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Information System Design of an Inventory Online Website

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Abstract. The purpose of this research is to design an information system of an inventory online website that can replace manual process in supporting the fulfilment of information requirement, assist data processing with computerization, and assist the processing of stock data, materials and orders using computer media. Prototype method was used to develop the system. The method used in this paper was descriptive analysis method related to online inventory of warehousing system. The goal is to produce an information system of an inventory online website in the form of warehouse information system that can be accessed through computer application. Therefore, this research is done by discussing the flow map of running warehousing system and proposed warehousing system. Information systems that work should be able to facilitate the company as any process that is running in the company, with the information system in inventory activities can replace the manual process is very supportive of the fulfilment of information needs relatively fast, accurate and keep up with the times, errors due to duplication with the validation of data, and can facilitate the processing of stock data, materials & orders using computer media, so as to improve services to all parties who need data quickly.

1. Introduction

The Internet is a global communication medium that is increasingly being used worldwide as an innovative tool for marketing goods and service [1]. In addition to setting a vision of the company, utilizing Information Technology is also an important thing for the success of a business. [2] Colicev et al. elaborated that Social Media affects Brand awareness, purchase intent, and customer satisfaction [3].

Meanwhile, one of the forms of current technology use is the web, which is a dynamic and diverse collection of documents, or a social networking site that can record various information from any actions performed by members or its users and then produce relevant data. [4, 5] To promote the association or group of family members in order to encourage the company's brand, it must be driven by motives relating to identity such as pride and identity [6] Accorsi et al. which explained that warehousing systems have an important role to provide efficiency and customer satisfaction. [7] While Gu and Mcdinnis explained that the basic function of warehousing is for the process of receiving, storing, order-taking, and delivery [8].

Research conducted by Maind et al. against Ordering System Room found that to overcome the error in ordering food, and improve the efficiency and accuracy of restaurants in saving time for service and ordering can use a technology-based ordering system through smartphones and tablets. [9] While research conducted by Pan et al. explains that for faster delivery systems it takes a pick-and-pass system as the emergence of e-commerce and e-business in global supply chains [10].

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From some understanding and the results of previous research it can be seen that the use of information systems on inventory transaction activities is needed. Therefore, this study was conducted with the aim to build information systems that can help the transactional and administrative systems in the business of inventory, using quantitative methods with the tools used are flowmap and context diagram. So that awakening a system that can help the consumer and the inventory in the transaction process.

2. Method

The method be used in system development in design is by using prototype, to get detail without a clear picture from a consumer, and use flowmap diagram, to analyze a system (See Figure 1).



Figure 1. Prototype Model

3. Results and Discussion

In the inventory business activity, then first create a flow map system that is running, as follows:

- a. Make Order of goods in the message.
- b. If the stock of order goods there, will proceed to the transaction process, if the stock of order goods does not exist, the production will make the goods according to order.
- c. If the raw material of the order goods is insufficient or insufficient, the Warehouse will get the raw material from the supplier.
- d. The Supplier will send the material stock to the Warehouse section, and the Warehouse section will update the stock of the raw materials.

Order goods data in production by the production will be given to the admin to do the sale and purchase transactions.

From the system to be proposed, the warehouse information system that can be accessed through computer applications because it has been based software or computing, the user only requires a computer that has local connection facilities, so that each staff can more easily to find information about the data stock glasses , materials, and daily order and other facilities. The description of the proposed system as follows:

- The staff can directly input stock data through the application to update.
- The staff can see the goods information by getting the information quickly and accurately.

Customer

Invoice

4. Sales

Glasses data

Glasses Data

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I Raw Material Material order data Warehouse Supplier Material Data Data Data Orders Material data Order data 3. 2. Raw Oder Data Order 1. Making Material Data Receiver Glasses Stock

Existing facilities other than the above are information about the order data making it easier for the admins to make receipts and update the same stock (See Figure 2).

Figure 2. Data Flow Diagram.

GLASSES

DATA

Relations between tables are a process of grouping tables that have attachments to each other (See Figure 3).



Figure 3. Table Relation.

The context diagram explains below a diagram that shows an entry of data and exits its data. Here is an overview of the ongoing service manual system. Here's an ongoing inventory:

- Inner Entity : Administration
- Outer Entity : Buyer of Warehouse and Supplier Section
- Process : Checking the completeness of requirements, making a request letter, and doubling the request letter (See Figure 4).



Figure 4. Context Diagram (Level 0).

After creating a context diagram, the next step is to provide inventory data that is still present in the storage warehouse, with detailed details of the product, such as goods code, item name, and quantity of goods and price of goods (See Figure 5).

