

SMS GATEWAY IMPLEMENTATION FOR CAR SPARE PARTS INVENTORY AT CV. MOL JAYA

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Abstract : CV. MOL JAYA is one of the CVs engaged in providing car spare parts. In terms of spare parts inventory processing in CV. Mol Jaya is still experiencing difficulties, such as not being able to find out the amount of spare parts stock and sales reports that are not optimal, so the cause of work is delayed because they have to wait for parts orders from suppliers. This study aims to manage inventory and speed up the work of employees in overcoming spare parts supply problems in the Warehouse. The method in this study applies Supply Chain Management as for the stages, namely by managing raw materials, production, to distribution to end consumers in the most economical and effective way. The results of this research are in the form of a web-based goods inventory gateway sms application that has been successfully built and running well, as an information system that can assist in inventory management, quantity of spare parts stock and sales reports. The application of Supply Chain Management in a web-based application is very effective for coordinating the relationship between suppliers and CV. Mol Jaya.

Keywords : Inventory; *Supply Chain Management*; SMS gateway

Abstrak : CV. MOL JAYA merupakan salah satu CV yang bergerak dibidang menyediakan barang *sparepart* mobil . Dalam hal pengolahan persediaan *sparepart* di CV. Mol Jaya masih mengalami kesulitan , seperti tidak dapat mengetahui jumlah stok *onderdil* dan laporan penjualan kurang maksimal , sehingga penyebab pekerjaan tertunda karena harus menunggu pemesanan *onderdil* dari pemasok. Penelitian ini bertujuan untuk mengelola persediaan barang atau *inventory* dan mempercepat pekerjaan karyawan dalam mengatasi permasalahan persediaan *sparepart* di Gudang. Metode dalam penelitian ini menerapkan *Supply Chain Management* adapun tahapannya yaitu dengan melakukan manajemen terhadap bahan baku, produksi, sampai distribusi kepada konsumen akhir dengan cara yang paling hemat dan efektif. Hasil dari penelitian ini berupa aplikasi sms gateway *inventory* barang berbasis web yang berhasil dibangun dan berjalan dengan baik, sebagai sistem informasi yang dapat membantu dalam pengelolaan inventory , kuantitas stock suku cadang dan laporan penjualan. Penerapan *Supply Chain Management* pada aplikasi berbasis web sangat efektif untuk mengkoordinasikan hubungan antara pemasok dan CV. Mol Jaya.

Kata Kunci : Persediaan; *Manajemen Rantai Pasokan*; Gerbang SMS

INTRODUCTION

Various types of businesses that are currently developing, especially in Indonesia, such as in the culinary, fashion and so on. One of the business developments that is currently developing is in the field of supply of goods[1] which provides various kinds of spare parts or auto parts, such as engine oil, oil filters, air filters, spark plugs, batteries, brake linings and so on. However, there are still many business actors who collect stock or inventory data using stationery and reports in the form of sheets of paper. The rapid development of technology is currently making several aspects of life more efficient[2]. Technological developments in the field of warehousing are very important. Where the warehouse is a temporary storage place for goods that are neatly arranged so that the owner can easily find out the location or amount of an item. For the best storage of goods, supporting technology is needed. Coupled with the increasing purchasing power of today's consumers. So that technology can be used to facilitate a job[3].

One of the companies engaged in the supply of auto parts, namely CV. Mol Jaya. Spare parts inventory management at CV. Mol Jaya is still not optimal, there are still frequent supply shortages due to the small supply of spare parts, which results in delayed work and having to wait for spare parts orders from suppliers again. So far, in the process of fulfilling the request for spare parts, the concept of recording goods is still using paper, causing the reporting of the number of items on the CV. Mol Jaya is hampered and also the negligence of an employee in checking the inventory of an item in the

warehouse so that sometimes the inventory runs out without anyone knowing about it. With that CV. Mol Jaya must be able to condition the supply of goods in its warehouse with the concept of production management, so that the demand for goods can be controlled properly and efficiently[4].

The location of CV.Mol Jaya is quite strategic where there are many car repair shops around it, so the company has many customers, and this is very profitable for the company. Therefore from time to time CV.Mol Jaya develops and advances, and is required to provide complete auto parts to attract customers or consumers.

