

# **eBPS: A Strategic Framework for Successful Blueprint of E-Business Development**

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## **Abstract**

Today's rapidly evolving e-Business environment demands a higher level of collaboration and integration within the enterprise and throughout the extended trading network. Many software vendors have proposed e-solution for e-Marketplace that optimize business processes and link trading partners via the web. However, understanding how to integrate e-Marketplaces with back-end business processes to capture the advantages of supplier relationship management, supply chain integration, pricing and revenue optimization and customer management relationship is not sufficient.

Over the past few years, leading companies are aiming for a leadership position with regard to electronic Business (e-Business) in their own industries. They are targeting for the position of being the e-Sponsor rather than being the e-Partner in their portal. In virtual market with global trading via cyberspace, giant enterprises are encountering many obstacles in even starting to convert their traditional business model to an e-Business model. It is therefore important to address the Business to Business (B2B) e-Commerce successful factors initially and how they pose challenges for multinational organisations.

This paper focuses on the planning issues in managing an e-Business initiative and proposes an eBPS (e-Business Partners System) model for strategic planning of e-Business project in a multinational company. This model provides a framework to for organizing a design plan of a customer-effective B2B e-Store.

**Key:** e-Business solution, portal, B2B, eBPS, strategic framework

## **1. Introduction**

Today business is either going into B2B or not to be [1]. Cyberspace now offers virtual markets for small and big business to compete as equal players, with new procedures to reach customers and new culture to work with business partners. A lot of companies were out there running a race for on-line retail business where the winner did not win anything, tremendous Internet investment were committed and profit return did not lead to a breakeven [5, 6, 8]. Learning from the B2C electronic Business (e-Business) projects experience, B2B e-Business development is taking a much more tactic approach. Recent research in e-Commerce has been focusing on Internet marketing and Wireless Computing. The fundamental drive behind is the value chain system concept that aim for company's competitive advantages by providing a digital nervous system that integrates all relevant groupware under one common infrastructure, allowing companies to make sizeable jump in efficiency, growth and profits. Although the vertically integrated chain in companies does not have to exit anymore because we could interact with suppliers and customers along the entire value chain with the support of Internet and communication technology cheaply, our legacy experience in traditional business culture is valuable. The concept of Integrated Organizational System (IOS) had led to the development of Enterprise Resource Planning (ERP) system in early 90s and now the paradigm has shifted to how to transform the company's existing ERP system with e-Business features in 2000s. This requires extensive and in-depth business knowledge of the past and vision of the future.

This paper focuses on the important planning issue of e-Business initiatives in large companies. We propose a novel eBPS infrastructure that provides a strategic framework for designing customer-effective e-Commerce applications to ensure the minimum impact of changes, maximum checkpoints for informed control and design planning of a customer-effective B2B e-Store.

