



Application of Information System in the Field of Graphic Design

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Abstract:

In this digital era, visual communication businesses such as graphic design are among the areas of business that are in great demand. However, the ordering is limited to via telephone or coming directly to the place of business. The purpose of this research is to facilitate business in graphic design by including an information system to facilitate and increase the business's performance. This research used qualitative methods and was supported by the waterfall system as the development method. The use of management resources and information technology services is to support business processes in the organization. The results show that this application makes it producers easier to find consumers, makes business management better, as well as facilitates consumer orders. The conclusion from the installation of information systems for graphic design businesses has a positive impact in terms of bookkeeping, warehouse expenses, the relationship between customers and producers, as well as to see the development of the businesses easily and clearly.

Keywords: Application, DFD, Graphic Design Application

INTRODUCTION

The information system is the activity of an individual or organization using information technology to support its operational management (Boell & Cecez-Kecmanovic, 2015). In the current era, selling a product using a marketing strategy is very important, labels or packaging can be very important, graphic design of the logo is the key to forming communication between producers and consumers (Meggs & Purvis, 2016). The benefits of information systems have a huge impact on an organization, as is currently the case in western

economies with each model, very much depending on how the information system works (Koivisto & Hamari, 2019). Various methods can be used to see an evolution of graphic design, such as exploiting ideas that must consider their economic implications and looking at technological innovations (DeLone & McLean, 2016). Information systems are also useful for avoiding damage to a company's systems in order to get the best way (Geise & Baden, 2015). The benefits of sales and marketing are very important and have a big responsibility in selling a product or service; this is related to how to follow up on orders from consumers, what is needed by consumers, what are the shortcomings and how we maximize everything, making opportunities with graphic design businesses itself (Laudon & Laudon, 2015).

Meggs, P. B. stated that the main problem is not only how much capital is owned, but the actors who run this business often face problems of competition and also business management that is not going well (2016). Communication today does not only happen directly; through many media, we can communicate with no limitations on distance and time. Therefore, visual communication is one of the important communications (Rusmann & Svensson, 2017). The success of a company is seen from how the company is managed with a good and correct system (Kamariotou & Kitsios, 2019). Keen stated that the information system itself is the most important thing is that a good evaluation is very important for practice and practice (Nugrahani, 2015). Information systems have several factors that make an information system important (Simarmata et al., 2020). The difference from previous research is still based on high technology and can only be used by large corporate levels.

This study aims to facilitate small companies in matters of management information systems so that the company can develop, especially in graphic design businesses. Through the utilization of a good and correct information system, the flow of data and activities that were previously invisible becomes clear and orderly.

RESEARCH METHOD

The method used in this research is the qualitative method with the waterfall method as the system development method; the waterfall method is a framework for an activity that is divided into several stages such as needs analysis, system design, testing, implementation, and maintenance (see Figure 1). This method is very suitable for the application of graphic design business information systems because the flow of data and activities will be very clear and helpful from the information system created.

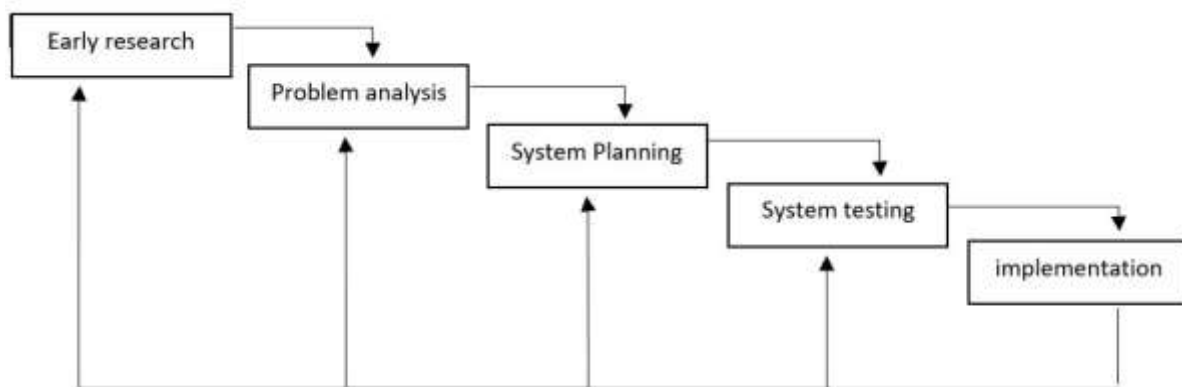


Figure 1. Waterfall Stages

RESEARCH RESULTS AND DISCUSSION

System Analysis

System analysis is a process to identify every process needed, to see all the data flows

and activities that occur in graphic design efforts, and to see the conditions for being able to enter information systems in it. Andy stated that the importance of analyzing the system is to see all the flows of an activity carried out in order to get what problems occur and find answers from those concerned. Here is a description of the activities of the actors.

