



Design A Medical Device Sales Information System at PT. Pilar Manunggal Asia Jakarta

Siti Nurajizah¹, Rahman Ocpri Angga², Elin Panca Saputra³

¹ Accounting Information System of Regency Karawang, University of Bina Sarana Informatika, Banten No.1 Karangpawitan, Karawang, Karawang, 41315, Indonesia

² Information System, Nusa Mandiri University, Raya Jatiwaringin No 2, East Jakarta, 13620

³ Information Technology, Bina Sarana Informatika, Kramat Raya No 98, Central Jakarta, 10420, Indonesia

E-mail: siti.snz@bsi.ac.id, rahmanocpriangga88@gmail.com, elin.epa@bsi.ac.id

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ABSTRACT

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PT. Pilar Manunggal Asia Jakarta is a company engaged in the sale of medical device products. In the process of selling it is still Using a manual sales system, namely sales transactions are carried out directly by coming to the company. Promotions carried out are also still in the form of information from brochures, pamphlets and banners this makes sales turnover less significant and sales have not been effective and efficient. Based on these problems, an information system is needed that can help the company in the sales process. This study used the waterfall method as a software development which is often called the linear sequential model or classic life flow. The information system for the sale of medical devices made is website-based. The use of the website can increase sales and for consumers it is easy to make transactions in real time.

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1. Introduction

PT. Pilar Manunggal Asia Jakarta is engaged in the sale of medical device products located in Jakarta. Problems that occur in PT. Pilar Manunggal Asia Jakarta is in sales transactions carried out manually, namely buying and selling transactions carried out by contacting or directly coming to the company. The company does not yet have a website to make it easier for consumers to make purchases online, so it is quite time-consuming in preparing brochures for promotions [1], so that when going to sell products must print brochures featuring products sold and demonstrate to customers this has an impact on reducing store sales turnover decreases [2]. The sales transaction process used is also still manual and here are still shortcomings such as the process of recording data and transactions take a long time [3], making the company's performance slow which has an impact on the company's operational quality is less than optimal. The business sector in particular trade is required to switch business models from a conventional store-based system to an online store [4].

Information technology that continues to grow today is able to change business processes that occur in an organization or company. Business activities that used to be done manually have now been facilitated by existing information technology through internet media and internet technology can be a medium of promotion [5], so that a lot of work can be completed in a relatively shorter time and management of industrial companies and leads to cost optimization [6]. The sales process with manual calculations makes the company have difficulty and makes sales transaction activities slower. Some systems whose implementation has developed by using internet media are growing rapidly [7]. The development of information technology is fast and modern, one of which is the platform of social media [8].

Promotions carried out by PT. Pilar Manunggal Asia Jakarta in the form of brochures inhibits consumers in ordering goods and the use of manual systems has shortcomings such as the slow making of reports so that the current manual system is not effective enough and efficient in supporting the company's performance and buying and selling transactions through the application without having to come to the physical store directly [9]. The creation of an online sales information system can make it easier for



consumers to buy products so that store sales turnover also increases and makes sales reports effectively. With the creation of web e-commerce on PT. Pilar Manunggal Asia Jakarta is expected to help consumers in getting the latest product information quickly, precisely and accurately and also make purchases of medical device products without having to worry about unfriendly weather or bother reading brochures manually[10]. By using the waterfall method, the limitation of problems in the sales information system process and with the implementation of this sales information system, it is expected to improve the company's performance and competitiveness [11].

2. Methods

In this study, the author applied the waterfall method as a method of system development and there are data collection techniques to facilitate the research process made [12] and The advantages of this model are that it is easy to understand, easy to use [13] that is:

1. Software Requirements Analysis

The author analyzes the needs needed for the software and identify the needs obtained based on user needs and system requirements [14], and can collect data on the sales process of medical devices, customer data, product data and reports used as an adjudication in system development. Data obtained later processed, and tested to find out the problem to get an idea about the method to be used.

2. Design

This stage consists of designing an interface design that will be used as a facility dialogue between the system and the user. The author creates a system design with the relationship between entities in the system using UML (Use Case Diagram, Activity Diagram, Squence Diagram, And Class Diagram) while Database design using ERD (Entity Relationship Diagram) and LRS (Logical Relational Structure).

