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Implementation of Enterprise Resource Planning (ERP) Based Information System Using Odoo Software

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ABSTRACT

Management and good data management is something that is very important for the continuity of a company. With management in a company, it is expected that all actions or activities carried out will run well and be controlled. The research focused on the use of an Enterprise Resource Planning (ERP) Based Information System using the odoo software used in the Purchasing & Materials department or more specifically known as PPIC. The purpose of this research is to find out how the use of ERP technology can facilitate coordination and communication between users so as to produce fast decision making. The implementation of this information system is expected to be one of the solutions in overcoming the problems that exist at PT Longvin Indonesia, especially the PPIC department.

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1. INTRODUCTION

Management and good data management is something that is very important for the continuity of a company. With management in a company, it is expected that all actions or activities carried out will run well and be controlled [1].

PT Longvin Indonesia is located at Kp. Palagan, Bojongkokosan Village, Parungkuda District, Regency. Sukabumi. Established since 2005 with a foreign investment ownership system originating from South Korea. Is part of the Creshen Group or Seol Korea Headquarters CHQ.

This company is included in the category of electronics companies specializing in telecommunications equipment. Some of the products produced are speaker units, micro speakers and audio receivers or core components for the manufacture of earphones, headsets and others. All of these products are absorbed by various brand vendors and buyers, including: Samsung, Motorola, LG, Apple, Panasonic, Audiwox, Alcatel and Hp.

To obtain these raw materials requires a fairly long process by placing an order in advance with the supplier because these raw materials are difficult to obtain [2]. The quality of a product depends on the quality of the raw materials used, so it is clear that production activities require raw materials to be processed into finished goods. Purchasing quality raw materials will produce quality products as well. Purchases

made by this company are local and imported purchases where payment transactions can be made by transfer [3].

PPIC is a planning activity for production levels based on information about market needs, production capacity, and inventory levels, as well as activities for setting production schedules and work sequences in the Work Center [4].

PPIC functions as a controller of goods and a provider of parts needed in the production process, and is responsible for making a schedule for the amount of production produced. The production process is reported to the PDCA for follow-up. Every supply of goods must be ordered through the PGA division, on this basis a tool is needed to facilitate recording of workflow and also the process of distributing goods in and out so that reports are credible and easy to account for. The research focused on the use of an Enterprise Resource Planning (ERP) Based Information System using the odoo software used in the Purchasing & Materials department or more specifically known as PPIC.

A computer-based system called a management information system offers information to users with comparable needs. Periodic reports, special reports, and the results of mathematical simulations all provide this information. Both managers and non-managers in the organization use output information when they make decisions to address issues [5].

An open source business application with all the functionality you might want is called Odoo. The Odoo application is designed with the aim of being able to fulfill complex needs without a complicated process [6].

Research conducted by Erni Hanifah raises the issue of how to implement an enterprise resource planning (ERP)-based warehouse management information system using the odoo application. The findings of this study demonstrate how beneficial using the Odoo application is for PT. XYZ, not only easy to learn but the modules on Odoo can be used as needed and make it easier for users to develop information systems [7].

This study's goal is to determine how the use of ERP technology can facilitate coordination and communication between users so as to produce fast decision making.

One of the answers is anticipated to be the implementation of this information system in overcoming the problems that exist at PT Longvin Indonesia, especially the PPIC department.

2. LITERATURE REVIEW

2.1 Information Systems

Information system is a term related to managerial or management systems [8]. This information system is a combination of work procedures, information, individuals, and organized information technology. Information systems are developing so rapidly because of the influence of the internet. This is because the internet can provide, store, and provide access to information that makes it easier for the public [9].

Information technology used to assist operations and management is combined with human activity to build an information system. The components of this information system consist of hardware, databases and data warehouses, telecommunications, software, human resources, and processes [10].

2.2 Enterprise Resource Planning (ERP)

Enterprise resource planning, or ERP for short an application that automates business processes [11]. From here users will gain internal insights and controls, submitting data to a central database that receives input from the accounting, production, supply chain, sales, and human resources (HR) departments. So simply put, ERP systems help bring people, processes, and technology together across an organization.

A form of software known as enterprise resource planning (ERP) is used by enterprises to manage routine business operations like

accounting, purchasing, project management, risk management, compliance, and supply chain management. Enterprise performance management software, which aids in planning, budgeting, forecasting, and reporting an organization's financial results, is also a component of the full ERP package [12].

