Procurement System Using Odoo (On-Demand Open Object)

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ABSTRACT

A procurement system, often known as a purchasing system, helps businesses to automate the purchase of products and services while also keeping track of inventory. Procurement is the method of obtaining and approving the conditions, along with purchasing products, services, or services from a third party, usually through a competitive bidding procedure. Procurement frequently entails making purchasing decisions in the face of scarcity. This paper is mainly focused on the approaches of making an Open-Source ERP system called Odoo which provide a platform to enterprises that commonly utilized system in all kinds of businesses, regardless of size. ERP methods were developed in response to the necessity to make quick decisions based on complicated data analysis. ERP stands for Enterprise Resource Planning, and it is software that is used to maintain and merge multiple company processes. ERP software has become cheaper for SMEs due to the rise of cloud computing. There are numerous ERP products on the market today. This paper contains the following sections: Where the first Introduction, followed by a Literature survey, the Open-Source ERP system, and the final conclusion.

Keywords:- *ERP, Odoo, SMEs, Small Medium Enterprises, Enterprise Resource Planning.*

1. INTRODUCTION

Odoo's purchasing management module will act as a complete management solution to address overall purchasing features, which can include merchant management, merchant liabilities, stock reviews, quality inspections, and other operations that are all sections of the purchasing activities to be dealt with in the company. Because it manages a variety of different company demands, Odoo has turned into a favorite of many enterprises. The relevance of Odoo's features in helping businesses expand cannot be overstated.

On-Demand Open Object is a full-featured business plan managing software. To put it in another way, it's a comprehensive approach for open-source commercial apps. On-Demand Open Object has grown into a valuable resource for organizations since it encourages healthy growth. Whether you're looking to manage your bookkeeping or your human resources, we've got you covered. If we have any queries on how to run a business, you've come to the proper place. Odoo enables users to manage duties such as CRM, sales, inventory, reporting, accounting, and bills, among others. [1]

2. LITERATURE SURVEY

In today's world, Enterprise Resource Planning systems are an integral part of many organizations. Big data management as well the inevitable need for decision-making analysis leads to the use of Enterprise Resource Planning approaches. Initially, ERP programs were small to large organizations as they were able to afford the

high cost of implementing these programs. But the situation has changed since the intervention of open-source technology and thus the emergence of open-source ERP systems. Open ERP is one of the best open-source ERP programs currently available on the market and after extensive comparisons with other outstanding ERP programs, it became clear that Open ERP is against market leaders in many respects. With the launch of Odoo, the latest Open ERP has taken the Enterprise Resource Planning software to a new level. They have installed the CMS, the e-commerce system, and added business intelligence to the new system. However, the complexity of the software has greatly increased and the possibilities for the existing user to familiarize themselves with the new changes are yet to be evaluated [1].

The determining factor in business and technology, while in developing nations, the determining factor in business performance and total cost. The profit gap between developed and developing countries is very important, so the amount of costs is more important for SMEs in developing nations, than for SMEs in developed countries. In general, the most important factor in choosing an Enterprise Resource Planning system is that the ERP system should have a business function that is consistent with the company's business processes. This applies equally to both developed and developing nations. The most often recognized feature is the support service, which works equally well in both developed and developing nations. Although that feature is also perfect it is important to continue the ERP process after the implementation phase [2].

Enterprise Resource Planning (ERP) is business process management software that allows an association to use a system of integrated applications to manage the business and computerize many back-office functions. Odoo ERP is a powerful open-source platform for business applications that have a suite of closely unified approaches that were built to cover all business areas. This research and development operations do not stop, where every period of time there is new modern techniques appear. We did our best effort to provide new modern and easy technology for Odoo developers, and any user who has knowledge of the database and wants to use Odoo. During this search, we have created a component based on cloud computing, also the ability to create a module based on database information, and IDE that helps in editing code, autocomplete and error detection. Also, we provide a community for developers to share their problems and solutions about developing Odoo modules, and a repository to store modules to track code editing. We hope that we cover a big part of software development needs and find more people interested in this research and continue developing it.[3]

Sales focus on prospective buyers and provide product price quotations. Quotations are made by acquiring various data in a separate document. It makes the work process less efficient. Implementation of the Enterprise Resource Planning system could improve the efficiency of sales work. It used the Rapid Application Development method faster than other methods. The selected ERP system is Odoo, which includes various business techniques before and faster using Odoo. A User Acceptance Test (UAT) is guided to determine user acceptance of the applications and features available in the Odoo module.[4]

A module generator for On-Demand Open Object using a low-code development concept was proposed. Odoo is an Open-Source ERP software that brings together required modules for diverse business management and Python web framework which allows developers to develop a segment to extend the capability of Odoo. We can see that the time used to create a module was 20% reduced when using the Module Generator compared with the manual coding method. The obvious difference is the usage of a model with fewer data fields, allowing the Module Generator to quickly create the model. Manual coding is even with a few fields, but creating its view still requires a large amount of coding, if copying is used to help. On the contrary, with manual coding, developers have to focus more on writing code correctly – the main reason for taking more time in development. In the testing, a general user was invited to collaborate on the test. This shows that the tool can also be used by a beginner Odoo user to start building segments for general propose. This should help make Odoo a software that everyone can use to develop software by themselves. Thus, in certain projects, the required number of experienced developers can be reduced, resulting in cost reduction.[5]