3. Implementation

Used to turn the system design process into a language programming by determining several forms and tables needed in the process of creating interrelated programs according to established criteria.

4. Testing

In resistant testing the author conducts testing by applying the Black Box Testing method where program testing is carried out by observing the output with various inputs in the hope that the design that has been made can run well.

5. Maintenance

The maintenance stage is the maintenance stage of the system that has been built. Maintenance can be in the form of repairs or maintenance that add or reduce the system according to the needs of the user. At this stage the author strive for software maintenance, updating and system development which has been designed can be made maximum so that the program can run with good.

3. Result and Discussion

3.1 Use Case Diagram

Use case diagram describes an interaction between one or more actors and the information system to be created [15]. Here is a use case diagram of the medical device sales information system:

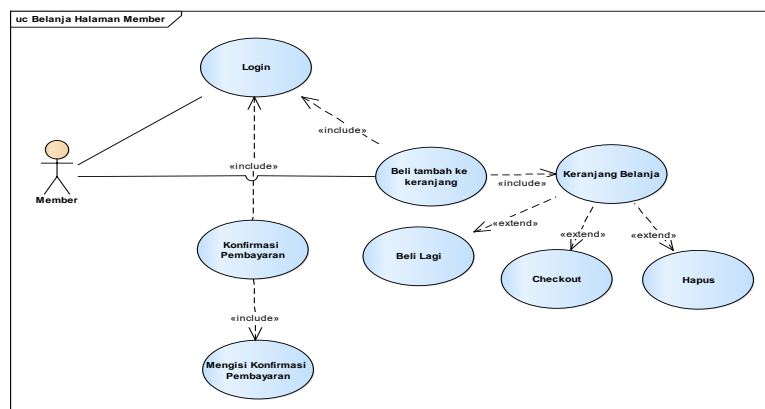


Figure. 1. Use Case Diagram Member of Medical Device Sales Information System

3.2 Activity Diagram

Activity diagram showing design of a series of activities to be carried out by user. In this study, activity diagram created is a shopping page menu for customers .

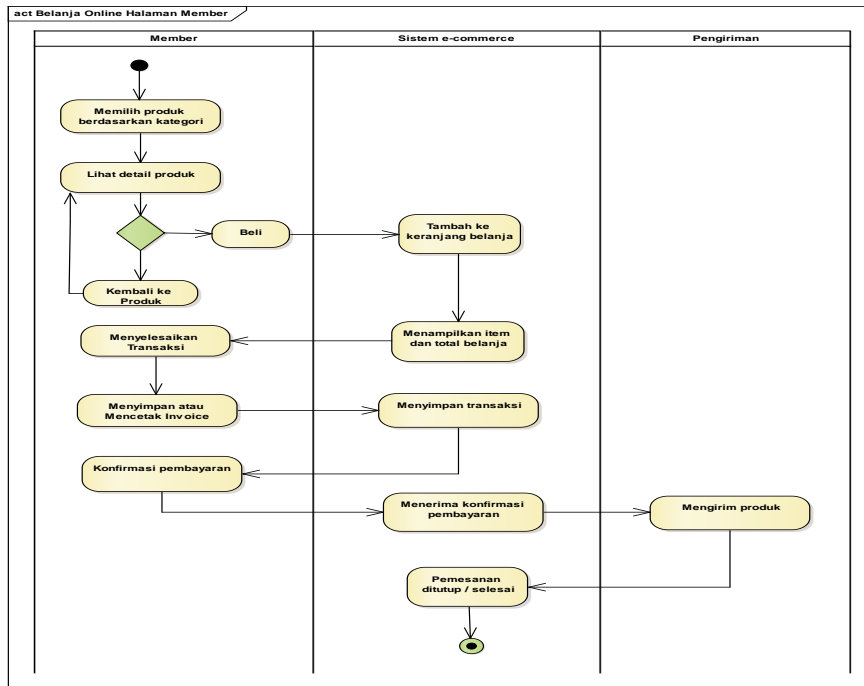


Figure. 2. Activity Diagram Member of Medical Device Sales Information System

3.3 Entity Relationship Diagram

At this stage the author will explain the database design in this system:

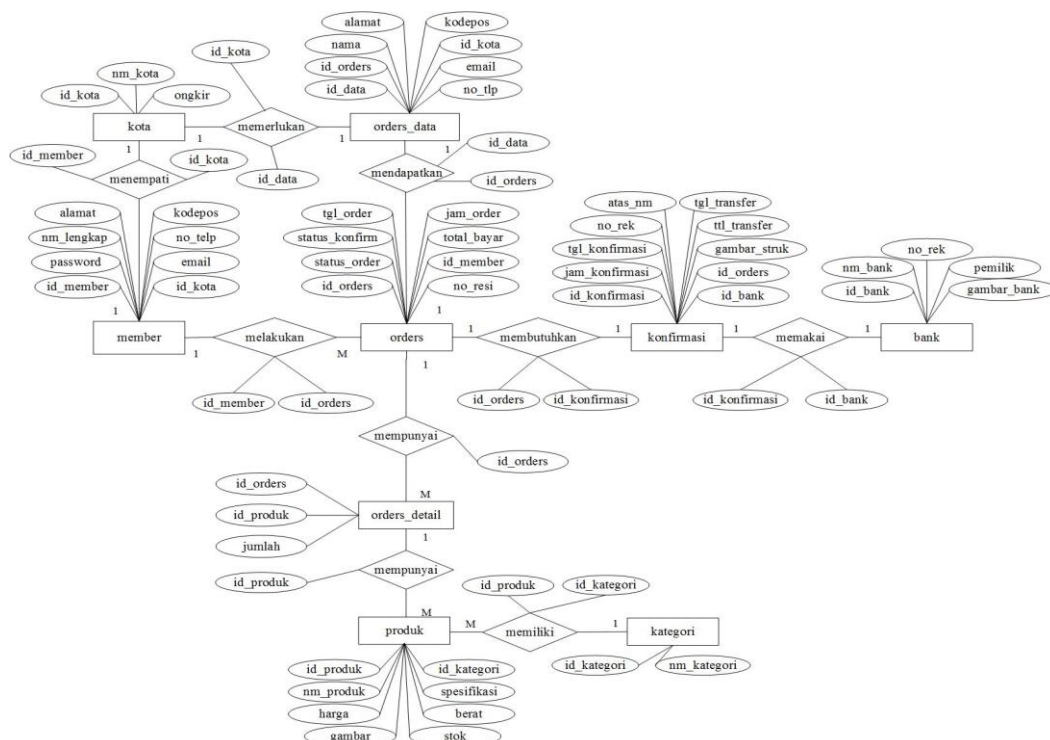


Figure. 3. ERD Medical Device Sales Information System

3.4 Logical Record Structure

Logical Record Structure (LRS) is a depiction of the structure of records in several tables that result in relationships between sets of entities [16]. At this stage the author will explain the logical record structure for this system:

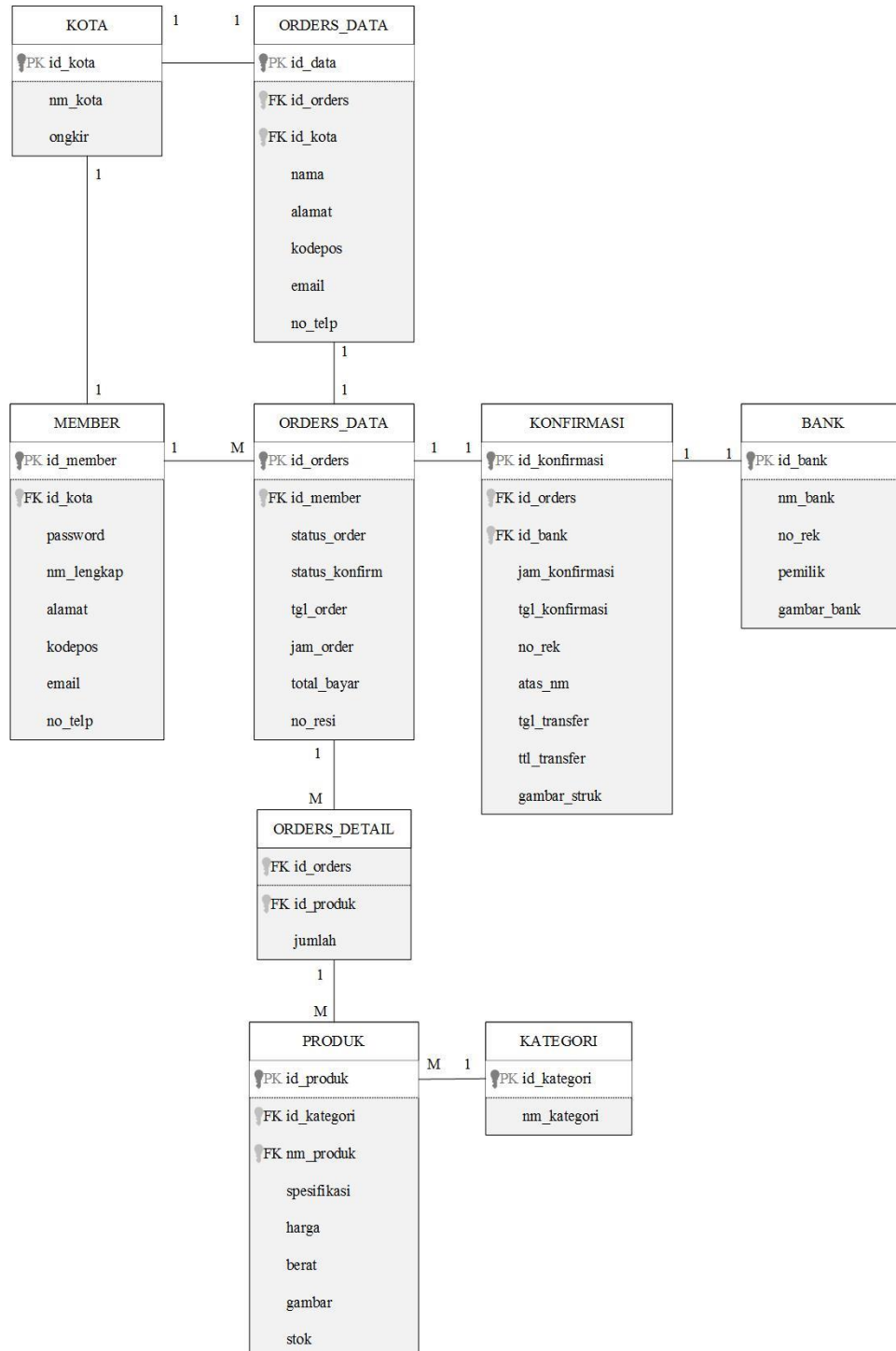


Figure. 4. LRS Medical Device Sales Information System

3.5 User Interface

User interface is a form of graphical display that is directly related to the user [17]. The user interface serves to connect the user with the operating system, so that the computer can be used. Here are some user interface of Medical Device Sales Information System:



Figure 5. User Interface Form Login Member



Figure 6. User Interface Form Medical Device Sales



Figure 7. User Interface Form Admin

4. Conclusion

Based on the results of research With the existence of a website-based sales information information system, the dissemination of information is getting faster and more effective. This information system can facilitate and expand the product marketing area so that sales can be increased. Online commerce sales provide convenience for people in shopping, by accessing the internet people can see, choose and order the desired product whenever and wherever they are. With online media facilitates buying and selling transactions without having to come directly.