ERP systems allow data to flow between various company operations and unify them. ERP systems guarantee data integrity with a single source of truth and prevent data duplication by combining transactional data with organizations from various sources [13].

Today, thousands of organizations of all sizes and in all industries depend on ERP systems to manage operations. ERP is just as crucial to these businesses as the power that keeps the lights on [14].

How these systems handle day-to-day operations in manufacturing, supply chain management, project management, accounting, finance, and procurement [15].

An integrated platform, either on-premises or in the cloud, with a full enterprise resource planning system, oversees every part of a production- or distribution-based business. Additionally, ERP systems support manufacturing along with all facets of financial administration, human resources, supply chain management, and manufacturing [16].

The ERP system will track all areas of production, logistics, and finance to provide transparency throughout the entire business process [17]. Several departments can utilize this integrated system, which serves as a central business center for end-to-end workflow and data. ERP software and systems cover a wide range of operations for large, medium-sized, and small businesses, as well as industry-specific customization [18].

2.3 Odoo

Odoo is software or software used to help carry out Corporate Resource Planning.

This software is open source or open source which is quite comprehensive. Customer relationship management (CRM), e-commerce, accounting, billing, inventory management, project management, warehouse management, management finance, manufacturing, and purchasing are just a few of the many integrated business modules that Oddo provides [19].

All of these modules strive to exchange information with each other in an effective and seamless manner. Odoo includes more than 30 major modules that are continuously updated, as well as more than 16,000 third-party apps and plug-ins that are accessible through their app store. [20]. Customers can begin with a limited set of tools and add modules as needed because Odoo is a modular system [21].

It is open source, accessible to enterprises of all sizes, and available on-premises or in the cloud nature means that Odo's software can be customized to suit the needs of their users [22]. In addition, Odoo can also interact with other systems, such as external delivery systems and payment processors like Amazon, eBay, UPS, FedEx, and QuickBooks. Comes with paid and free Odoo options that can be used on iOS and Android, let's see a brief explanation below [21].

Odoo offers attractive advantages and benefits such as [23]:

1. Offers low cost
2. Ease of use
3. Offers and has a complete selection of Odoo applications

4. Has been integrated with many third-party add-on software applications
5. Offers a free version of Odoo called Community.

3. METHODS

1. Identifying the problem

At this stage the researcher must find and determine in advance what problems will be examined in conducting research. The problem identified in this study is to find out how the use of Odoo software can help work effectiveness in the PPIC department of PT Longvin Indonesia.

2. Conduct a preliminary study

Preliminary study is a step that must be passed when conducting research. The preliminary study was carried out by discussing with supervisors and on job training guided by one of the company's employees.

3. Library Studies

Literature study is carried out by examining material, theory and information related to the research to be carried out.

4. Field studies

Field studies are activities carried out by researchers to understand the problems that occur in the research object. Field study activities conducted by researchers include:

a. Crosscek Invoice Create vendor
b. Receive and check Incoming Materials from vendors
c. Check stock & production results of vendors
d. Check material supply / vendor side material
e. MO material delivery to vendors
f. Receipt Delivery & Return NG material vendor
g. Check the vendor's material condition
h. Checking NG work & NG material vendors
i. Checking the balance of material needs & pending OSP vendors
j. Making data on vendor stock repairs
k. Crosscheck Invoice Create vendor

5. Methods of data collection

To gather both primary and secondary data, data collecting was done. The primary data was taken directly from employees of the PPIC department of PT Longvin Indonesia. Data was gathered through talks, interviews, and other methods. brainstorming with field supervisors and employees regarding the things that were done at the point of field study. Secondary data is supporting data that can be obtained more easily and quickly because it is already available [24].

6. Information System Design

Identification of business processes using the Odoo module that is used. Business processes are made to help model processes and research entities. There are several modules used in the PPIC department of PT Longvin Indonesia.

Identification of the Odoo module framework used by the PPIC department of PT Longvin Indonesia includes Inventory, Purchase, Point of Sales, SMS Gateway [25].

These modules are designed to suit the needs by some company's current business

of the processes with the modules found in Odoo. The design of the Odoo implementation will generate data that will be used in the implementation process [26].

