Pricelist Page Design.

Figure 4 shows login administrator page design.

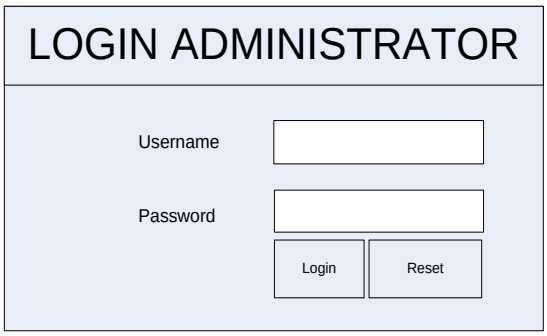

Fig. 4: Login Administrator Page Design.

Figure 5 shows administrator main page design.

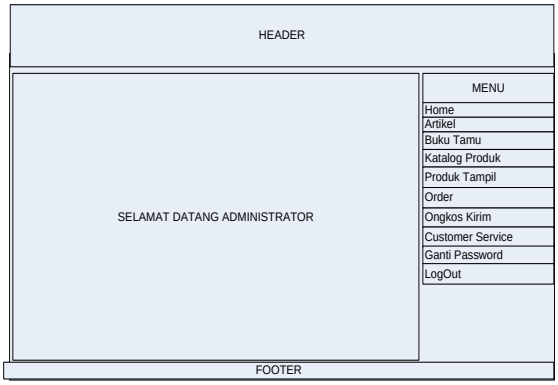

Fig. 5: Administrator Main Page Design.

5. Implementation and testing

5.1. Database implementation

Table 3 shows admin table.

Table 3: Admin Table

	Field	Type	Collation	Attributes	Null	Default	Extra
☐	id_admin	int(3)			No		auto_increment
☐	username	varchar(15)	latin1_general_ci		No		
☐	password	varchar(15)	latin1_general_ci		No		

Table 4 shows details purchases table

Table 4: Details Purchases Table

	Field	Type	Collation	Attributes	Null	Default	Extra
☐	id_pembelian	int(3)			No		auto_increment
☐	id_produk	int(3)			No	0	
☐	harga	int(9)			Yes	*NULL*	
☐	jumlah	int(6)			Yes	*NULL*	

Table 5 shows consumer table.

Table 5: Consumer

	Field	Type	Collation	Attributes	Null	Default	Extra
☐	id_konsumen	int(3)			No		auto_increment
☐	nama_konsumen	varchar(30)	latin1_general_ci		No		
☐	alamat_lengkap	varchar(100)	latin1_general_ci		No		
☐	kodepos	varchar(6)	latin1_general_ci		No	0	
☐	telepon	varchar(12)	latin1_general_ci		No	0	
☐	email	varchar(30)	latin1_general_ci		No		
☐	id_kota	int(3)			No	0	

Table 6 shows city table.

Table 6: City

	Field	Type	Collation	Attributes	Null	Default	Extra
☐	id_kota	int(3)			No		auto_increment
☐	nama_kota	varchar(100)	latin1_swedish_ci		No		
☐	ongkos_kirim	int(10)			No	0	

Table 7 shows purchasing table.

Table 7: Purchasing

	Field	Type	Collation	Attributes	Null	Default	Extra
☐	id_pembelian	int(3)			No		auto_increment
☐	id_konsumen	int(3)			Yes	*NULL*	
☐	tanggal	date			Yes	*NULL*	
☐	status_kirim	enum('baru', 'lunas', 'terkirim')	latin1_general_ci		Yes	*NULL*	

Table 8 shows product table.

Table 8: Product

	Field	Type	Collation	Attributes	Null	Default	Extra
☐	id_produk	int(3)		UNSIGNED	No		auto_increment
☐	nama_produk	varchar(50)	latin1_general_ci		No		
☐	berat	int(4)			No	0	
☐	harga	int(11)			No	0	
☐	deskripsi	text	latin1_general_ci		No		
☐	file_gambar	varchar(100)	latin1_general_ci		No		

5.2. Website user implementation pages

Figure 6 shows main menu page.

