توسعه استراتژی مدیریت زنجیره تأمین الکترونیکی

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References


constructing the business value proposition, defining the value portfolio, structuring the scope of collaboration, ensuring effective resource management, e-SCM implementation, and pursuing growth management. According to the second step, strategies of e-SCM formulate, implement, and assessed.
systems to work according to the project plan in the e-SCM strategy report. The purpose of e-SCM Implementation is to realize the benefits using our award-winning methodology set [8].

F. Pursuing Growth Management

One of the most important components of e-SCM business network strategy development is structuring a set of meaningful and focused performance measurements that allow corporate planners to gauge the effectiveness of their supply chain solutions. This step has two main components as below:

- eSCM Assessment: The e-SCM assessment reviews business context, strategies and current supply chain. The purpose of the e-SCM assessment is to understand whether your current supply chain setup is helping or hurting your business and to determine what can be done to improve [8].
- eSCM Optimization: e-SCM Optimization redesigns your supply chain processes to fit the new e-SCM strategies and serves as the basis for software tool selection. The purpose of e-SCM Optimization is to create new e-SCM processes that will most successfully achieve the business case objectives at the most efficient cost [8]. According to the Kotzab et al. [9], e-SCM optimization model is built upon three advanced managerial economics theories, which are used to define the boundaries of e-SCM: transaction cost theory; network theory; and resource-based theory.

Conclusion

There is a lot of interesting results from the e-Business revolution. As a result, SCM change to e-SCM. IT is applied in the SCM and facilitates different flows in the SCM. Then, in the new situation, we need to a process of strategy development. In this paper we have presented a literature of e-SCM and discussed the different ideas of authors on the strategy development for e-SCM. Finally, we introduced a model, entitled eSDM, for strategy development in the e-SCM. This model has two major step. In the first step, managers should prepare the organization for move toward apply e-SCM strategically. This step includes some cultural, educational, and treatment readiness in the organizations. The second step is related to the developing strategies and encompasses the following cases:
scope of collaboration. In reality, the actual collaborative partnerships a company has may require quite different technology responses. Smaller trading partners who are working quite well with fax or phone connectivity will be resistant to high-tech solutions such as B2B sites. Strategic Planners should be prepared to create a portfolio of technical solutions to meet the possible needs of their collaborative partners [16][18].

D. Ensuring Effective Resource Management
The content of an enterprise's resources consists of its assets and core competencies. In general, these resources can be divided into three major areas: the value that resides in human knowledge; the capital invested in physical assets; and the value to be found in the physical assets and human knowledge of customers, suppliers, and business partners [19].

- Human Knowledge: In today's hyper competitive environment, businesses have been migrated from a departmental focus on human resources to a far more strategic and expansive focus on Human Capital Management (HCM). HCM can be defined as the repository of human knowledge and skills found within an organization that result in the creation of products, technologies, systems, processes, and relationships.

- Physical Assets: A business's physical assets are the easiest to understand and manipulate. Warehouses, offices, information systems, production and transportation equipment, patents, and inventories are example of hard and tangible assets. The application of information technology to physical assets has a direct impact on cost and value producing attributes.

- Business Network Resource Management: Developing effective e-SCM business strategies requires planners to explore ways to manage and capitalize not only on the hard assets but also on the competencies of contractors, suppliers, partners, customers, and even of competitors. Some of the critical dimensions involved in leveraging network trading partner resources are as follows: Synchronized delivery and production, outsourcing, and creating collaborative solutions.

E. e-SCM Implementation
The e-SCM Implementation puts the new strategies, processes and
• Variety of Product and Service solutions.
• Mass Customization.

B. Defining the Value Portfolio
Internet commerce has accelerated the changes occurring in the nature of product and service offerings. Today, past views of product and service value have yielded to new marketplace requirements. To leverage the enabling power of the Internet, companies need to closely align their e-SCM strategy with their operations capabilities to continuously provide the product and service wrap that satisfies the unique needs of the customer. The following process development need to be structured to support the business value proposition [22].
• Design: Products and services have been impacted by continuously shrinking life cycles and accelerating new product and service introduction.
• Cost: Effective cost management requires companies not only to design product and service offerings with an eye toward continuous process improvement and cost reduction, but also be able to squeeze the time it takes from idea conception to sales.
• Services: Customers today, especially those utilizing web technologies, expect their products to be accompanied with a matrix of value added services. For many products, the associated service package is often more important to the customer than the product itself.
• Quality: Over the past years the concept of quality has moved from a concern with the standard dimensions of performance, reliability, conformance to the capability of choosing between a multiplicity of products and services, to today’s web driven requirement for product and service individualization.