Implementation of the Odoo application. Implementation is carried out by representing the success of using the Odoo software used by the PPIC department at PT Longvin Indonesia.

4. RESULTS AND DISCUSSION

The following are some of the activities carried out by researchers in observing the use of the ERP system:

1. The process of handling travel documents from vendors (service providers). Controlling Material Delivery from vendors, namely controlling the arrival of goods so that they are in accordance with travel documents and inputting data for travel documents from vendors through a system that is already listed on the computer, receipts are receipt of goods or materials carried out in a system so that the data (quantity) of material in system with in the same warehouse. How to operate Receipt is as follows:

   Log in on Internet Explorer by filling in the username and password according to the PPIC division.

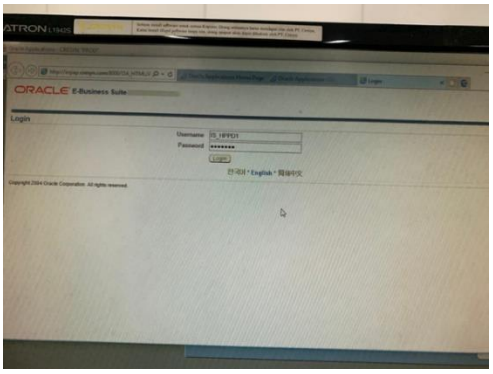


Figure 1. ERP System Receipt Process

After filling in the username and password, then log in and it will appear as shown below:

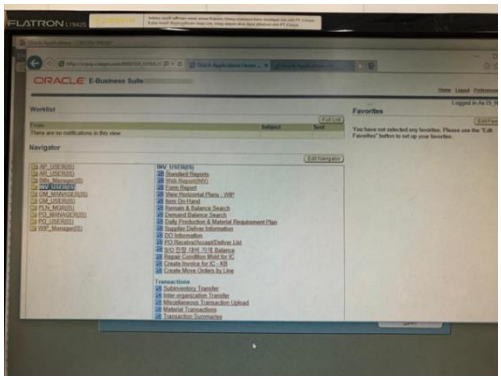


Figure 2. ERP System Receipt Process

Select the INV_USER menu then go to Web_Refort (INV). Then an image will appear as below:

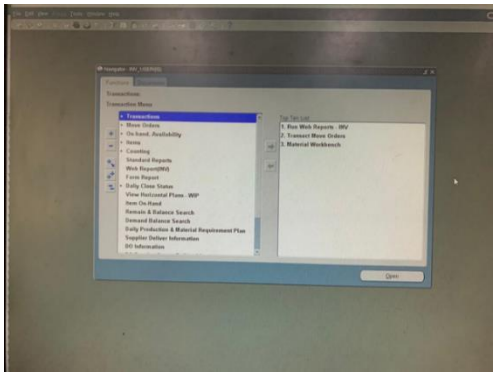


Figure 3. ERP System Receipt Process

Then select the transaction sub menu, the Receipt option will appear as shown below:

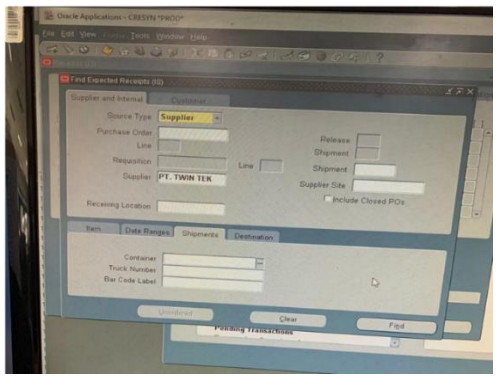


Figure 4. ERP System Receipt Process

Then go to the Date Ranges menu, fill in according to the receipt date. And the menu item to enter the material code name according to the travel

document by adding -osp behind it. Example: DLC-SSG53DTEWA-OSP.