1. Customer

Activity from the customer namely visiting the place of business, reporting the desire to manufacture the product to the cashier, and providing an explanation of the product or image desired in order to get the desired result; after everything is complete, the customer pays the product price according to the note given.

2. Cashier

Receive orders from customers and are given to designers to make or create, as well as calculate and make payment notes and enter the data into the database so that you can see the income and expenses of this graphic design business.

3. Designer

Create images or products that have been ordered using available tools, and process the final results to be packaged as finished products.

4. Owner

Receive and also check financial reports, attendance, and other important data to see how the business is progressing every month

Data Flow Diagram (DFD)

DFD is a context diagram that describes where and what the purpose of the data is in a system. DFD is depicted in a graph to see the workflow system of activity. Figure 2 is the notation and symbols of DFD.



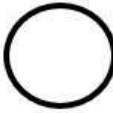
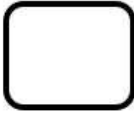




Yourdon DeMacro Notation	Gane & Sarson Notation	Description
		Terminator the origin of the data destination outside the system
		Circle describes entities or data objects transformed to external data streams
		Data stream describe the data stream
		File describes where the data is stored

Figure 2. The notation and symbols of DFD

DFD of ordering information system design

The first stage is the DFD context diagram which describes the activities in their basic terms. It is explained with a DFD diagram (See Figure 3) on how the information system in the business runs in outline. First, the customer makes a desire for the product. After that, it is received by the cashier and a receipt is made, and the product is ready. After the payment, the cashier will enter the note data into the database to be stored.

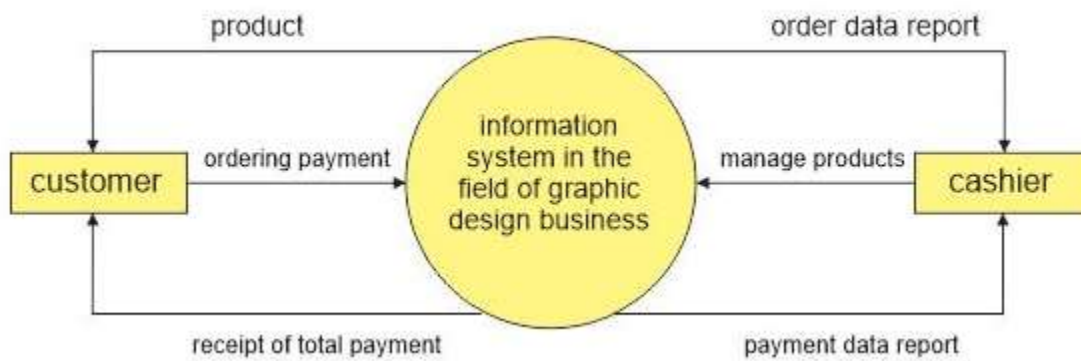


Figure 3. DFD Sales context diagram

Figure 4 shows the DFD explanation of the sales of information systems in the graphic design business. The sales process of the graphic design service business is done firstly by the customer starting an order, then the data is taken by the cashier and made by the designer to be used as the desired item.

