

AN INTEGRATED PERSPECTIVE OF ERP AND E-COMMERCE TOWARDS QUICK RESPONSE: A THEROTICAL APPROACH

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Abstract:

Quick Response is all concerning rethinking and improving i.e. processes. In business perspectives, Quick Response concepts are the more rapidly flow of products, processes and data. Quick Response policy refers to a business approach in which supply chain channel members work simultaneously to respond to impulsive market demand. This grips reducing idle time where it exists, processing work in small batch wise along with maximizing value-added time. The accomplishment of a lead-time decrease attempt is dogged enough regarding the way how it is implemented rather than regarding the approach what is implemented. No matter what the reasons for following a lead-time decrease approach, client demands, aggressive competitive shortcomings so as to effect in market share, sky-scraping costs or too low quality and excellence, minimizing time transversely all enterprise processes is significant to growth. This paper endows with a thorough study of Quick Response approach with ERP in presence of eCommerce and eBusiness that will produce growth in terms of revenue, speed, quality and reduce costs along with time as well.

Introduction:

ERP is “software solution that addresses enterprise needs taking the process view of the organization to meet the organizational goals tightly integrating all functions of an enterprise.” [1] The notion of ERP is to flow all the departments of an organization into a single computerized application which provides all the functionalities as per need. Not only that ERP software facilitates a degree of interoperability to different departments of an organization as because, from a single database different departments can share and communicate with each other. ERP is rightly called as information backbone that hits each and every domain of business and value-chain.

As we know, Quick Response (QR) policy is a market-driven business strategy in which supply chain channel members work together to react to volatile market demand. Here we will proceed to have a quick response of ERP Systems in presence of eCommerce and eBusinesses.

Preliminaries:

What drives the market

There are some challenges to manufacture:-

- a. Global
- b. Distributed
- c. New Product introduction
- d. Specialized focused on industry market
- e. To satisfy consumer needs & demands
- f. To develop specific business processes
- g. Integration & association with the products being developed by third party

What Industry demands

- a. Hostile cost control schemes
- b. From product and client perspective analyzing cost
- c. There should be a flexible way to reflect on changing the business requirements
- d. More focused on well decision making

What holds Industry back

- a. Problem to get exact information in time
- b. Applications mimicking on hand business practices
- c. Modifications are hurting & near to the ground
- d. Not well formed interface

ERP

ERP is a determined term that in reality attempts to incorporate all departments and functions across a company onto a single sign on system. ERP serves company wide integrated information systems covering all functional areas. It performs core corporate activities and increases

customer service augmenting corporate image.

What are the thing being integrated by ERP

- i. Database
- ii. Applications
- iii. Interfaces
- iv. Tools
- v. BPR (Business Process Reengineering)

Why use or think about implementing ERP

Executing a solution in enterprises permits organizations to get rid of standalone computer systems in finance, manufacturing, HR and the warehouse. The solution substitutes them with a software application with individual sub components for each section. The main divergence is that now finance can glance into the warehouse section and check if the pending orders have been processed in time or not. This lets inter-departmental supervising of business processes at the same time as allowing the management to associate reports so as to offer a transparent view of the enterprise as information is being used from across all sections and departments of the organization.

Scope of ERP

- incorporate Information for Finance
- let inter-departmental process monitoring and generating reports
- incorporate Customer Order Information and stock Customer History
- Standardizing Information for HR

- permit Marketing and Management to supervise and examine all phases required to offer the clients with better services
- Store and scrutinize productivity information for employees and facilities
- update the manufacturing process
- Information from across the organization as a whole
- Let users restricted and monitored right of entry to data across the organization as per needs.
- Complete Integration of Systems through out the all the departments as well as across the whole enterprise
- Only one solution makes a better approach to project management
- Better consumer service
- Automatic Induction of latest technologies
- proficiency database

E-commerce

Before coming new-fangled e-business world, a company's e-commerce goals are to determine-

- a. What are the resources already exists?
- b. What are the requirements to be fulfilled to meet basic requirements successfully?

E-Commerce has enthused from marketing development to a proven technique of growing sales and commerce by allowing straight marketing and providing clients the

liberty of selection according to their choice.

The two fold phenomenon facilitates our customers incorporate into their existing ERP system with a complete E-Commerce competence. The first channel allows the business to communicate with the customers (Business to Clients) and the second channel allows suppliers and partners to communicate with the organization (Business to Business). This allows clients to make more efficient Customer dealings at the same time as maintaining perfect records of their interaction in marketing strategies.

