

ERP Implemented in Fabtech Industry Using SAP

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ABSTRACT: Nowadays in the modern organizations are facing more problems. The major industrial problems are improper system in material management. This research work focus on to improve the system using Enterprise Resource Planning (ERP) with the help of SAP software. This software will allow to take care of its supply chain and to manage customer relationships better. Some organizations don't have the awareness to implement the Enterprise Resource Planning (ERP) in an effective way. The main objective of this work is to; reduce the inventory level, system coordination in a supply chain through System, Application and Product (SAP) in data processing software.

KEYWORDS: Enterprise resource planning, supply chain, inventory, System Application Product

I. INTRODUCTION

Enterprise Resource Planning (ERP) software systems have focused on internal process integration of traditional functions, such as production, and inventory management. The transaction based integrated processing provides different tools that can support supply chain integration but at the same time it has several aspects that obstruct the integration with business. ERP is intended to facilitate information sharing, business planning, and decision making on an enterprise-wide basis. In this paper first we summarize the most important tools and concepts of ERP systems that help in supply chain.

In its basic definition, ERP is an enterprise-wide information system that integrates and controls all the business processes in the entire organization. The Enterprise Resource Planning (ERP) system is an enterprise information system designed to integrate and optimize the business processes and transactions in a corporation. The ERP is an industry-driven concept and systems, and is universally accepted by businesses and organizational industries as a practical solution to achieve an integrated enterprise information system solution. ERP systems have become vital strategic tools in today's competitive business environment. The ERP system facilitates the smooth flow of common functional information and practices across the entire organization. In addition, it improves the performance of the supply chain and reduces the inventory levels.

II. LITERATURE REVIEW

Typically, any department has its own computer and uses the same database to share the information within the organization. Kelle et al. [1] pointed out the main disadvantages of typical ERP systems in terms of supply chain management and among these is the inability to support complete information flow across the extended enterprise. A. Rolstadas [2] to succeed this approach requires the same flexibility in the management of business and improved control along the entire supply chain. T.M. Somers et al. [3] the major business drivers behind ERP implementations are: improving productivity, satisfying customer demands and improved supply chain. Byrne et al. [4] has argued that an ERP system can improve information sharing between the supply chains. Today's ERP solutions offer even more benefits. Momoh et al. [5] consider ERP systems as the primary solution for integrating various functions and processes through the supply chains to ensure smooth flow of materials, services and information.

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Wei, C., [6] Nowadays, many a corporate organization manages wide businesses processes with the one Enterprise Resource Planning (ERP) to support efficient operations by integrating several activities such as using a shared database and reporting tools. Koch, C. et al. [7] typically, any department has its own computer and uses the same database to share the information within the organization. Abdinnour-Helm et al. [8] discuss the pre-implementation tasks and requirements that encourage acceptance, successful acquisition, and effective implementation of ERP systems within organizations. Koh et al., [9] Enterprise Resource Planning (ERP) is an enterprise-wide information system (IS) that has been used as a tool to effectively plan and manage all resources of an enterprise. Akkermans et al., [10] this investment has also made possible the sharing of large amounts of information along the supply chain, and has enabled real-time collaboration between supply chain partners, providing organizations with forward visibility, thus improving inventory management and distribution.

Wang, C [11] every part of supply chain is deeply affected by information because each stage of supply chain makes proper decision to the daily operation based on this information. Although sharing information facilitates activities in implementing the ERP systems. Mendelson, [12] ERP is a software that facilitates the flow of information among the different functions within a supply chain. The integration among business functions facilitates communication and information sharing, leading to dramatic gains in productivity and speed. Tarn, J. M [13] the most important industrial trend today is the integration of supply chain and ERP through information sharing. Zhang L [14] successfully implemented ERP system can be gained significant benefits such as improved supply chain, improving productivity and reduced manufacturing costs. Wadhwa et al. [15] Technology becomes a tool to augment and promote information sharing and real collaboration of supply chain in ERP systems.

III . METHODS USED IN SAP

In this research work, the following five methods were used to implement ERP using System Application Product in data processing software.

- MM01 - Material data creation
- MD61 - Create the planned independent requirement for month wise. Planning for the year or as per your requirement.
- MD04 - Stock requirement list
- MMBE - The stock overview transaction displays the on-hand balances of materials in the plant.
- MB52 – Display warehouse stock material.