Inventory or often called inventory is a temporary place for raw goods, raw materials or finished goods that are stored for use for certain purposes or within a certain period of time[4]. Companies need to implement good inventory management, to anticipate demand or market changes Where policies are taken based on data processing of goods in warehouses and affect the survival of CV. Mol Jaya. By Because it is necessary something system computerized inventory data management that can _ see inventory goods in a manner realtime[5]. So that when the inventory is running low, anticipation can be done quickly[6].

System requirements include an analysis of user needs, admin needs, and an analysis of the needs of the SMS Gateway implementation system for inventory at CV. Mol Jaya uses the supply chain management method[7]. The system will display information to the user by processing the data that has been stored in the database and for notification of stocks that have run out via SMS gateway sent to suppliers without the need to check one by one the

inventory that has reached the minimum limit. in line with research conducted by [8], that by implementing the Application of Supply Chain Management at PT. Frisian Flag Indonesia, can improve the company's performance in terms of implementing sales and maintaining the supply of consumer demand

The SMS Gateway functions as a system for sending and receiving text messages and is often used among others in commercial applications and for broadcast advertisements, services information user, and distribution content product / service[9]. The SMS gateway will later become a gateway for communication via text messages. We can send messages to several numbers simultaneously automatic And quickly , without must type hundreds number And message to cellphone , because all number Already automatically searched from the database[10]. In this case, precise and accurate information is needed for the smooth running of the service process at CV. Mol Jaya. Information related to spare parts inventory data must be stored in the form of a database server so that when the data is needed it can be easily searched and viewed to ensure the number of orders that must be ordered so that inventory is not exhausted or empty. The purpose of this study, by implementing an SMS Gateway-based inventory application, will be able to make CV easier. Mol Jaya in the supply of car spare parts, which is more effective and efficient.

METHOD

This research was conducted on CV. Mol Jaya which is located in Pulau Maria Dusun II Village, Teluk Dalam

sub-district, Asahan Regency, North Sumatra. The method in this study uses qualitative methods, research that is descriptive in nature and tends to use analysis. This method collects data that can be obtained directly through direct interviews with informants, conducting field observations and also obtained from discussions. The goal is to determine the object under study, namely to make it easier for CV. Mol Jaya in obtaining inventory information of an item via SMS by implementing Supply Chain Management[11],[12]. The preparation of this research was designed with several stages which will be explained in the research framework as shown in Image 1.

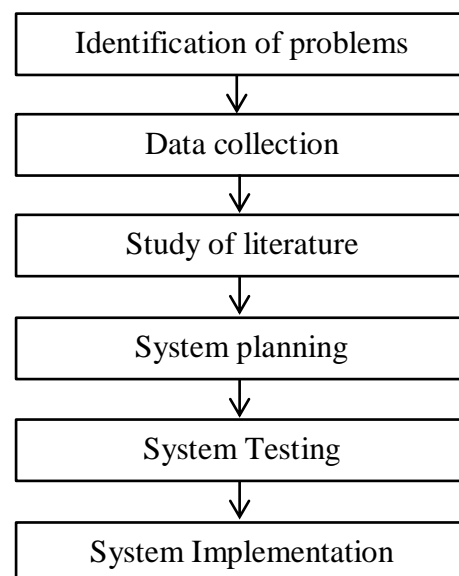


Image 1. Research Framework

Identification of problems

This stage will explain what problems are found and how these problems are measured and linked to research procedures. Identification of existing problems , namely the recording of goods that still use paper so that delays in reporting the number of goods and also the negligence of employees in

checking the inventory of goods in the warehouse so that sometimes the inventory of goods runs out. goods actually sold out without anyone knowing.

Data collection

At this stage the collection of data and information is done through direct interviews and direct observation of the CV. Mol Jaya. Furthermore, the results of the data and information obtained will later be used as a reference in processing the system to be designed.

Study of literature

To strengthen and deepen this research, literature studies were carried out, in the form of books, journals, and articles related to the problems and research objectives.

System planning

The design of the system will later become an overview made to overcome the problems faced by related agencies or companies after conducting an analysis first. This system is designed using PHP and MYSQL programming languages. The design of this application uses Visual Studio Code (VS Code) and Visual Paradigm to create an overview of the system to be designed.

System Testing

After completing the design of the system, the system can be tested to what extent the system can be relied upon by the company. Can the system that is built work properly as desired?

