

Utilization of erp and sap based solutions for the garment industry problems

[Business](#), [Strategy](#)



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Introduction

Garment factory is the place that manufactured clothing items, designing's for clothing. Usually clothing production is done in industry scale. It has standardized process of manufacturing clothing. As well as it has standardized sized pattern pieces that used to make many items designs. Also garment industry highly consider about the labor, raw material, capital, product and inventory (Patrick et al. , 2010). Today garment industry has focused about the new technologies and strategies which they can use for enhance their product and service quality. As well as increased their efficiency and effectiveness of business processes (Patrick et al. , 2010). To gain competitive advantage, garment industries have to consider about the customer relationship management, supply chain management and quick response to the customer. Due to the rapid change of fashion industry, attention about the new trends, speed to the market is also considerable things. To survive in this industry, have to consider about new entrants into this industry, power of suppliers, power of customers and threat of substitutes. Garment industry can divide into two parts. There are production

clothes and fashion products. They have to maintain good quality and standards from production to retail stores. Garment factory has several departments such like Merchandising department, sampling department, Quality Assurance department, Finishing & packaging department, Maintenance department, Finance and Accounts department, HR department etc. So it has complex structure, problems may occur in any department.

As well as problems that happen in industry also affect to the factory. To solve those entire problems, managers, workers and every person related to this area needed proper solution. Rise of new technologies also affected to the garment industry. So garment industry tends to use IT technologies to seeking for new solutions. SAP is the one of IT related solution. SAP is German software that used for business process activities. SAP ERP modules can divide in two phases. There are Functional and Technical modules. Those two modules can provide solutions for different kind of business. Also Enterprise resource planning software (ERP SAP based) is most popular in today fashion industry. It can provide the solutions for many problems that occurred in garment industry. ERP SAP modules can facilitate to management to making decision, identifying the future challenges may occur, analyzing the information related to the organization and visualize the complexity. It also can provide suggestions for future plans. So ERP SAP based solutions are the best solution for the garment industry problems.

What is Garment Factory?

Garment Factory is the place that provides every clothing item. It provides ready-made apparels as well as the raw materials. It mainly focused in labor,

raw material, product, capital and inventory. In the world creating, producing and distributing the clothing is the largest manufacturing business. In Sri Lanka, more than 1060 garments factories registered and those factories provide employment for 5% of country's total employment (Dheerasinghe). So garment industry has considerable place in Sri Lanka. Every garment factory has structural view and it's consists of several departments such like, Merchandising department, Sampling Department, Fabric store department, Trims and accessories store department, Spreading & Cutting department, Sewing department, Washing department, Quality Assurance department, Finishing & Packaging department, Maintenance department, Finance and Accounts department and HR/ Admin department. Each department tasks and problems are differing from the other department. Also there is a process of manufacturing. Figure 01 shows the process of manufacturing clothing.

Merchandising: In that process company directly contact with the buyer. Merchandising gives priority to develop the product cost and order. It monitors whole process and provide guiding and supervising in order to reach successful processing of an order. **Sampling:** This department co-operates with merchandising department and production department. In this process sampling department ensures that product appearance has not any defects and it is up to exact product that mentioned by the customer. **Fabric Store and Inspection:** Purchase the quality and relevant fabric and store it in standard way. In inspection main goals are " Identification and analysis of fabric defects using various standard methods, selection of fabric according

to AQL (accepted quality level)” (Clothing Industry know what you wear, 2017). Trims and accessory stores department: Accessory means documents which received from the merchants. Trims mean production planning department.

In that department arrange the pre-production meetings and decide how to complete the production it on time. QA department: Assure the required quality of the product. (Maintain and control the quality of product.)Finance and accounts department: Manage all the financial operations such like ledger accounting, payment management, funds management etc. HR department: Manage all the human related things, such like organizational management, recruitment, payroll, travel management, training and event management etc. Maintenance department: Mainly focused on maintain the machines that used in factory. Finishing department: It involves with trimming process, inspection process, pressing process, tagging process and packing process.

What is SAP ERP?

SAP is one of Enterprise resource planning software that used for execute business processes, such like human resource, sales, accounting and financing etc. Also it has an integrated environment. As a result of integration, SAP can provide data redundancy when flowing information from one SAP component to another SAP component. Also it facilitates financial process, effective resource management, and legal controls. The SAP ERP system also can define as SAP ERP central Component (SAP ECC), it is collection of SAP technical and functional modules which can apply to

manage the business process in enterprises (Rouse, 2018). ECC is the one version of SAP, and it is generally implemented for medium and large-sized companies.