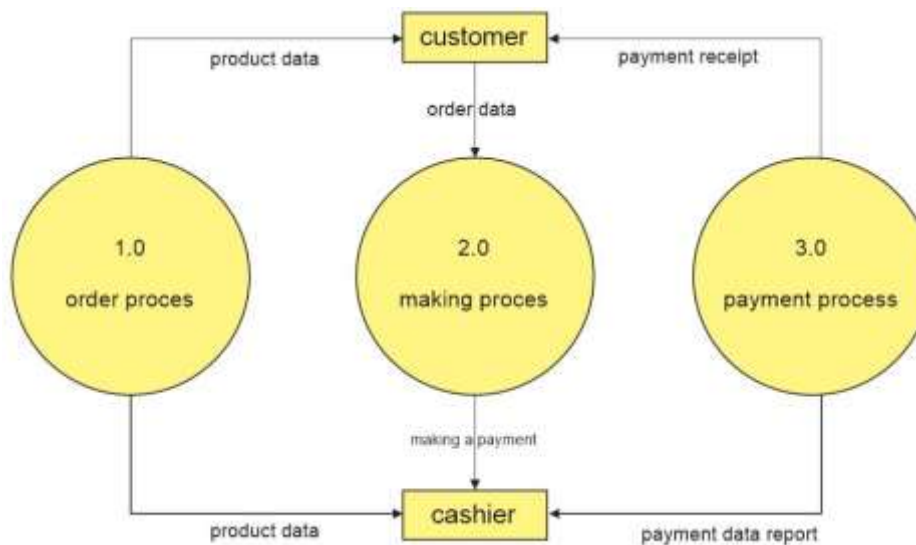


Figure 4. DFD level 0 Sales

Data from a transaction is important, so it is stored safely in the database and can be a reference to see the progress of the business every week or every month. In addition, it can also be used to see the shortcomings so that they can be fixed. The benefits and advantages of this application, besides minimizing all errors and being able to calculate precisely all income and expenses, are better. The process is described with DFD and shown in Figure 5.

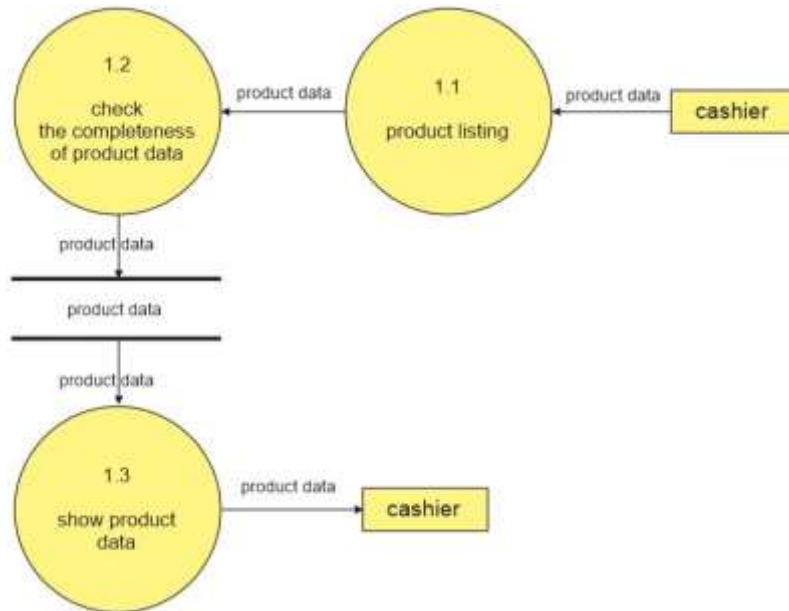


Figure 5. DFD level 1

Flowchart

The flowchart is a diagram that describes an activity of a problem which is depicted by lines, symbols, and arrows as a link. The advantage of flowcharts is that in addition to clarifying the design of an idea, this method can also be used to organize work, model business processes, document each process, audit processes, and present algorithms (See Figure 6).

Symbol	Name	Function
	Flow Line	Program flow direction
	Process	Data processing
	Input/Output Data	Input/output process
	Decision	Statement comparison
	Document	Input/output in paper form
	Terminator	The beginning or end of an activity
	Manual Input	Enter data manually
	Manual Operation	Non computer activity

Figure 6. Flowchart symbols and their functions

Flowchart graphic design services ordering

For further activities, we will use the application of a flowchart diagram to explain transaction activities between customers and companies. The following is an explanation of ordering activity for graphic design services. First, after customers come to the store and describe how they want to design or order the desired goods, second, the cashier will calculate the payment for the services and goods to be made, then the designer draws and creates pictures

or goods to be printed. Third, the goods are delivered to the cashier to be packed, and the consumer pays and delivers the payment note. Lastly, the customer pays the cashier to recapitulate the note to be entered into the database. This method makes it easier for companies to explain all existing activities (See Figure 7).