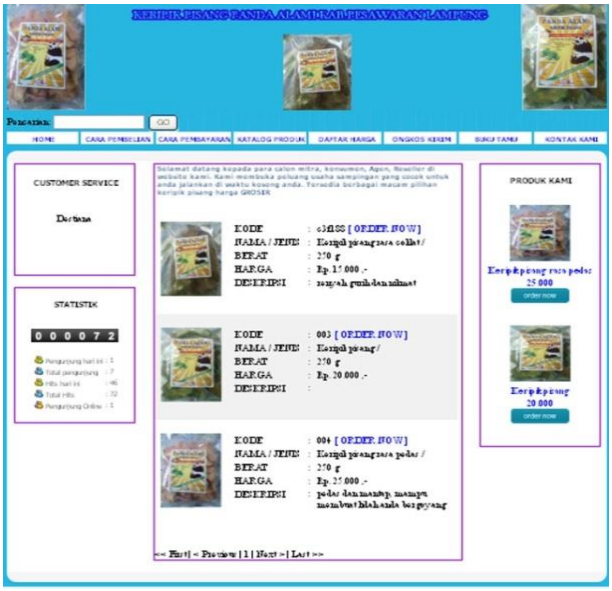

Fig. 6: Main Menu Page.

Figure 7 shows shopping page.

Fig. 7: Shopping Page.

Figure 8 shows product pricelist page.

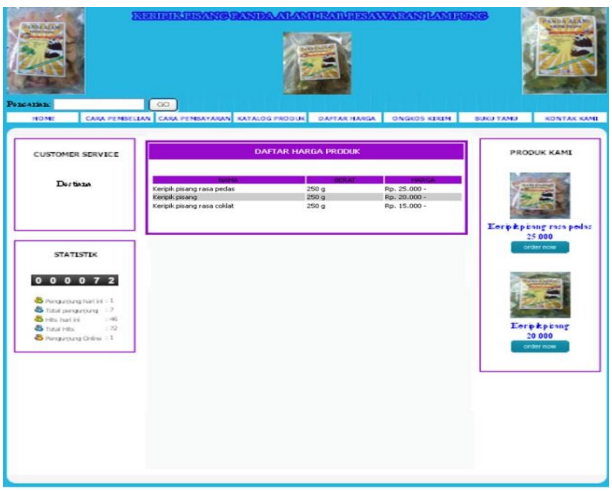

Fig. 8: Product Pricelist.

5.3. Admin implementation page

Figure 9 shows admin implementation page.

Fig. 9: Administrator Login.

Figure 10 shows administrator main page

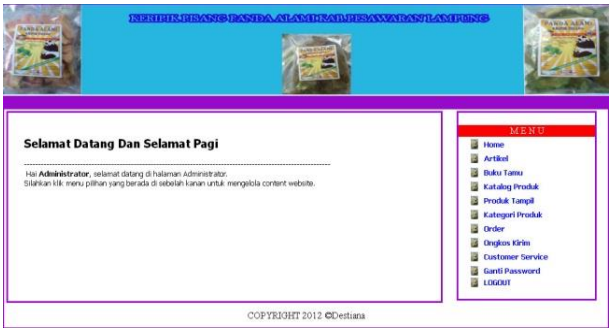

Fig. 10: Aadministrator Main Page.

5.4. Testing

Testing the system aims to determine whether the system has been made in accordance with the initial purpose of manufacture and is feasible to use. In accordance with the physical design as the application documentation, then the program must be made in accordance with the documentation. Through cooperating with code implementation program, attempts to build website needs to be enhanced with examining the result in order to have preventive action towards the errors possibly occurred.

6. Conclusion

In general, the interaction and transactions between business actors within the ecommerce technology could be widely engaged into categorizing B2B (business to business), B2C (business to consumen), C2B (consumen to business), and C2C (consumen to consumen). Based on research conducted by the authors on the online transaction model on banana chips industry with the brand of Natural Panda in Pesawaran district, it can be drawn some conclusions as follows: a) Build a transaction model with online handling that provides information on goods sold. b) Online transaction system to verify and validate transactions is faster and easier.

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