For smaller companies, SAP offers its Business One ERP platform (Rouse, 2018). SAP has two main models. There are Functional modules and technology modules. Both of them has submodules. Figure 2 presents submodules of functional and technology module. Figure 02: SAP main modules

3. 1 SAP Main Functional Modules

SAP Financial Accounting (FI) – That module used for manage financial transaction in enterprise (Verma, 2018). Also it collaborates with SAP modules like SAP SD, SAP MM, and SAP PP. **SAP Controlling (CO)** – It facilitate to business process such like planning, reporting and monitoring (Verma, 2018). Also it provide services such like viewing and organizing the cost that used to built financial reporting. It manage master data such like cost elements, internal orders, profit centers etc. **SAP Sales and Distribution (SD)** – SAP SD modules facilitate to manage all transactions like enquiries, proposals, quotations, pricing and so on (Verma, 2018). It mainly used for inventory control and management. (Verma, 2018). Some of SAP SD modules are sales support, shipping and transportation and billing. **SAP Production Planning (PP)** – “ It used to production planning and management process in enterprise. SAP PP module interact with business process such like master data, sales and operations planning, distribution resource planning and material requirements planning (Verma, 2018). ” **SAP Materials Management (MM)** – That module helps to process of deciding Materials that suit for enterprise (Verma, 2018). SAP

Quality Management (QM) – It helps to manage quality of every process that run in enterprise (Verma, 2018). SAP Human Capital Management (HCM) – It used to process HR related process such like payroll handling, recruiting employees, promotion management, training and event handling etc (Verma, 2018). SAP has cross application components that can used to implement other main modules.

Some of them are; Document Management system, classification and product lifecycle management. Also SAP has industry- specific applications which used to help unique business processes in different industry such like SAP for Utilities, SAP for Insurance, and SAP for Healthcare. Another SAP application is SAP business suite. It facilitate integrate business and process. As well as it provide modules for “ customer relationship management, product lifecycle management, supply chain management and supplier relationship management” (Rouse, 2018). Some of business suit applications are SAP C/4HANA (It is cloud base platform that used to customer experience and e-commerce), SAP Leonardo (It is a software that used technologies such like IoT, Artificial Intelligence, SAP cloud platform, big data, and advanced analytics) and S/4HANA.

SAP ERP Solution for Garment Factory

Today garment industry environment is becoming more complex. Rapid growth of information technology also affects to that complexity. Because most computing applications which are used in garment industry are build using knowledge of information technology. Also inter functional data flow is also become complex. As a result of complexity, garment industry has to

face many problems. Some of them are; cost overhead, inventory management problems, accounting, distribution of product and services, human resource problems, insufficient product variation, heavy reliance on small number of large scale producer, lack of solid raw material, customer relationship management problems, supply chain management problems, salary differences between garment industries in western countries and developing countries, productivity amount is low comparing to the competitors, product quality, speed to market, rapid change fashion designs and awareness of current trends etc. To solve above mention problems, garment factory managers should have ability of making good decisions. To make such a decisions garment factory needs intelligent decision support system. But considering each department of garment factory is not easy thing.

So integrate SAP ERP model to decision support system is better solution for that. Because, SAP ERP modules can provide solution modules for each department process. Main benefit of such integration contains the capability to improve the quality and visibility of information. Extending the current functionality of DSS is support to easily access the data stored in SAP ERP system. Then integrating DSS with ERP SAP system across numerous enterprises and finally create a sole, flexible and wide-ranging DSS which sits on top of ERP SAP system (Patrick et al. , 2010). Those integration leads to provide integrated data stored in the centralized common database (Patrick et al. , 2010).

SAP modules that can be used to integrate with DSS SAP Human Capital Management (HCM) SAP HCM module can handle the garment factory human resource department. SAP module can improve work process such like payroll control, managing promotions, recruiting persons, training and event management, salary differences problems etc. Using SAP providing information, DSS system can make better decisions according to the human related problems. SAP Financial Accounting (FI) SAP FI module support to solve the problems of business transaction, accounting, ledger accounting, budgeting, fund management etc. So cost over heading can stop by analyzing the data of SAP FI module. Integrating that information to DSS, management can provide relevant decisions according to financial accounting problems.

So garment factory can avoid from bankrupting and over heading. Also DSS can predict the profit and loss of the factory. SAP Controlling (CO) That module helps to control the operations such like planning, monitoring, and financial reporting. Also it supports to control cost related problems and it include tasks like plan, track and perform. To make decisions according to controlling factory, SAP CO can help to DSS. SAP Sales and Distribution (SD) It facilitates process like transportation and shipping, transaction managing, sales support, billing, inventory management etc. Using this module garment factory can enhance their sales and distribution. If sales and distribution increased, factory profit also higher-up and can avoid from redundant of production. DSS can use that information and it can enhance the sales and distribution by providing reliable decision. SAP Production Planning (PP) It

provides services to garment factory such like sales and production planning, material requirement planning, demand management, production order management and routing.

So it can solve problems like insufficient product variation and low productivity amount. Also helps to obtain goals such like garment style, target of each day, amount of operators required. SAP Materials Management (MM) Supports to material purchasing process, procurement process, consumption based planning. As well as DSS can give decisions such like what are the suitable raw materials, fabrics that suit to factory? How to choose right supplier? So on. SAP Quality Management (QM) SAP QM helps to manage the quality of each process. Also involve with processes like production, sales, procurement, process inspection, quality control and planning. Quality management leads to create better image of the company as well as it affect to the brand of the company. DSS can use those details to define what are the decisions that can used to improve the quality of clothing products?. S/4 HANA/4 HANA can used as database platform. It can use for business suit processes. Using S/4 HANA management can get higher level of view of data. Also it can generate data patterns and relationship among data. So using those information DSS can predict future profit as well as losses may occur.