E-commerce is the implementation of the Internet to connect businesses to their suppliers, customers, and other business partners. Electronic Commerce can be implemented with the help of business management software, said to be ERP. It integrates with the system with the key activities, such as production, marketing, trading, collaboration with management, resource management, etc. Implementing it correctly and by using the ERP management software, it could make us acquires advantages of E-commerce in the way to optimize processes

required, increase data accessibility and increased the change in data, and ultimately used in the internal understanding of e-commerce. E-commerce systems are gradually moving towards close integration with ERP. Customer orientation business is generally more efficient than a profit-oriented business, and companies are well aware of this. That's why many Customer's strategies and those who do not will most likely follow. There are many companies that have started to deploy the Business-to-Customer strategy, and those who do not will most likely follow. There are many solutions on the market that provide trade and ERP connectivity capabilities. Automating the purchase function brings a host of benefits to any organization. Cost savings are increased while decreasing off-contract and uncatalog spending. More action can be brought under management – including tail spend – and the procurement team has much greater clarity over all its functions, allowing it to better mitigate risk and maximize resources. Therefore, implementing an E-procurement system benefits all levels of an organization. E-procurement systems offer improved spend visibility and control and help finance officers match purchases with purchase orders, receipts, and job tickets. E-procurement also manages tenders through a website. In the case of government procurement, the benefits might be efficiency, transparency, equity, fairness, and encouragement of local business. Because e-procurement increases competition, lowers transactions costs, and has the potential to minimize time and errors in the bidding process, performance is achieved.

With the development of the need for faster access to information in all areas, plans have emerged to meet these needs. Enterprise Resources Planning programs, and part of CRM, have successfully responded to this need for human development. The Odoo system, especially the CRM module and related modules, has successfully responded to various tasks within the sales department. Although aimed at small and medium-sized companies, up to 250 employees, the system can be used successfully in large companies, as long as the flow of information is at the right level. Balance of benefits delivered - used resources are highly integrated, which means that Odoo can be used at the level of companies with very low cost, profits are high, in the short term. After all, the CRM systems market has evolved to meet demand and currently, there are thousands of products of this type. Each of these products strives to compete in the market through a variety of factors: ease of use, minimal use and maintenance resources, a specific field of service for the receiving company, ease of integration with other systems within the purchasing company, expectations, and automation of operations and more. Each company, depending on internal requirements, supply of existing CRM products in the market, and available resources, selects the right product to achieve a competitive advantage [6].

3. OPEN-SOURCE ERP SYSTEM

Trending open-source ERPs are currently no matter what the size of the organization. This is mainly by reason of the level of success achieved in recent years and the additional benefits that users will receive compared to the commercial ERP system. Some of the main benefits of an open-source ERP system are listed below [1]-

1.1 Economical

Economic analysis is the most commonly used study that evaluates the effectiveness of the proposed system, more commonly known as Profit analysis. Profit analysis to determine the benefits and savings expected of a candidate system and compare costs. If the benefits outweigh the costs, then a decision is made to design and implement the program. Costs and benefits can be direct or indirect and tangible or intangible.

1.2 Flexibility

Open-source ERP systems provide more flexibility than proprietary ERP systems. In many cases, while implementing an open-source ERP system in a large company, a new interface is created to meet the business needs of the organization making it less complex in nature. Mostly, this interface will be in line with the current business process and will be far off from the framework of the system. But whereas in the commercial ERP system, the existing interface needs to be customized which makes the system complex and at times the end-user needs to adjust with the features already present in the commercial system creating unwanted resistance from the user's perspective. This flexibility gives open-source ERP systems to easily upgrade to a newer version without any hassles compared to commercial ERP systems.[1]

3.3 Quality Assurance

Open-source ERP systems are more focused on system quality compared to commercial ERP systems. This is due to the presence of an open-source ERP program based on funding and enhancements provided by independent cum engineers who are committed to providing enduring support in open-source technology. So competitive will emerge among these engineers making them work on the public, criticizing the code that was created, and providing important contributions to the community.[1]

STEPS INVOLVE: -

1. A purchase request is a Purchase order to obtain a certain amount of goods, to be available at a particular time.[2]

2. A line of a requisition contains the quantity and requested date of the material to be supplied or the quantity of the service to be performed. You can indicate the service specifications if needed. Once the request is approved go to the Purchase Request Lines from the menu entry 'Purchase Requests', and also from the 'Purchase' menu.[2]

3. Select the lines you want to open the RFQ, then go to 'More' and press 'Create RFQ'.[2]

4. You can choose to select an existing RFQ or create a new one. Over time, you should choose a supplier.[2]

5. In the event that you choose to select an existing RFQ, the application will search for existing lines corresponding to the application line, and will add additional quantities to it, recalculating the minimum order amount, if available from the RFQ provider.[2]

6. First, we will do a part of the need and analysis of the development cycle, where we will find the final objectives of our project and what we will achieve over time. Next, we will move on to the design phase of the cycle which will determine its design and appearance of it. Then we will delve deeper into the implementation phase that contains front-end and back-end development.

7. We will start after the project with the help of the Odoo framework and try to build a low-cost product first that will lay the foundation for our project to work and then add other product shortcomings and try to improve in their race. If a few backlogs are not completed in their specified race, we will add them to the next race and try to finish them in that one.

8. Part of the website will be upgraded with back-end upgrades and PostgreSQL will be used for the website.

4. CONCLUSIONS

In this paper, we perform ODOO technology and after reviewing many CRM and ERP techniques. Odoo ERP is the business solution you need for growing your business. With modules that offer great visibility and control over the business, Odoo ERP is the perfect choice for businesses of every size. The Purchase module of Odoo helps you in keeping a track of the quotations, purchase orders and purchase agreements. Apart from the basic purchase factors, with the Odoo Purchase module, you can manage the vendor details, generate reports regarding the purchases, configure vendor price lists, purchase agreements and much more.

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