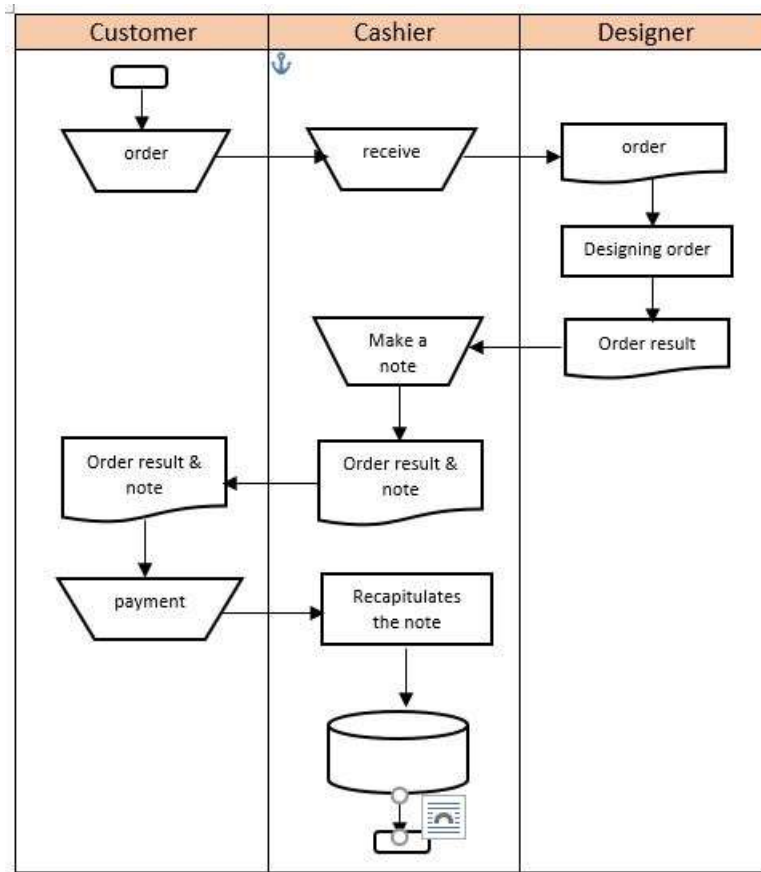


Figure 7. Flowchart graphic design ordering services

Beynon-Davies stated the benefit of this system is that besides being able to attract attention (Koivisto & Hamari, 2019). The flowchart can illustrate or describe a presentation of ideas that can be poured into a flowchart so that it can be understood by ordinary people and compared to other systems, flowcharts are easier to make, and the benefits are also very large.

CONCLUSION

The application of information systems in a business sector, such as graphic design, is very helpful, apart from a more orderly system, the storage of transaction data that can be stored securely, properly controlled expenses and income and makes it easier for customers and sellers to make transactions. Therefore, this information system is one important thing that can help an organization or company to be able to develop better in the future. The advantages of this system are that ordinary people can understand easily because it has symbols that are easy to understand and makes the activities of a company well organized.

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BIBLIOGRAPHY

- Boell, S. K., & Cecez-Kecmanovic, D. 2015. What is an information system? *In 2015 48th Hawaii International Conference on System Sciences*, pp. 4959-4968.
- DeLone, W. H., & McLean, E. R. 2016. Information systems success measurement. *Foundations and Trends® in Information Systems*, **2**(1), pp. 1-116.
- Geise, S., & Baden, C. 2015. Putting the image back into the frame: Modeling the linkage between visual communication and frame-processing theory. *Communication Theory*, **25**(1), pp. 46-69.
- Kamariotou, M., & Kitsios, F. 2019. Strategic information systems planning. *In Advanced Methodologies and Technologies in Business Operations and Management*, pp. 535-546.
- Koivisto, J., & Hamari, J. 2019. The rise of motivational information systems: A review of gamification research. *International Journal of Information Management*, **45**, pp. 191-210.
- Laudon, K. C., & Laudon, J. P. 2015. Management information systems (p. 143).
- Meggs, P. B., & Purvis, A. W. 2016. *Meggs' history of graphic design*. John Wiley & Sons.
- Nugrahani, R. 2015. Peran desain grafis pada label dan kemasan produk makanan umkm. *Imajinasi: Jurnal Seni*, **9**(2), pp. 127-136.
- Russmann, U., & Svensson, J. 2017. Introduction to visual communication in the age of social media: Conceptual, theoretical and methodological challenges. *Media and Communication*, **5**(4), pp. 1-5.
- Simarmata, J., Putra, S. H., Prasetyo, A., Siregar, M. N. H., Ardiana, D. P. Y., Chamidah, D., ... & Jamaludin, J. 2020. Teknologi Informasi dan Sistem Informasi Manajemen. *Yayasan Kita Menulis*