C. Structuring the Scope of Collaboration
Once the business value proposition and the value portfolio have been formulated, strategic planners must then determine the scope of trading partner collaboration. In this step, companies need to decide what will be the scope of the firm’s processes and activities and what will be the level of collaboration with trading partners necessary to supply missing resources and competencies.
A critical mistake that can be made is assuming that a single technology solution will be sufficient to meet the requirements of the
marketplace advantages or realize radically new ways of providing value to the customer [16].

2. Developing the e-SCM strategy
To assist planning executives create business architectures that enable them to successfully leverage the Internet-driven models they would like to pursue, the following strategy design framework diagram has been created and is illustrated in fig 3. According to this figure, the diagram is portrayed as a never ending cycle, where enterprise e-SCM architectures and marketplace objectives are constructed, operated, reviewed for performance, and then reconstructed as business and technologies change through time. Also, the diagram encompasses that the design framework consists of two inter-connected flows, one focused on continuously driving innovative strategic thinking, and the other focused on operational execution. To be effective, an e-SCM value network must be constructed utilizing each segment of the framework.

A. Constructing the Business Value Proposition
At the very core of strategy selection is the business value proposition. Companies exist to satisfy a particular need or want of their customers. In the past, firms could be halfhearted in listening to the voice of the customers. Today, companies must be ever vigilant in ensuring that their organizations and their product and services offerings are synchronized to provide total value to the customer. In defining an e-SCM value proposition, planners are essentially concerned with the performance of two major activities. In the first, the customer segments to be served by an e-Business initiative are identified. Here, the goal is to look for mismatches between the expected results of the web technology to be implemented and the value of the targeted marketing segment. The next step is to ensure that the technologies to be implemented will fulfill the service expected by the customers. According to Bovet and Martha [1] an effective value proposition must be ready to respond to three possible service values:

- Super Service: The ability to provide superior service enhances both the value of the product and service mix presented to the customer and the competitive differentiation of the provider. The two primary attributes constituting super service are speed and reliable delivery.
advantages they drive. Typically, these initiatives tend to center on process automation, are usually low risk and low return, tend to be inward-oriented, and focus on short-term bottom-line return. In contrast, revolutionary e-Business initiatives attempt to create radically new supply chain network architectures that can actually transform internal core processes as well as value propositions, customers, and revenue streams and are, by their very nature, high risk and long-term, supply channel oriented, and focused on capital investment.

Performing an effective SCVA can be distilled into three fundamental steps [19]:
1. A collaborative team consisting of company and supply chain partners is formed.
2. The SCVA team breaks their findings down into critical performance indicators (KPIs) and supply network opportunities.
3. In the third step, the SCVA team begins to match KPIs with proposed Internet applications.

Step 4- Opportunity identification
The SCVA exercise should provide the collaborative e-Business team with a map of possible choices for the application of Internet strategies. Perhaps the first activity in this step is to prioritize the possible e-Business alternatives. As SCVA teams begin detailing and prioritizing possible e-Business solutions, several issues need to be kept to the forefront. To begin with, teams must understand what e-Business technology does and does not do [16].

Step 5- Strategy Decision
Once the e-SCM opportunity map has been completed, company executives can then begin the process of planning a networked initiative or group of supporting initiatives. Regardless of whether the proposed solution involves a cautious evolutionary tactic or a dramatic web-based strategy, the decision should focus on expected advantages. Whether the e-SCM initiatives is focused on automating and integrating processes, reducing costs and increasing the flow of information through the supply chain, or engendering whole new business and forms of customer value is not important. What is critical is the understanding by the executive team that, the technology accomplishes nothing, and that the real objective of e-SCM initiative is to utilize the power of trading partners to amplify existing
Establishment of SCM and e-Business educational courses.

- Pursue the executive team to act as a sponsor.
- Ensure top management that supply chain and e-Business strategies are integrated.
- Develop the firm's human resources.

The second initiative in preparing for e-SCM strategy development is energizing the company’s people organization. According to Manheim [12], there are six major thrusts that can be used to properly integrate e-SCM and people.

Thrust 1: Enhance the ways in which people work.
Thrust 2: Build powerful multi-enterprise processes with appropriate IT support.
Thrust 3: Balance the roles of people and technology.
Thrust 4: Manage multi-enterprise processes flexibility and dynamically.
Thrust 5: Manage knowledge strategically.
Thrust 6: Enhance individual effectiveness.