System Implementation

After system testing is done, the next step is the implementation of the design results that have been made. Whether the system can be implemented

in accordance with the analysis and design that has been done before.

RESULTS AND DISCUSSION

System Usage

To clarify the rights of users or users in logging in to enter the system, there are four users or users who log in including: Owner, Admin, Supplier, and Cashier.

Admin Main Menu Display

On the main page display the admin can manage request data, approve offers, manage spare part data, manage supplier data and manage user data, can be seen in Image 1.



Image 1. Display of the Admin Main Menu

Admin View Manage Request Data

In this view, admins can manage request data. view of managing request data can be seen in Image 2.



Image 2. Display of Admin Manager Request Data

Admin View Manage Supplier Data

In this view, the admin can manage supplier data. shows how the admin manages supplier data, which can be seen in Image 3.



Image 3. Admin Manages Supplier Data

Supplier main page view

On this main page view, suppliers can manage demand and supply data, manage spare parts data, and change passwords, as shown in Image 4.



Image 4. Supplier main page

Supplier Page View Manage Inquiry Data

On this page, suppliers can manage request data such as viewing requests, sending requests, canceling orders, and printing invoices, as shown in Image 5.



Image 5. Supplier Manages Data Retention

Supplier Offers Spare Parts Page View

On this page, the supplier offers the spare parts they have. Display of suppliers offering spare parts can be seen in Image 6.



Image 6. View of the Spare Parts Supplier Bid Page

Supplier Page Display Manage Spare Part Data

In this main page view, the supplier manages the spare parts data it has. The display of suppliers managing spare part data can be seen in Image 7.

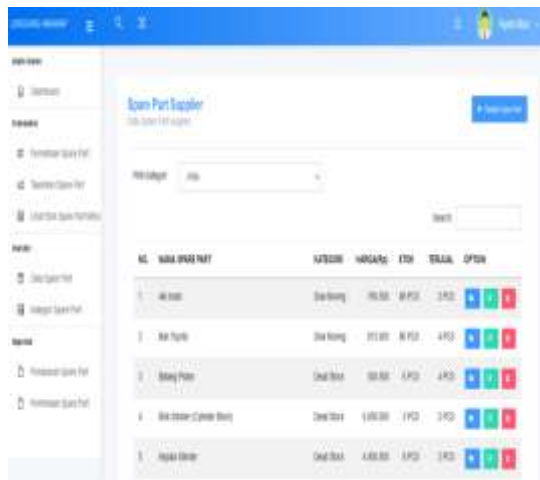


Image 7. Display of the Supplier Page Managing Spare Part Data

Display Main Page Cashier

On this main page view, cashiers can manage sales data, print sales invoices and sales reports, and change passwords. display of the cashier's main page which can be seen in Image 8.



Image 8. Display of the Cashier Main Page

Sales Admin Page Display Processing Sales Data

The appearance of this page is the appearance of the cashier in carrying out the sales process starting from inputting data on the products being sold, and calculating transactions. display of the cashier page that manages

sales data, which can be seen in Image 9.



Image 9. Display of the Cashier Manage Sales page

Sales Report Display

The sales report display is a report to view sales data for each period which is then printed and submitted to the owner. display of the sales report can be seen in Image 10.

ID	DATE	TIME	SPARE PART	PRICE	QUANTITY	TOTAL	STATUS
1	2022-09-23	07:45:00	ABC BROS	750.000	10.000	7.500.000	Success
2	2022-09-23	07:45:00	ABC BROS	750.000	10.000	7.500.000	Success
3	2022-09-23	07:45:00	DEF BROS	1.500.000	10.000	15.000.000	Success
4	2022-09-23	07:45:00	DEF BROS	1.500.000	10.000	15.000.000	Success
5	2022-09-23	07:45:00	DEF BROS	1.500.000	10.000	15.000.000	Success
TOTAL						15.000.000	

Image 10. Display of Sales Report

CONCLUSION

The spare part inventory management application system that was built functions so that there is no shortage of inventory at CV. Mol Jaya. Application sms gateway inventory goods web based _ succeed built And walk with well , as system information that can help in management inventory,

quantity stock ethnic group spare And report sales . The application of web-based Supply Chain Management is very effective for coordinating the relationship between suppliers and CV. Mol Jaya.

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