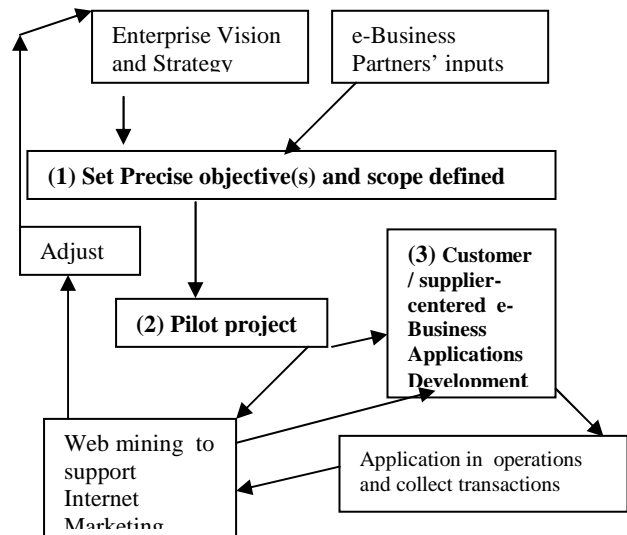
## 2. The eBPS Framework

Currently, e-Business is primarily about supply chain integration between buyers and suppliers which requires the integration of the purchasing process from the buyer, and the sales ordering process of the supplier [2]. Many software vendors claim to provide the state-of-art global e-business enterprise solutions for internet commerce that extend from front office Customer Relationship Management (CRM) to back office Enterprise Resources Planning (ERP) applications to platform infrastructure. However, the e-Commerce system is believed to have more managerial issues to resolve rather than technical issues. Based on the empirical study of many real world case studies which have attempting to catch up leader in E-Commerce, planning for strategic e-Business change, or prototyping e-Commerce strategies [4], the key constitutions of a successful e-Business planning could be summarized as follows:

1. Precise objective(s) and scope defined for business conversion (from traditional business to e-business) – Create change vision and change strategy.
2. Pilot project for secure procurement of e-Business development - Develop Leadership and build commitment.
3. Set up e-Business committee with key business executives to ensure the right progression of each checkpoint with support of change management – Manage people performance and progressively implement organizational changes.
4. Focus on customer centred (both e-customers and e-suppliers) design for customer-effective e-store or personalised web-site design – Develop culture.
5. Be a self-learning organization for quality assurance of e-services and sustainable profit in the fast changing marketplace – Deliver business benefits.

Many companies plan well, yet few translate strategy into action, even though senior management consistently identifies E-business as an area of great opportunity [8]. Hence, planning is important to ensure the implementation of the e-Business project is under control and carries out the plans for changes in e-Business strategies that were initially developed.

To clarify the inter-relationship behind these above critical success factors, below Figure 1 depicts our e-Business planning framework by means by an eBPS model. The following part of this section describes each of these steps that are built in into our proposed strategic framework.



**Figure 1: The eBPS Model – A Framework for planning e-Business initiative e-Business**

### Step 1: Objective and Scope

Multi-national companies often face critical questions in e-Commerce and they are required to be able to speedily response to change. This involves strategic planning and it is not just about technology. It is about how to use the Internet to reshape business. Competitors who have a more insight design in the development of their company web sites may destroy those who view it as a pure technology play. As such, the organizational needs and objectives of e-Business should be:

- (1) Lowered costs dramatically across their supply chains,
- (2) Taken their customer service to new levels,
- (3) Entered new markets and promote company new image,
- (4) Created new businesses opportunities and
- (5) Redefined their business relationships with the existing business profile.

Once the strategic plan is established with objective clearly defined, corresponding activities that required to be taken out to meet these objectives need to be managed and carried out. In B2B environment, one would seek control and management in business process and workflow optimization, legacy application integration, interoperability support, operational forecasting and planning. To kick off an e-Business project within a multinational enterprise, e-commerce roles and responsibilities must be assigned clearly and agreed according to the strategic plan set at the company board level.

The following scenario has taken Asia Pacific as the pilot region: -

### **The e-commerce roles and responsibilities**

Global teams, look at global aspects, some of these are: -

- Study impact of e-commerce on the enterprise
- Prioritization and controlling of projects
- Develop common platforms: Hardware, Software, Web appearance, Security, Data Structure
- Lead global projects which can not be allocated to regional business and global business
- Counsel business units and disseminate best practices
- Align with e-Commerce coordinators of global and regional business
- Identify e-venture opportunities
- Prepare / Evaluate proposal for e-Commerce Council
- Initiate change management process: Information & Training
- Define global standards for all aspects of e-commerce
- Develop and deploy global e-commerce building blocks
- Deploy the single face company presence on the web

Regional Teams, take care of regional activities, some of these are: -

- Participate in global committees to ensure the Asia Pacific regional requirements are included in the building blocks as these are defined and become available

- Continued participation in the global development & Testing to verify the availability of Regional requirements agreed upon.
- Build & deploy a regional Internet enabling architecture for the region.
- Roll Out the Active component solutions to local companies as they become available
- Manage the technical infrastructure for regional content database