Step 2- Enterprise Vision
Visioning the competitive power of the business is the next step on the process of developing an e-SCM strategy. This step is about defining the nature of the competitive competencies possessed within the current infrastructure and outside in the supply chain network. The goal of this step is to ensure a deep degree of awareness, on the part of executives, concerning just what e-Business means to the company, the steps necessary to build an effective e-SCM model and strategy, and how a new Internet-driven value proposition would translate into specific processes [16].

Step 3- Supply Chain Value Assessment (SCVA)
Perhaps the most effective method to begin matching Internet initiatives, business processes, and strategic visioning is to perform a supply chain value assessment (SCVA). The object of this activity is to identify and then prioritize which e-Business initiatives should be undertaken that would provide the greatest enterprise and trading partner benefit. The ultimate objective is to determine whether the e-Business vision and the impact it will have on the supply chain will be evolutionary or revolutionary.
e-Business initiatives that are evolutionary are normally focused on improving core business functions and sustaining the competitive
1. Preliminary steps in e-SCM strategy development

The task of establishing a purposeful e-SCM strategy requires a number of preliminary steps. The goal of these first steps is to focus the enterprise on the impact of what e-Business will mean to everyone, both within the organization and to trading partners out in the supply channel network. Achieving this point in e-SCM strategy development involves a five step approach.

Step 1- Energize the Organization

Preparing the organization for e-SCM is critical before a business strategy can be articulated. Preparing the organization for e-SCM requires two major human resources initiatives: getting top management on board to spearhead the effort and energizing and integrating the company’s people organization into e-SCM technologies. The following cases should be followed to inform and activate the top management team [16]:

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**Figure 3. Process of e-SCM strategy Development**

1. Preliminary steps in e-SCM strategy development
   - Step 1- Energize the Organization
   - Step 2- Opportunity Identification
   - Step 3- Supply Chain Value Assessment
   - Step 4- Enterprise Vision
   - Step 5- Energize the Organization

   - Business Value Propositions
     - Value Portfolio
     - Growth Management
     - Scope of Collaboration
     - e-SCM Implementation
     - Resource Management
<table>
<thead>
<tr>
<th>Activity</th>
<th>Old Economy</th>
<th>New Economy– Information Economy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Characteristics</td>
<td>eSCM Sources of Synergy</td>
</tr>
<tr>
<td>Supply</td>
<td>Supply costs are reduced by the just-in-time methods. Their amount is the result of searching for suppliers using traditional, low-effectiveness, time-consuming methods.</td>
<td>Markets B2B and e-marketplaces contribute to lower supply cost. Information technologies speed up the process of searching for profitable market offers, reduce the time of setting up cooperation agreements and add to the flexibility of supplier selection process.</td>
</tr>
<tr>
<td>Services (excluding service enterprises)</td>
<td>Enterprise is not prepared to perform services not directly related to its product.</td>
<td>Services are treated as an integral part of the enterprise operation. In addition to basic services, information and entertainment services are offered among others.</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>Infrastructure is very developed; it includes production and social functions. Investment is related to production assets expanding production capabilities.</td>
<td>Infrastructure of the enterprise is adapted to the range of e-commerce it conducts. IT investment is the most important. The main asset of the enterprise is knowledge and information. Investment is related to technical and organizational aspects of accessing data base.</td>
</tr>
<tr>
<td>Technology development</td>
<td>Technology development is mainly related to the production sphere and aims at increasing production scale.</td>
<td>Modern technologies development is top priority. They reduce the time of filling orders, increase effectiveness and competitiveness of the enterprise.</td>
</tr>
</tbody>
</table>