References

- [1] F. F. Wati and U. Khasanah, "Sistem Informasi Penjualan Berbasis Web pada UD Dwi Surya Aluminium dan Kaca Yogyakarta," *Paradig. - J. Komput. dan Inform.*, vol. 21, no. 2, pp. 149–156, 2019, doi: 10.31294/p.v2i2.6026.
- [2] W. Apriliah, "Metode Waterfall Pada Sistem Informasi Penjualan Truliving PT Duta Laserindo Metal Cikarang," *Inf. Syst. Educ. Prof.*, vol. 3, no. 2, pp. 153–162, 2019.
- [3] D. A. Pitaloka and S. Fauziah, "Sistem Informasi Penyewaan Apartemen U-Residence Pada Pt. Graha Kelola Mandiri Tangerang," *Ilmu Pengetah. Dan Teknol. Komput.*, vol. 4, no. 2, pp. 155–162, 2019.
- [4] W. Warjiyono, F. Fandhilah, A. N. Rais, and A. Ishaq, "Metode FAST & Framework PIECES : Analisis & Desain Sistem Informasi Penjualan Berbasis Website," *Indones. J. Softw. Eng.*, vol. 6, no. 2, pp. 172–181, 2020, doi: 10.31294/ijse.v6i2.8988.
- [5] N. Y. Arifin, "Perancangan Media Promosi Berbasis Web Dengan Metode Waterfall," *Eng. Technol. Int. J.*, vol. 2, no. 2, pp. 106–123, 2020.
- [6] F. Heriyanti and A. Ishak, "Design of logistics information system in the finished product warehouse with the waterfall method: Review literature," *IOP Conf. Ser. Mater. Sci. Eng.*, vol. 801, no. 1, 2020, doi: 10.1088/1757-899X/801/1/012100.
- [7] Bahrani *et al.*, "A Design of Innovation in Educational Technology to Improve the Quality of Website Learning in Industrial Revolution Era 4.0 Using Waterfall Method," *J. Phys. Conf. Ser.*, vol. 1364, no. 1, pp. 0–5, 2019, doi: 10.1088/1742-6596/1364/1/012020.
- [8] A. Asyhadi and R. Naibaho, "Sistem Informasi Penjualan Daster Handmade Berbasis Multiplatform Menggunakan WhatsApp Gateway," *J. Media Inform. Budidarma*, vol. 5, no. 4, pp. 1538–1547, 2021, doi: 10.30865/mib.v5i4.3297.
- [9] E. Pudjiarti and S. Faizah, "Perancangan Aplikasi Penjualan Berbasis Android Sebagai Media Pemesanan Pada Distro Online," *Bina Insa. ICT J.*, vol. 8, no. 2, p. 176, 2021, doi: 10.51211/biict.v8i2.1589.
- [10] E. Pawan, R. H. . Thamrin, P. Hasan, S. H. Y. Bei, and P. Matu, "Using Waterfall Method to Design Information System of SPMI STIMIK Sepuluh Nopember Jayapura," *Int. J. Comput. Inf. Syst.*, vol. 2, no. 2, pp. 33–38, 2021, doi: 10.29040/ijcis.v2i2.29.
- [11] V. Apriana and S. Fauziah, "Applying Waterfall Method on Sales Information System," *Mantik*, vol. 5, no. 2, pp. 820–826, 2021.
- [12] A. R. Sukanto and M. Shalahuddin, *Rekayasa Perangkat Lunak Terstruktur dan Berorientasi Objek*. Bandung: Informatika Bandung, 2018.
- [13] R. Kurniawan, E. U. Artha, and F. M. Wibowo, "Sistem Informasi Vaksinasi Pada Balita Menggunakan Metode Waterfall," *J. Komtika (Komputasi dan Inform.*, vol. 3, no. 1, pp. 34–39, 2020, doi: 10.31603/komtika.v3i1.3468.
- [14] I. Rusdi and B. Kurniasih, "Design of Web Based Academic Information System in Madrasah Ibtidaiyah Nurul Falah Depok," *J. Ris. Inform.*, vol. 2, no. 4, pp. 185–192, 2020, doi: 10.34288/jri.v2i4.152.
- [15] A. Mubarak, "Rancang Bangun Aplikasi Web Sekolah Menggunakan Uml (Unified Modeling Language) Dan Bahasa Pemrograman Php (Php Hypertext Preprocessor) Berorientasi Objek," *JIKO (Jurnal Inform. dan Komputer)*, vol. 2, no. 1, pp. 19–25, 2019, doi: 10.33387/jiko.v2i1.1052.
- [16] L. S. Ramdhani and E. Mutiara, "Penerapan Model Waterfall Pada Sistem Informasi Pengelolaan Iuran Rukun Kematian Yayasan Al-Hamidiyah Berbasis Web," *Swabumi*, vol. 8, no. 1, pp. 21–28, 2020, doi: 10.31294/swabumi.v8i1.7602.
- [17] S. Masturoh, D. Wijayanti, and A. Prasetyo, "Implementasi Model Waterfall Pada Sistem Informasi Akademik Berbasis Web Pada Smk Pertanian Karawang," *J. Inform.*, vol. 6, no. 1, pp. 62–68, 2019.