### **E-Commerce/e-Business Development Team:-**

- Responsibilities for overall regional e-commerce strategy and e-business development priorities
- Proactive co-ordination, sponsorship and development of global, regional and local e-commerce strategies & projects
- Identify, plan and accelerate the launch of promising e-business pilots / opportunities across Asia Pacific
- Effective e-commerce communication / education in the Asia Pacific region
- Active participation in global teams to define standard processes and ensure Asia Pacific region's business requirements represented.
- Define global, regional and local activities & responsibilities from Asia Pacific perspective. That is who can do what.
- Define the e-commerce business success factors for measures and evaluation.
- Supervise the deployment of 'local' web sites to ensure they do not conflict with global objectives.

All these above lengthy activities and considerations would be relatively non-technical but are critically important if an enterprise is to commit investment in a B2B e-Business project on the right track.

### **Step 2: Pilot Project Approach for Secure Development**

Years ago, companies had learnt their lesson on speedy e-Commerce development that had led to enormous maintenance cost and capital lost, and now many companies are being tied up with over scaled studies of protocol and its feasibility because of its insecure feeling of the dramatic changes in business practice. However, a quick start but under control move could compromise the dilemma and provides a first hand overview of the overall organizational e-business framework. This is beneficial to the later detail design of the e-Business

project procedure and protocol. We therefore propose to make e-business happens first without committing to uncontrollable lost, we suggest the implementing of a pilot project. The company could implement a pilot project by first setting up the new regional home page and its new country home pages, according to the global web-page design template, yet allowing individual local domestic features to exist. Secondly, pick a particular product line and convert its product information in database that is accessible to the new e-Business web-based application. Put it on-line for on-line ordering providing only with fixed price and delivery services. Thirdly, put up the advertising to attract awareness to potential business customers outside the traditional business scope. Fourthly, link up the (Vendor Managed Inventory) Supply Chain Integration where necessary. Companies could have many possibilities to build a pilot project on e-business:

- (1) Use of a B2B model on Extranet: The major issue here is to determine the list of key customers to be tested on its interactive information exchange. For example, receive forecasts and the purchasing orders, allow viewing of customer pricing, inventory levels, order status and return sales confirmation, delivery confirmation. This part would also concern the compatible issue of the company existing system(s), such as the integration to the Company's existing SAP or ERP systems.
- (2) Use of a "Business-Portal" or certain dot-com companies to test market penetration and/or sales growth potential to new customers.
- (3) Move the company regional business say, Asia Pacific aggressively into the e-commerce space by support high priority pilots and capture learning's for other initiatives.
- (4) Leverage a multi-dimensional task force to coordinate and drive initiatives. To do this, the project must have representatives from different regions and country organizations

Whichever way the company may decide upon the take off of pilot project, the objective is to maximize e-commerce benefits across all product groups and country organizations. As such, the important successful factors to B2B e-Business are: -

- Focus organization on high priority, high impact opportunities that can be scaled across

the region. It is important to avoid fragmentation to prevent future compatibility issue.

- Build regional consensus to address critical sales force, logistics, supply chain, customer care business process implications
- Integrate global initiatives to complement and/or build on regional approach.

The overall planning and control is critical when committing resources to kick off an e-Business project. The set up of a regional e-Business Committee to keep check on the pilot project milestones and interim deliverables is significant.