ERP –eBusiness for virtual organizations

To deploy resources in implementing ERP based e-business, a company should have a look on both its preparatory position in the e-business landscape and its desired ending state, comparative to a variety of possibilities. The ERP/e-business matrix (Noris et.al, 2000) defines five scenarios for ERP based e-business:

- Development of channel – modifying on hand business processes
- Incorporation of value-chain - Through e- business customer relationship management (eCRM) and through e-business supply chain management (eSCM), its needed to integrate suppliers, partners and also customers
- Industry renovation – reformation of organization

- Convergence – having partnership with companies of various domains

ERP based e-business information systems need extensive ERP functionality.

Some areas in which ERP systems can be extensive are:

- To support e-commerce and data mining, web enabled customer relationship management (eCRM)
- More advanced planning and scheduling to offer a better way of handling information flow connected with manufacture resource planning
- web enabled supply chain management (eSCM)
- organization's strategic management

The main gain of ERP based e-business information systems will be observable when planning for production and gathering of materials (production and non-production) will accomplish business by trading among together following an integrated web enabled way.

E-commerce Solutions in ERP

The thought of merging B2B e-commerce solutions and ERP systems is extremely entrenched into the requirements of fully incorporating and monitoring the electronic organizations' flows, making them more swift and proficient. Let us take an instance, in B2B, where the company sells its goods online,

symbolizes a “front-office” of the brand. On the other hand, the requirements of well-timed accomplishment of the sales orders necessitate at their appointed time processing into the scheduling, bits and pieces requirements planning, allotment resource planning, and, ultimately, quick channel of information as notification to the company's dealers.

Here is the demand of an integration of the “front-office” and the ERP “back-office.” On the other end, the modern e-business solutions for buying and outsourcing in buyer oriented or e-procurement solutions, offer online provider catalogs, quick RFQ request, and easy provider-customer relationships. Yet, the e-procurement judgments are firmly correlated to the overall purchase departments of the corporation, dealer assortment and scheduling processes.

The modern ERP systems provide the following e-commerce supply chain management solutions:

- Confidential Exchanges--e-marketplace infrastructure that enables to expand the supply chain management across project boundaries by connecting with suppliers, partners, and customers
- Mobile Business—expand the proficiencies and usefulness of networked supply chain management to each and every person of the network
- Supply Chain Event Management -- supervises each phase in the supply

chain development, from beginning to the instant the product launches at the client site.

- Supply Chain gateways – allow consumers to work in partnership with colleagues beneath a same umbrella or across the globe as a whole, both surrounded by and external of the enterprise.
- Supply Chain Performance Management -- supervises and reports on key indicators and aim of supply chain performance, with inclusion of costs and assets around the supply chain network
- Supply Chain plan -- permits to make parallel supply chain infrastructures to fluctuating market situations, such as new product launches and new customer segments, that enable to diminish point in time to value
- Joint Manufacturing -- manages supply chains throughout all phases of the mechanized process through across project boundaries
- Shared Procurement -- integrates Web-based purchasing processes.
- Joint Demand and Supply Planning -- lets buyers and sellers to work together on demand and order based on the dynamic exchange in sequence
- Mutual achievement -- lets to determine swiftly in which place & in which time instance to gain a product, and handles order management, availability checks in catalog, and shipping also.

The narrated solutions that incorporate ERP and e-commerce supply chain management are planned to provide the profit to all essentials of supply chain. For the customers, this incorporation benefits could be the following:

- Facilitate everlasting access to the enterprise selling competences
- Compare supply and demand from end to end integrated and mutual planning tools.
- Access comprehensive and perfect order grade information, consequential in privileged consumer satisfaction
- Offer swift delivery times
- Diminish inventories
- Renovate from a supply-centric to a customer-centric claim sequence, where actual client demand drives design, construction, and replacement.

For an enterprise, the key relationship in a supply chain, the e-commerce incorporation with ERP systems might offer the following benefits:

- lesser rate for the Internet-related purchases.
- Balance suppliers on a global basis at ease & in a swift way
- Collaborate with associates and optimize supply chain planning and implementation transversely enterprise restrictions
- accomplish more rapid reaction to surprising demands
- Commence fresh products with competence and accuracy
- Enhance planning exactness and concurrent site of products worldwide, developing customer service
- React to varying customer necessities professionally and rapidly.

For the suppliers' perspective, the significance in the integrated ERP and e-commerce supply chain could mean:

- Enhanced potentials for planning and development at the end of supplier production
- Quicker reaction to surprising demands
- Partnership with clients on foretelling, new product blueprint, and deployment agendas.