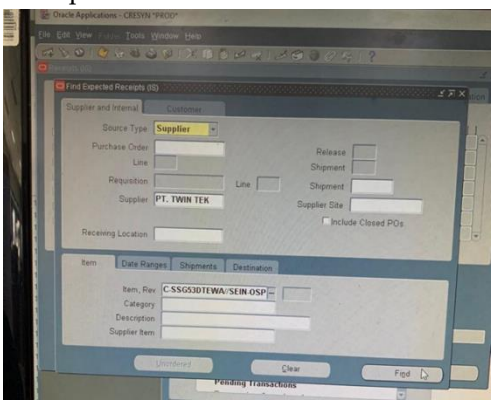


Figure 5. ERP System Receipt Process

Then Find and the screen below will appear:

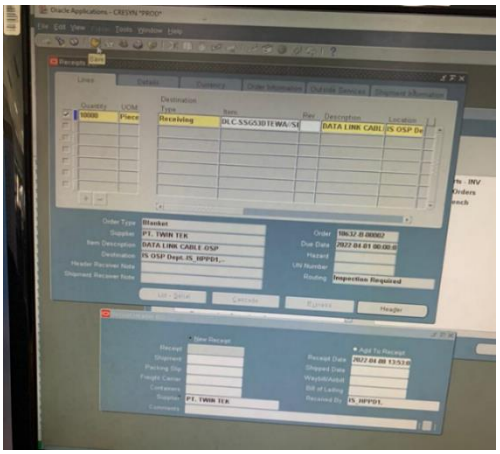


Figure 6. ERP System Receipt Process

Fill in the qty according to the receipt according to arrival. Then tick and save. Then below will appear no receipt.

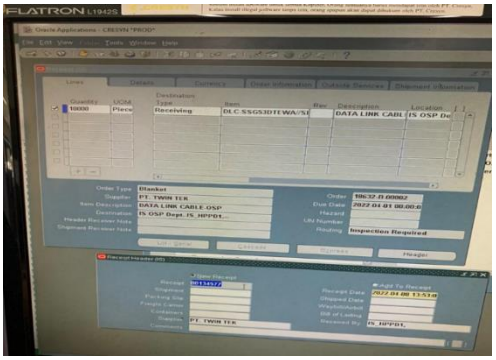


Figure 7. ERP System Receipt Process

Copy no receipt di file delivery lalu dibagikan di grup INFO RECEIPT untuk di accept dan deliver.

1. Material delivery process to vendors (service providers)
   a. Checking and recording vendor material needs sent via email
   b. Checking the stock of materials in the PT. Longwin Indonesia
   c. Provide notes on the material code to be sent to the warehouse staff for preparation
   d. After the material is ready, the warehouse clerk will immediately make a travel document according to the material code to be sent
2. Vendor Delivery Move Order Process

   Move order is the process of moving onhand from s-rawhs/s-raw to o-twin. s-rawhs is a material warehouse for PT. longvin Indonesia while o-twin is a vendor.
   a. Log in to the ERP system by entering your username and password
   b. Then select the Create Move Order by line menu. As in the picture:

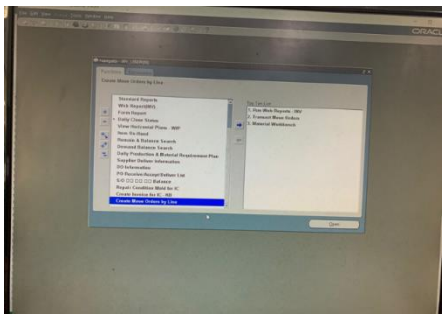


Figure 8. MO ERP System Process

   c. Then the following display will appear:

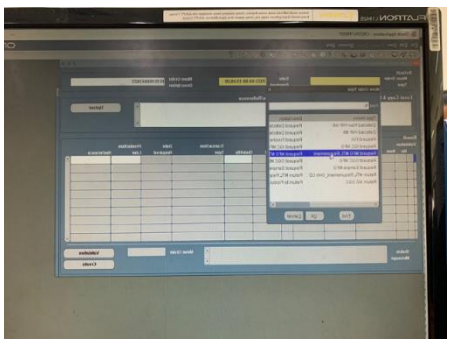


Figure 9. Process MO ERP System

d. Enter the Move Order type. Select Request MFG MTL Request. Then fill in the date according to the Move Order and fill in the Move Order Description, for example: IS1S108042022
e. Then copy the text that has been input in the move order file or material sent to the vendor to get a Move order no as follows:

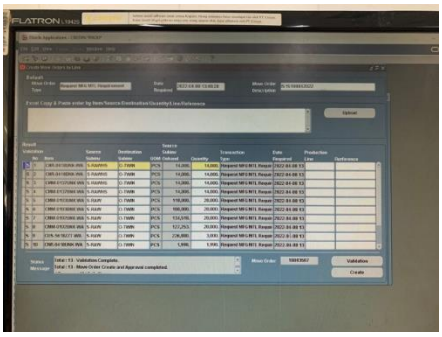


Figure 10. MO ERP System Process

f. After obtaining the move order no, then print the results of the move order to be given to the warehouse admin for transaction. Here's how to print the results of the move order:
   1. Go to the Web Report INV menu
   2. Then select the Move Order Report-Line menu

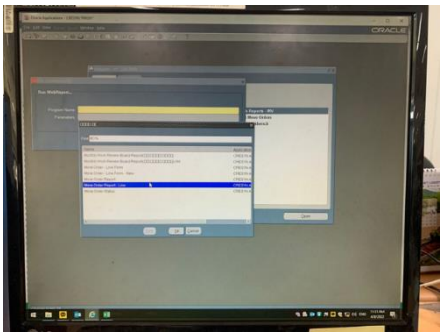


Figure 11. MO ERP System Process

Then enter the Move Order Type and no Move Order that you have obtained as shown in the picture:

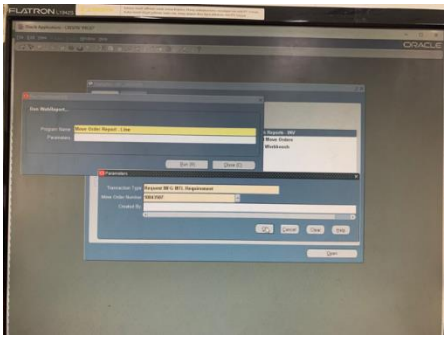
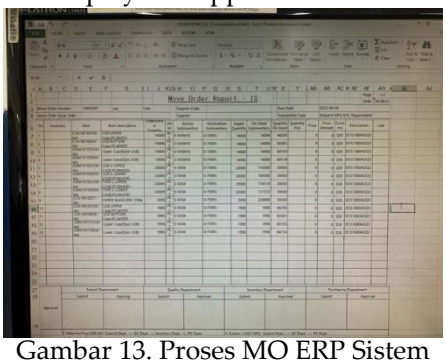


Figure 12. MO ERP System Process

g. Then in the run after that the display will appear as follows:



Gambar 13. Proses MO ERP Sistem

h. Then print. And the results of the print out are immediately given to the warehouse admin

3. Archiving a copy of the Travel Letter

Archives are collections of documents that are stored regularly and systematically so that they can be retrieved when needed. The PPIC filing system uses a combination of systems, namely an alphabetical system, a number system, and a time sequence system (chronological). The process for filing a copy of a travel permit is:

a. Grouping each copy of travel document according to each company.
b. Arranging according to the filing system at PPIC, first using the alphabetic system, then the date system and lastly the number system.
c. After that, directly put into each order.

4. Check vendor's NG Work & NG Material reports

   NG Work is an error in the vendor's work process that causes the material to be damaged and unusable, so the vendor must compensate according to the amount of NG material. Whereas NG vendor material is material found at the vendor or not the vendor's fault. It is enough for this NG material to be returned to PT. Longvin and the vendors do not need to compensate. Furthermore, NG is immediately reported to the Purchasing department.
5. Checking the balance of OSP Vendor material & pending needs

   After all delivery transactions are complete, the vendor control officer must check the balance of the vendor's material needs and then record any material that is still lacking to be reported to the purchasing department. Pending OSP is a pending receipt delivery process on the system. As a control vendor, he must be able to solve pending problems with vendors and must know what causes them and how to overcome them.

5. CONCLUSION

Inferences that can be made about enterprise resource planning (ERP) from its design Based Information System Implementation Using Odoo Software at PT Longvin Indonesia, namely:

a. Business processes are made with the Odoo module application used by the PPIC department of PT Longvin Indonesia including Inventory, Purchase, Point of Sales, SMS Gateway.
b. Implementation is done by representing the success of using the Odoo software used by the PPIC department at PT Longvin Indonesia by analyzing each process that has been passed.
c. From the research conducted, it was obtained that the Information System implementation model at the PPIC department of PT Longvin Indonesia used the ERP-based Odoo application. The use of the Odoo application really helps every process in supporting the performance of each employee, especially in the PPIC department, not only is it easy to learn but the modules on Odoo can be used as needed and make it easier for users to develop information systems.

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