The following Figure 2 highlight the model of basic necessary checkpoints with expected deliverables after each milestone: -

Checkpoints	Activities and expected deliverables
First Global e-Commerce Meeting	<ul style="list-style-type: none"> <li>• 1st 'complete' meeting of all the regional representatives</li> <li>- gain the overall consensus on target agreement.</li> <li>• Partnership agreement between the Company and its suppliers companies and customers companies. Define: <ul style="list-style-type: none"> <li>- Market place for procurement of the products / materials.</li> <li>- Market place for sales ordering of the product/services.</li> </ul> </li> <li>• Project team initiate for individual country e-Business strategy.</li> <li>• Define e-Commerce Global Key Account Plans.</li> </ul>

Second Global e-Commerce Meeting	<ul style="list-style-type: none"> <li>• Refine and review regional (Europe and US) e-Commerce: <ul style="list-style-type: none"> <li>– Review underway with each business unit to define its e-Commerce strategy.</li> <li>– Target completion schedule to be determined</li> <li>– Internal operations</li> </ul> </li> <li>• Analysis of competitive positioning in marketplace</li> <li>• Business Process Re-engineering Studies</li> <li>• Review the existing Organization SAP or ERP system: <ul style="list-style-type: none"> <li>- Identify the entry/exit point of company's existing system with the potential B2B e-Business web-site/application.</li> <li>- Design on the interface and data security/control issue.</li> <li>- Review of all existing web pages if existed.</li> </ul> </li> </ul>
Third Global e-Commerce Meeting	<ul style="list-style-type: none"> <li>• Promote &amp; support strategic change within the organization. And required with the implementation of e-Commerce initiatives</li> <li>• Action items <ul style="list-style-type: none"> <li>– Investigate and progress the formation of a "Global Business Community" with key</li> </ul> </li> </ul>

	<p>competitors.</p> <ul style="list-style-type: none"> <li>- Identification of Global Key Accounts and Nominate representatives</li> <li>- Technical support and Management control</li> <li>- Global coordination of web page development &amp; content management.</li> <li>- Development of Global e-Commerce database.</li> <li>-Implementation of Interface between new e-Business applications with company existing systems.</li> <li>-Continuous review and evaluation of 'market places'</li> </ul>
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**Figure 2: The 3 checkpoints with activities and expected deliverables**

Pilot projects need to be provided with an update on the status via checkpoints wherever possible to the entire key personal in the business and should have been screened by the MIS team of the enterprise, to establish an estimate of IT resource and functionality requirements. The update included details of proposed implementation timelines, functionality enhancements to the "On-Line Store" and the project cost assumptions. The task force "learning" on the pilot project should be discussed and agreed along the development of the enterprise's global e-store since it is important to experience and capture the learning to provide further insight into current "e-Readiness".

### **Step 3: Customer-centered Approach for Customer-effective Web-sites Design**

The demanding knowledge of "know-how" has gone beyond the set-up and maintains of database through the web, both academia and industry are facing the challenges of how to design a web-site infrastructure that could provide optimal on-line experience that fit the e-customers' needs, acquiring the knowledge of "know-why" for learning and value adding. Increasing unique and unpredictable customer demands for innovation speed, quality and

service has not only compelled supply chain participants to rapidly adopt new e-Business practices but also provide personalized e-services. The discovery of e-customers' preference on web site surfing could be utilized to come up with an effective web-contents/infrastructure design and management. The need to segment and identify the target audience for Internet marketing had made the requirement of Internet users become obvious only recently. Many related studies have been investigated on a touch on basis. [7] discussed a 6 steps Interactive Marketing Process on the Internet, in which the initial step had emphasized the studies of e-customers' behavioral approach. [10] proposed a scheme on e-product characteristic for internet-marketing. [4] proposed a hypothetical customer theme represent common activities or processes, that a customers want to complete when they visit a particular web site. Use the theme to create scenario as a base to design web site content and its architecture. In any e-store, the bottom line is that any e-customer should be able to come to the web-site and complete an e-service process from beginning to end in a user-friendly and intuitively correct manner. We need to encapsulate all our web

3. mally addresses common areas of customer frustration or desire of new/extended activities) to relevant customer actions by easy accessible and visible utilitarian components.
4. The popular web pages with most diversify pre-requisite sequences and longest surfing time could be identified and refine appropriately with its page content and infrastructure with an aim that lead to actual order placement.
5. The isolated and inactivate web-pages could implied browsers are incapable of access to it, further analysis on these web-page content and its dynamic links are necessary, to decide upon whether metaphor on web site is necessary.
6. Based on the association semantic discovered and the targeted customers themes, we could create an intuitive navigation system that fit general customers' mental model support the seamless completion of critical processes. This could enable e-customers' understanding in the company web-site functionality with an intuitive interface.