ERP vendors' position after integration with eCommerce:

According to the customer demand, the ERP vendors preserve to have responded in conditions of placing spotlight to their Web-enabling effort. Some domestic functionality is developed as well as by means of third party associates albeit it seems to be anticipated that into their core suites, everything will be ultimately amalgamated by ERP vendors. The most popular ERP Packages are SAP, BAAN, Peoplesoft, JD Edwards etc.

SAP in Four Tier

The process-oriented functionality, three-tier architecture and on hand business APIs (BAPIs) of SAP R/3 set has projected that leading the application for Web e-commerce has almost certainly been easier for SAP than for many other vendors of ERP. The tasks followed by SAP are:

- To set up a "fourth" layer to its architecture for Web handling

- As part of a process flow allow workflows reach out to the Internet
- Become accustomed with the presentation layer for use within any Web browser

The Internet Transaction Server (ITS), built by SAP, at present restricted to running on Windows NT 4.0 servers, is the mouthpiece for Internet-related activity processed by presentation layer clients. Using the Computing Center Management System (CCMS) and the functional BAPIs, ITS lets Web browser clients for the interaction with R/3 application servers and reach business processes and components. So, CCMS can load-balance and keep an eye on e-commerce dealings reaching R/3 from Internet sources, and these dealings can interact with functional components using the same APIs so as to any other external application would use.

For making available admittance to functionality throughout a Web browser, SAP R/3 presentation layer uses ActiveX controls and JavaBeans-based applets. The forthcoming R/3 release 4 Business Client offers on-demand delivery of JavaBeans-based applets to PCs or NCs and for supervising data displayed in HTML formats includes a new HTML frame module.

As SAP has had EDI and EFT capabilities for many years, it is progressively incorporating Web e-commerce potentials into its suite and is also operational with associates to deliver other Web e-commerce way outs.

Release 3.1G of R/3 (shipped December 1996) offered Web e-commerce functionality which provided:-

- a. product directory access
- b. online store structure
- c. Web browser access to sales order making
- d. Web browser access to track sales order status
- e. Web browser access to query available to assure catalog
- f. Web browser access to retrieve customer account information

SAP has tied up with three organizations like Aspect Development Inc., Acquion Inc., and Cadis Inc. to deliver directory content to use in Web-based applications. Meanwhile, to deliver consumer-to-business Web e-commerce and accounting way out, the SAP/Intel combined venture, Pandesic LLC, ties R/3 with other storefront-related software for instance Taxware's Internet Tax System and CyberCash Inc.'s payment software, Intel-based hardware, and intermediary implementation and support services. Coupled with a monthly transaction fee varying from 1 to 6 percent (depending on volume), Pandesic launched this solution with a purchase cost of \$25,000.

BAAN in TopTier

To administer the sales order accomplishment process from product selection to product feedback & comment, first and foremost Baan IV provides Web e-commerce potentials. In the website (www.commerce.baan.com) there is Microsoft Site Server-enabled front end to Baan's products to facilitate a basic storefront regulating capability available to several Baan IV clients.

To deliver right of entry to Baan functionality from end to end trendy desktop browsers like Internet Explorer versions, Mozilla, Netscape Navigator etc, Baan IV also uses Java and ActiveX both.

Baan IV suite users can manage the sales order entry and tracking process entirely via a Web browser because of having Web-enabled functionality with in it. The flow will be as follows:

surf item product register → utilize product configuration manager → make sure item availability to assure → give order description → verify shipment, credit, tax, commerce protocols → hand over order to catalog → permit consumer self-service right to use the order → fire status change notification workflow emails → throw delivery papers and credentials through workflow email → let purchaser self-service to proof claims/grievances/ criticisms.

One more chief initiative in the focus of the Web-enabling of Baan IV is to bring into play of applications from third-party collaborator TopTier Software which delivers a collection of middleware tools that Web users can

go to connect to Baan IV for e-commerce and self-service. This suite builds on TopTier's patented Hyper Relational Navigation Protocol (HRNP).

HRNP has the inclusions of:

- a. TopTier HRNP Server which is mainly used to communicate data sources to Web or Windows clients
- b. Top Tier Multiplexer, a server application that is dedicated to load balance several HDTP servers
- c. TopTier Data Navigator which is basically a browser plug-in for plotting a route / navigating data accessed by means of HDTP.