IV. TOOLS AND TECHNIQUES USED FOR IMPLEMENTATION OF ERP

In the methodology, literature survey pointed out to study the enterprise resource planning through the supply chain. From the supply chain process, have to be selection of modules and problems in the resource planning. For that we have to apply codes and using the ERP tool, analyze the problems and implementing the ERP using the SAP software in the industry.

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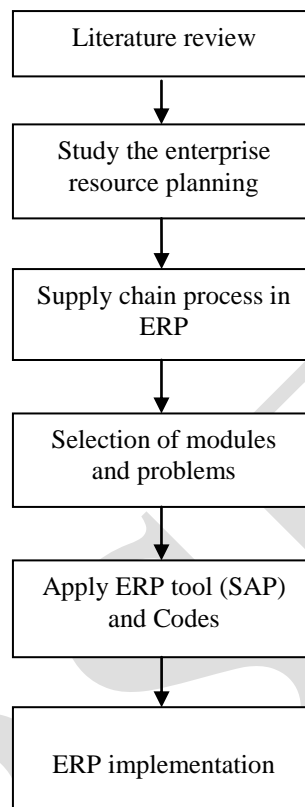


Fig.1 Implementation Methodology

A. Tools used in ERP

SAP stands for Systems, Applications, and Products in Data Processing. It supports all Kinds of Industries and all Functions of the Industry. This means that all SAP modules are designed to share information and automatically create transactions based on various business processes.

It is easily identified the inventory problems and made it quick process time. This software used for

- SAP Enterprise Resource Planning is a software package that centralizes the management of all resources.
- It handles everything from people-oriented task such as payroll, sales, customer relations, and human resources to material-oriented tasks such as management of warehouses, supply chains, and product life cycles.
- Even decision-based analysis is incorporated. So for large companies SAP is the enterprise-wide software to have.

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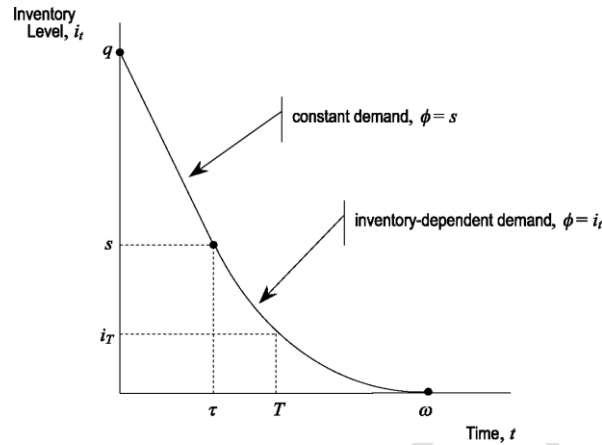


Fig. 2 Inventory level

The benefits of using SAP for your business are numerous. It delivers systems that are modern and highly efficient. In the company, the previous year data can be collected from the month of July to December. Before implementing ERP the collected data to be used in decision support tools for implemented in SAP.

B. Data collection

The most important groups of data to share include:

- ❖ Sales information (Sales data, Production schedules)

TABLE I. PREVIOUS YEAR SALES DATA

Sales	July	August	September	October	November	December
Previous Year (July 2013-Dec 2013)	1600	1680	1710	1400	1590	1650
Promotion Sales (cases)	0	0	0	0	100	250
Previous Year base (cases)	1600	1680	1710	1400	1490	1400
Growth	90	150	210	290	380	450
Base Projection (cases)	1690	1830	1920	1690	1770	1850
Sales (cases)	1690	1830	1920	1690	1770	1850

In table1, the sales information can be mentioned in various criteria are previous year sales, promotion sales, previous year base, growth and base projection.

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For calculating the month of October:-

- Previous year base = Previous year-Promotion sales
=1400 -0 = 1400
- Base projection = Previous year base + Growth
= 1400+290 = 1690
- Base projection = Sales cases.

C. *Sales in operation planning*

- ❖ Sales & Operational planning information (Sales data, Production plans, Inventory levels).

TABLE II. SALES AND OPERATION PLANNING

Sales and Operational Planning	July	August	September	October	November	December
1) Sales	1690	1830	1920	1690	1770	1850
2) PP	1690	1830	1920	1690	1770	1850
3) Inventory	80	80	90	90	100	100
4) Working Days	20	20	22	22	23	23
5) Capacity	1800	1850	1900	1950	2000	2000
6) Utilization	80%	84%	88%	92%	94%	98%
7) NRG-A	900	1000	1020	1100	1250	1300
8) NRG-B	790	830	900	590	520	550

In table 2, the sales and operation planning can be mentioned in various criteria are sales, production planning, inventory, working days, capacity, utilization, net requirement group of both A and B.

