

# Computer standards and interfaces

[Technology](#), [Computer](#)



In order to solve the issues within the current business systems, there are several methods could be implemented. First, an accurate approach should be collected and adopted. A business process-oriented integration approach could be implemented to provide a transparent system and process controlling by adopting a platform. It could connect the different business processes as a visible workflow and integrated different applications (Li, et al. 2010).

Within this type of integration approach, a loose coupled architecture is required. That means each part of the factors with the workflow is independent and the back applications do not directly communicate with the front applications but with business integration sever. In this way, there is the enough space for fluctuation with any changes and make the workflow more security (Papazoglou, et al. 2006). Moreover, a Hub and Spoke Architecture could also be adopted which is an indirect one to one model. In this type of model, there are a number of integrations of different applications (lecture Slides, 2011).

Secondly, because the stock just be checked when the orders from suppliers arrive, if it is out of stock or there is insufficient stock, it have to place the components orders immediately to components suppliers and could not carry on the manufacturing until the new components arrive. This will delay the production schedule and lead to the time consuming. Vendor managed inventory could solve this problem.

Vendor managed inventory is a corporation strategy that suppliers reach a agreement with their customers on directly managing the inventory of their

customers' to save the time and cost on manufacturing process (Lee and Ren, 2011). Components suppliers check the company's stock in a real time and replenish the stock on time. On the basis of this, company does not need to use the resources to manage the raw material stock and could achieve the lean production.

Thirdly, it is a good way to solve the current problems with creating the data warehousing for the entire business process. The current business model has different systems for different departments. For instance, the orders from the car manufactures are input into the sales management system while the data of components from the suppliers are gathered in the stock management system by the purchasing manager. Different systems are just built for individual functions and are charged by specific managers. Meanwhile, there are no connections between different systems.

The information between different parts may not always be accurate and it is more possible to make mistakes. An integrated data warehousing would collect the information from different parts of supply chain and integrated into a network. Different applications could uploads and check the data and process information from this data warehousing with a specific interface. This is a good way to reduce the processing time and have more opportunity to quickly respond to the changes (lecture slides).

Another way for solving the current issues is the implement of lean production. A lean production requires the manufacturing process without the waste of time and space, no extra production lines and flows with no interruption. This means a production line should try to avoid the seven

wastes: the cost on defects like stops and rework, the time for waiting, the unnecessary transportation, over inventory like raw materials and finished goods, over-production and over-processing and the movements for motion (McBride, 2011). In order to solve these wastes which exist in the current system, the products should be manufactured just-in-time to reduce the stock level.

This means the manufacturing only starts when the customers' orders arrive. This would save the time and reduce the unnecessary wastes (Yasin, et al. 2003). On the basis of this, a Kanban should be placed between different functional machines. When the customer order the products, the products are took out from the final buffers, and then each factors of downstream just get the products from upstream operations. This could assist the workers to identify the time for producing and reduce the stock level (Junior and Filho, 2010).

The last way of solving the issues within the current business model is implementing the suitable ERP system to integrate the current complex systems and business processes. The current system is only built by different departments for the individual information demand. The current systems exist with a lot of complexity and invisibility which may lead to the delay of information and cause the reduction of production ability. ERP system is supplied for the customers to integrate the current business processes and built an integrated network for information sharing. Such as, the implement of SAP could integrate the order information by software, create the orders

online and manage the production processes of different operation tasks (SAP Lab slides).

## Conclusion

There are several issues with the current business models. Firstly, the sales management system can only be updated once a week. It limits the information changes and coordination with customers. Thus it may cause the high possibility to make mistakes. In the mean time, the delay of information would also lead to the slow response for the task changes. Secondly, the company just checks the stock after the orders arrive, if it is out of stock or the stock is insufficient, the orders of components have to be purchased to the components suppliers and waste the time for producing and influence the efficiency of lean manufacturing. In addition, current systems are complex and invisible for information sharing, it would raise the stock level and increase the products lead time.

Therefore, some measures should be adopted to overcome the company's business problems. Firstly, a data warehousing should be built for the information integration. In this case, each applications of the business process could share the information with each other and save the time and have more opportunity to face to the fluctuations of customers' demand. Secondly, in order to reduce the stock level and save the time on inventory to focus on the core production line, Vendor Managed Inventory is implemented to allow the suppliers to manage the customers' stock. Otherwise, the ERP system is built for the integration of business

applications. SAP system which is one of the most vital ERP systems is adopted for data sharing under a workflow network between applications.

By taking these solutions, it is helpful for company to integrate the current business systems and process, the proposed system tends to be more stable and information sharing would be more efficient. Applications could obtain the required information the proposed system and quick response to any task changes. However, there are also some limits in implementing the measures. In order to make sure the safety of individual information, the setting of the interface tends to be more important. The ERP systems are very expensive so it is vital to leverage the value for implementing this type of the systems. Meanwhile, the adoption of new system needs the extra training course for the staff that uses the ERP system. Therefore, it is also a problem that how to overcome these problems and implement the solutions in a better way to solve the systems issues for the company's further development.

## **References**

Cooper, M. C. et al (1997). " Supply Chain Management: More Than a New Name for Logistics", International Journal of Logistics Management, Volume, 8 Issue, 1, Pages. 1 - 14.

Dr. Li's lecture slides. EBUS612 Business intelligence lecture 1.

Erasala, N. et al. (2003). " Enterprise Application Integration in the electronic commerce world", Computer Standards and Interfaces, Volume 25, Issue 2, Pages 69-82.