site surfers' on-line experience, to discover the knowledge of customer behavior On line analytical tool could help to discover what web-pages led to the page for an order commitment is valuable. Many web pages de-motivated surfers with non-focused content and/or overwhelming the surfers or e-customers with information. We suggest web-content filtering by e-customer behavior studies is necessary and that only mission-critical web pages should survived in the ultimate B2B web-site infrastructure. This could better fit the e-customers' preference, time spent and also save cost on web-page maintain as well as improve the competitive advantage of the web site. The discovery of e-customer on-line preference could help the web site design team to meet the following criteria for designing a customer-effective web site:

1. Make web site functionality intuitive by restructuring it around e-customers' preferring processes.
2. Relate utility (web site functionality that allow browsers do something useful to serve them better and faster, they nor

#### **4. Conclusion and Future work**

Planning is a vital organization process that helps organization to learn about itself and promotes organizational changes and renewal for improvement. Strategic e-Business planning involves aligning investment in information technology with company's e-Business vision and strategic goals such as business process re-engineering, IT strategies and technology architecture. It results in a conceptual blueprint that specifies a company's e-Business targets, data resources, and applications architecture and technology platform. This paper has presented an eBPS strategic model with infrastructure that provides a framework for developing a blueprint to build a customer-effective e-Business within a multi-national company, with particular emphasis on minimizing changes by secure pilot project approach and maximizing control by implementing global checkpoints with e-Business committee set up. B2B e-Business application is complex and its development processes demands intensive intelligent both technically and managerially. Our proposed eBPS model which aims for minimum impact of changes and maximum communication is focused on the four important key requirements for successful B2B development. They are the :-

- (1) Objective-driven strategic planning for effective communication and minimum changes,
- (2) Pilot project approach for secure development,
- (3) Check points scheme verified by e-Business committee for informed control and
- (4) Customer-centered approach in customer-effective web-sites design for organizational learning.

The future direction of this research would focus on the design of inter-organizational system with support of business process redesign and the adoption of enabling Internet technology to realize the benefit of value chains with minimum impact of procedural and cultural changes.

## **Reference**

- [1] Brandon Cople, (2000) "B2B or not to be?" Forbes, August7,2000, pp.34 - pp.35.
- [2] Cox Tim (2001) "Two hats two jobs" The Asset, February, 2001, pp. 22 – pp. 23.
- [3] David Anderson (2000) "Managing Information Systems - Using Cases within Industry Context to solve Business problems with IT", Prentice Hall
- [4] Jodie Dalgleish "Create Customer-Effective E-Services" e-Business Advisor, December, 2000 pp.26 – pp.32.
- [5] Heda Bayro & Daniel Yu (2000) " The B2B market revolution ..Is it for real ?", The Asset, June, 2000, pp.40 – pp.43.
- [6] Jeffery F. Rayport & Bernard J. Jaworski (2001) "e-Commerce", McGraw-Hill/Irwin MarketspaceU, pp.69 – pp.110.
- [7] Kalakota and Whinston (1996), "Frontiers of Electronic Commerce", Addison Wesley, pp.215 – pp.292.
- [8] Kalakota, Ravi and M.Robinson (1999), " E-Business: Roadmap for Success", Reading, MA: Addison Wesley.
- [9] Malone T., Yates J. & Benjamin R., "The logic of electronic market" Harvard Business Review, 1989 pp166-171 May-June.
- [10] Melody Y. Kiang, TS Raghu and Kevin HM Shang (2000), " Marketing on the Internet – who can benefit from an online marketing approach?", Decision Support Systems and Electronic Commerce, Elsevier, Volume 27, pp383-393