**e-SCM Strategy Development**

The purpose of e-SCM is to achieve quick response to fluctuations in customer demand and at the same time reduce transaction costs for the entire supply chain and thereby creating maximal value for the end-user. A requirement for achieving the value-creating business collaboration and integration in a supply chain is the managements’ ability to formulate and agree on a unified strategy for the supply chain. We are going to introduce a process of strategy development in this section that composed from different models. According to this process, there are two main steps for strategy development describe in the following. (Fig 3)
<table>
<thead>
<tr>
<th>Activity</th>
<th>Old Economy</th>
<th>New Economy – Information Economy</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Basic Processes</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Production preparation and internal logistics</td>
<td>Production preparation is based on demand analysis and collecting orders sent traditionally from sales network.</td>
<td>Client communications is done on-line. Information comes directly from consumers, mostly through Websites. It reduces the time for demand analysis and the process of production preparation.</td>
</tr>
<tr>
<td>Production</td>
<td>Scale Economy decides about the position of a competing business.</td>
<td>Wide variety of production, high quality of goods and high level of logistic customer service.</td>
</tr>
<tr>
<td>External logistics – supplying of products to consumers</td>
<td>Products reach their final consumer mostly through a company’s distribution network using own means of transportation. It extends the time of customer service.</td>
<td>Sales takes place through an Internet store. Sales documents are transmitted electronically. Goods are delivered by delivery companies which results in lowering costs and prices, reduction in order fulfillment time, expanding credibility of exchange through the Internet due to the so-called ‘third-party transactions’.</td>
</tr>
<tr>
<td>Marketing and sales</td>
<td>Limited scope of marketing and advertising. A brand is promoted in sporadic advertising campaigns. Sales are conducted through traditional channels, usually agreements with chain stores.</td>
<td>The image of a business is strengthened through electronic marketing methods such as its own Websites or actions directed at specific consumers. Sales are conducted electronically on line and take place mainly on the B2B, B2C or B2G markets.</td>
</tr>
<tr>
<td><strong>Supporting Processes</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Human Resources Management</td>
<td>Employee is usually the supplier of work force. Work is organized on the basis of strictly defined lists of duties and limited competencies.</td>
<td>Employees are the most important business resource (knowledge). They create its now-how and generate its innovations. The company adopts features of a virtual organization. Work is organized on the basis of wide competencies and limited formalization.</td>
</tr>
<tr>
<td>Supply</td>
<td>Supply costs are reduced by the just-in-time methods.</td>
<td>Markets B2B and e-marketplaces contribute to lower supply cost.</td>
</tr>
</tbody>
</table>
customers will consider corporate to be worthy of future business when they compare corporate to the competitors. e-SCM must:

- start with the customer and his/her requirements.
- have a strong foundation of planning and execution.
- be "e"-enabled to compete in today’s business environment.

Companies often do not give the e-SCM process the right level of priority. Make sure that e-SCM process design is a key part of business plan both as a competitive differentiator and cost reduction opportunity.

3. Systems – These are the tools that enable organization to realize e-SCM strategies, processes and goals. The systems dimension is most successful when managers integrate the best available standards within each of the following categories: Enterprise Resource Planning (ERP), Supply Chain Planning (SCP), Data Warehousing (DW), Customer Relationship Management (CRM), eCommerce (eC), and Enterprise Application Integration (EAI).

4. People – None of e-SCM strategies, processes, systems or goals will be achieved without people of organization. It is critical that the organizational structure, training, development and compensation be transformed to support the e-SCM process with a new organizational attitude. Not only must managers consider employees, but managers must also consider customers, suppliers and other business partners.

5. Goals – Over the long run, primary e-SCM objective is to maximize company’s e-SCM return on investment as a contribution to shareholder value. To do this requires setting goals in the area of customer service levels, supply chain assets and supply chain costs. However, e-SCM is feasible only when value is created for all of the partners along supply chain. e-SCM does away with old style “zero sum” thinking and emphasizes the importance of “win-win” thinking.

Characteristics of the Supply Chain in the New Economy
The specific characteristics of the supply chain functioning in the new economy are mainly based on the synergy effect of traditional business solutions and Internet technology applications. The comparison of the characteristics of the chains in the old and new economies is presented in Table 1. [14]
e-SCM is much more than implementing a piece of software. e-SCM must address the following five performance drivers: [8]

1. **Strategy** – e-SCM focuses on managing the horizontal flows of information, materials and funds along the supply chain. These flows represent the core processes of business. To manage these flows effectively requires an environment of trust and cooperation with supply chain partners. The culture of trust and cooperation will enable managers to execute best practices such as collaborative planning and vendor-managed inventory.

2. **Processes** – It costs at least five times more to attract a new customer than to retain an existing one. It is e-SCM that determines whether or not can fulfill promises to customers and, whether
The synergy of Internet properties, wide use of Electronic Data Interchange (EDI), knowledge and intellectual capital of organizations as well as the effectiveness of traditional SCM system solutions all leads to management of the supply chain in the new economy entitled e-SCM and to the creation of the Internet value network Holton et. al [6]. Though it is based on dynamic network, utilizing the co-operation of the mother company with a network of specifically selected partners, it is generally based on a wide use of the Internet in the following processes: commerce, production, physical movement, planning, supply, and product design (Fig 2).
Definition of e-Supply Chain Management (eSCM)

The function of supply chain management (SCM) is to plan, organize, and co-ordinate all the supply chain’s activities. Today the concept of SCM refers to a total systems approach to managing the entire supply chain. SCM is usually supported by IT [10] [7] [20]. When a supply chain is managed electronically, usually with Web-based software, it is referred to as an e-supply chain. Improvements in supply chains frequently involve an attempt to convert an organization’s supply chain to an e-supply chain that is, to automate the information flow in the chain [15] [19].