Z	kode_kacamata 👻	nama_kacamata 👻	jumlah_kaca 🗸	harga 👻
	EB105	Haru Biru	18	1,190,000
	EB106	Elegi	14	1,289,000
	EB107	Bingar	16	1,279,000
	EB113	Minor	18	1,189,000
	EB212	Naluri	24	875,000
	PL915	Jimat	16	1,190,000
	RW413	Sore	19	898,000
	RW514	Metafora	20	1,290,000
	RW614	Langit	13	1,390,000
	RW714	Kulminasi	14	1,289,000
	RW814	Kaldera	13	1,489,000
	SP313	Sinar	15	898,000

Figure 5. Inventory Data.

After making detailed data about the products that are still available, the next is to make a detailed data about the new raw materials available in warehousing for the process and produced into products needed by consumers (See Figure 6).

2	id_bahan 🕞	nama_bahan 👻	jumlah_bahan 👻	harga_bahar 👻
	EB	Kayu Ebony	75	300000
	RW	Kayu Rosewood	60	325000
	SW	Kayu Sawo	80	200000
*				0

Figure 6. New Material Data.

Then the next step is to make a detailed data about the old raw material or that is still available in the warehousing that can be used for the next production process (See Figure 7).

id_bahan 👻	nama_bahan 👻	jumlah_bah: 👻	harga_bahar 👻
EB	Kayu Ebony	30	300000
RW	Kayu Rosewood	25	325000
SW	Kayu Sawo	60	200000

Figure 7. Old Material Data.

After collecting data on the stock of goods and raw materials that are still available, then the next is to make data orders from products, in order to produce goods in accordance with consumer demand, so that the stock of goods available does not exceed demand (See Figure 8).

Number of Order	Name	Address	Order	Amount of Order	Notes	Code of Item
INV0716193	Dean A	Jalan <u>Sindang</u> Sari	Naluri	1	(R-Sphc_1.75 Cyl: 0.25 A)	EB212

Figure 8. Order Data

General description of the system to be proposed, namely the warehouse information system that can be accessed through online applications that can be opened from the gadget or computer, the user only requires a computer that has local connection facilities, so that each staff can more easily to find information about the data stock glasses, materials, and daily order and other facilities. The description of the proposed system as follows:

- The staff can directly input stock data through the application to update.
- The staff can see the goods information by getting the information quickly and accurately.
- Existing facilities other than the above are information about the order data making it easier for the admins to make a receipt and update the glasses stock (See Figure 9).



Figure 9. ERD Picture

4. Conclusion

Information systems that work should be able to facilitate the company as any process that is running in the company, with the information system in inventory activities can replace the manual process is very supportive of the fulfillment of information needs relatively fast, accurate and keep up with the times, errors due to duplication with the validation of data, and can facilitate the processing of stock data, materials & orders using computer media, so as to improve services to all parties who need data quickly.

References

- [1] Clemes M D, Gan C, and Zhang J 2014 An empirical analysis of online shopping adoption in Beijing, China. *Journal of Retailing and Consumer Services* **21**(3) pp. 364-375.
- [2] Ziraba A and Okolo C 2018 The Impact of Information Technology (IT) Policies and Strategies to Organization's Competitive Advantage, V421249 pp. 22-25.
- [3] Colicev A, Malshe A, Pauwels K, and O'Connor P 2018 Improving Consumer Mindset Metrics and Shareholder Value Through Social Media: The Different Roles of Owned and Earned Media. *Journal of Marketing* 82(1) pp. 37-56.
- [4] Ali R and Beg M S 2017 *Introduction*. In Applications of Soft Computing for the Web Springer, Singapore pp. 1-7.
- [5] Kosinski M, Bachrach Y, Kohli P, Stillwell D, and Graepel T 2014 Manifestations of user personality in website choice and behaviour on online social networks Machine learning 95(3) pp. 357-363.
- [6] Binz Astrachan C, & Botero I C 2018 We are a family firm An exploration of the motives for communicating the family business brand *Journal of Family Business Management*, 8(1) pp. 2-21.
- [7] Accorsi R, Manzini R, and Maranesi F 2014 A decision-support system for the design and management of warehousing systems. Computers in Industry **65**(1), pp. 175-186.
- [8] Gu J, Goetschalckx M, and McGinnis L F 2007 Research on warehouse operation: A comprehensive review *European journal of operational research* **177**(1), pp. 1-21.
- [9] Maind A P A, Kumar J U, Shraddha B, Megha B, and Darshan B 2017 Food Ordering Smart System *IJETT* 1(1) pp. 1-4.

[10] Pan J C H, Shih P H, Wu M H, and Lin J H 2015 *A storage assignment heuristic method based* on genetic algorithm for a pick-and-pass warehousing system Computers & Industrial Engineering **81** pp. 1-13.