TopTier facilitates Web-enabling to both Baan IV and Baan's Triton suites and having requirement of:-

- i> Windows NT-based application server
- ii> 64MB of RAM. (at least)

TopTier and Baan can be capable of working jointly to maintain Web e-commerce which is found as demo at www.baan.toptiersw.com

PeopleSoft in Tiers

In 1987 PeopleSoft was started as a software firm mainly for human resource management and gradually expanded its operations to corporate functions. PeopleSoft has paid more attention on the self-service feature of

using the Web than on e-commerce. So, Web e-commerce initiatives of the company are at the back those of its rivals.

For making accessed the application functionality across its suite, a new-fangled edition of PeopleSoft's Java-based Web client is lined up for release in PeopleSoft 7.5, in middle of 1998. By including improved transaction exception handling and exception warning all the way through the help of drill-down browsers and e-mail, PeopleSoft has focused concentration on deploying a more comfortable EDI product to handle business-to-business (B2B) communication. Special business rule-driven relationships can be built that settle on the way how workflows between associates should be effected in the different event exceptions arise (such as sending an approval referred back if the concerned form is not filled with all required information within a particular time frame). PeopleSoft has incorporated the top ANSI X12 EDI transactions for handling concerned software easily.

Ecommerce with different ERP modules:-

Customer Relationship Management with Ecommerce:

"Integrating e-commerce systems with the back-end can help create a more complete picture of your online customers, allowing you to more effectively track patterns. Additionally, an automated system reduces transaction processing costs"

said by Sandeep Walia, president of Ignify.

In each and every organization, there should be interactions among customers, suppliers, partners etc with a huge amount of data and a too short transaction time. According to the experts, the data between the networks will cross the limit of 100 TB (terabyte).

Demand for better alliance with back office systems within organizations is being derived by the unparalleled growth of data pool. IT integrators have started converging key systems such as enterprise resource planning and customer relationship management with conventional e-commerce solutions.

By congregating platforms, elements such as payment processing are improved to a great extent by automating transactions and boosting the capability to go halves information internally as well as with both associates and clients.

Supply Chain Management with Ecommerce:

E-commerce means business competence at all operation levels through Internet. Supply Chain Management means organizing, setting up and controlling procurement, manufacture, inventories and deployments of products and services to clients and consumers. Supply Chain competence states having the exact product at the exact time at the exact place, can save capital/diminish costs, and can increase cash utilization. In USA a

remarkable number of business organizations have put into practice their Internet platform for Supply Chain effectiveness in the last a couple of years.

An integrated supply chain management (SCM) system is the backbone to achieve the ebusiness objectives efficiently. Managing Real World B2B Integration”, Peter Linkin, a senior manager of product marketing of Vitria Corporation stated what is required in order to gain full benefit from ebusiness as follows:

- Integrated, automatic system-to-system interaction with all trading associates
- The capability to integrate communications flawlessly with your in-house applications and processes to provide right end-to-end visibility and control
- Room of the individual fine distinction of each associates' approach of interaction
- A luxury and trustworthy means of exchanging messages over the Internet, that offers guarantees of deliverance and integrity
- Intelligent management communications, permitting control and ability to alter them in a dynamic manner.
- The capacity to become accustomed to transform, by swiftly locating new services or associates' capabilities, and creating a fast "electronic bond" with them

Creating an integrated e-supply chain solution will be a major key or barricade to way in and provides significant aggressive edge over competitors as it:

- a. speeds up production and responsiveness to clients
- b. get better customer satisfaction
- c. develops order fulfillment
- d. improves order management
- e. lessens paperwork
- f. get better warehouse and distribution activities
- g. diminishes overhead of administration
- h. diminishes sales cycle
- i. get handsome profit margins to products

Conclusion:

Quick Response (QR) policy is a market-driven business approach in which supply chain channel members work together to react to volatile market demand. This is proved that by having quick response of ERP Systems in presence of eCommerce and eBusinesses, the production speed up and simultaneously outstanding responsiveness of customers can be accomplished. Not only that integrated, automatic system-to-system interaction with all trading associates is now in our door step. The foremost achievement of ERP based e-business information systems in light of QR (Quick Response) policy will be observable when planning for production and gathering of materials will accomplish business by trading among together following an integrated web enabled way. The competence to put together communications flawlessly with in-house applications and processes to

provide right end-to-end visibility and control are the milestones achieved by Quick Response policy with the cooperative support of e-commerce and e-business as they are truly stated as most focused examples of the path in which Information and Communication Technologies (ICT) endow with economic growth.

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