D. *Calculation of sales and operating planning*

For calculating the month of October:-

- Production plan = net requirement A + net requirement B
= 900+790 = 1690

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➤ Utilization = $\frac{\text{Sales} + \text{inventory} + \text{working days}}{c}$
 $= \frac{1690 + 90 + 22}{1950} = 92\%$

To using these enterprise resource planning software we have to improve supply chain process, and now the following codes used in SAP to reduce the inventory level.

V.AFTER IMPLEMENTING ERP TOOL - INVENTORY REDUCTION

The main effort of an ERP implementation is to combine as much functionality as possible into a single, integrated software program that runs on a single database.

This approach can have tremendous pay-back if companies implement the software properly. Visibility functions give companies an overview of inventory and its status as it moves through the supply chain. ERP is also able to share the data from these processes with other corporate software systems." It gives a company an integrated real-time view of its core business processes such as production, order processing, and inventory management. Proper utilization of all resources, pre-screening of the ERP software and proper design of ERP methodology are the key elements for a successful Enterprise resource planning system.

TABLE III. AFTER IMPLEMENTING ERP TOOL

Sales and operation planning	December	January	February
1.Sales	1850	2120	2275
2.PP	1850	2120	2275
3.Inventory	100	75	60
4.Working days	23	18	15
5.Capacity	2000	2250	2365
6.Utilization	85%	98.35%	99.36%
7.NRG-A	1300	1400	1500
8.NRG-B	550	720	775

In table 3, after implementing enterprise resource planning tool, in the month of January and February the inventory level will be reduced when comparing the December.

Another important benefit of ERP systems was that they allowed companies to replace a tangle of complex computer applications with a single, integrated system. The sharing of a centralized database provides business managers with accurate and up-to-date information to make well-informed business decisions.

This enables manufacturers to reduce the cost of goods sold, shorten lead-times for orders and reduce inventory costs with improved supply chain collaboration and management.

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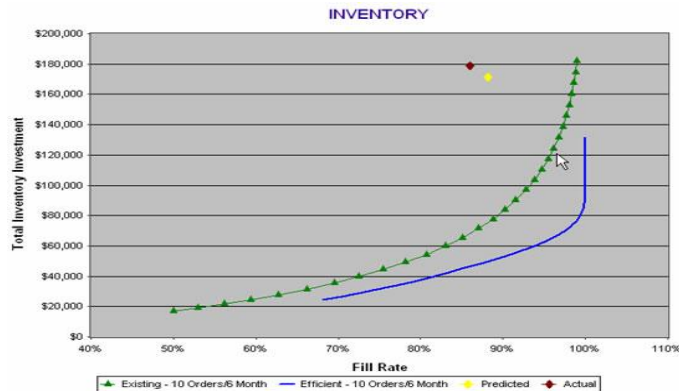


Fig. 3 Inventory level reduced chart

In fig 3, the ERP implemented in the industry using sap, the following inventory level will be reduced. In that the inventory level reduced by 60 – 80% using methods and sap.

It is a cross-functional enterprise system driven by an integrated suite of software modules that supports the basic internal business processes of a company.

VI.RESULTS AND DISCUSSIONS

After enterprise resource planning implemented using SAP tool, to improve the

- Sharing sales data.
- Sales operations and Planning.

And also successfully to

- Improved supply chain and productivity.
- Reduced inventory levels.

VII.CONCLUSION

The processes can also be to find out the methods and means by developing a suitable model which can initially predict the compatibility of the selected ERP system with the current business processes and to bring more improvements in integration and flexibility of ERP systems while and after its implementation.

Therefore, reduced the inventory level from the month of Jan to Feb in that company by using the ERP tools and also develop the information sharing in the industry. To implementing the require ERP system in product industry to achieve their target values. Finally, implementing ERP systems can potentially allow a company to manage its business better with potential benefits of improved process flow, better data analysis, higher quality data for decision making, reduced inventories, improved coordination throughout the supply chain, and better customer service. Finally I conclude that, SAP is most widely used ERP tool in industries to reduce the inventory level.

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