Vinum and Skjoldager [21] define e-SCM as a management discipline, which concerns electronic supply chain integration on a technical, application and business management level. E-SCM also includes optimization of business processes and resources across supply chains, from customers to suppliers of products, services or information.

Braßler [2] believes that it is appropriate to regard the supply chain as a production network formed of successive customer-supplier links and proceeding through a number of value-added steps to ensure that either a product or a service reaches the end customer. The most comprehensive example is when the chain starts in the raw material still to be won from the earth and ends with the delivery of goods manufactured from it. Thus, e-SCM is a group term that can be applied when Internet solutions are successfully applied to the management of the flow of all materials, information and finances along the value-added chain.

Enterprises that utilize Internet infrastructure in their operations can be divided into three groups: users, telecommunications businesses and suppliers. They offer both traditional and virtual enterprises a wide variety of services to access on-line resources and opportunities. This access is based on the ‘5C’ [5]:

- Co-ordination,
- Commerce,
- Community,
- Content,
- Communications.

In this way a virtual supply chain is created which is strictly connected with the traditional supply chain based on the flow of goods and services (Fig 1).
company has a dominating role such as Wal-Mart and Procter & Gamble [9] and/or General Motors [4]. Both have implemented integrated IT systems, which binds together the focal company and its supply chain partners. But how can a SCM executive reduce uncertainty within supply chains, which involve more than two companies in order to develop and execute supply chain strategies?

In order to answer the question raised, we introduce a model that integrates the different models introduces through authors in this field. The model, which we call eSupply Chain Strategy Development Model (eSDM), can be used to analyze supply chains and to provide a holistic view of the possibilities when formulating e-Strategies for entire supply chains in complex environments.

**From Old to New Economy**

World economies function under the conditions that result from human evolution based on a continuous creation of added value. The ‘virtuality’ of our era has its roots in ‘tough’ historic solutions. Digital revolution has changed the post-industrial era society into the information society laid the foundations for the new economy based on a massive implementation of Information Technology (IT). According to Holton et. al [6], here are 12 principles of the new economy differing from traditional economy.

1. Departure from physical labor to information assets.
2. Departure from analogue technology to power of digital technology.
3. Heading toward virtual reality by searching for virtual solutions corresponding to present ones.
4. Departure from systems hierarchy toward ‘individual creators of values’ (Molecularization).
5. Integration work on the Web.
6. Elimination of intermediaries and indirect functions.
7. Correlation of market areas - combining their organizational structures, areas and functions (e-content).
8. Introduction of innovation as a key success factors.
9. Consumers participate in production already on the level of product design.
10. Functioning in real time (real-time economy).
12. Era of anxiety, threat, and uncertainty for societies outside the ‘loop’.
Introduction
The past couple of decades have seen much attention given to supply chain management (SCM). Managing the supply chain involves transcending the traditional and legal boundaries of entities along that chain and viewing the entire chain as a single entity. The early literature defined SCM as the planning and control of total materials flow from suppliers through customers. Later literature referred to the management of both materials and information flows. SCM is currently understood in terms of integrating and managing the key business processes associated with the flow and transformation of goods and services, as well as the attendant information flows, both within and between the various organizations along the supply chain [11].

Current models for supply chain management (SCM) agree that the sharing of business information is a crucial element, which binds supply chains together from end-to-end [3][17]. However, there is no consensus as to which of the many SCM-business processes should be coordinated on a tactical or operative level across the chains in such a manner. Recent SCM theory concentrates on strategic collaborative strategic planning and execution. The sharing of business information seems to be an acceptable assumption in dyadic business relationships, in which two companies agree on aligning processes and share the information necessary to conduct SCM and achieve efficiencies in the operations [23]. However, most supply chains involve far more than just two companies, which may not have the same interests, understanding of SCM, resource levels, willingness to invest in necessary IT infra-structure and consequently might also have a different strategic focus. Conflicts of interests are unavoidable [13].

In this paper we are going to introduce a holistic mode for developing e-SCM strategies. Then the next section discusses research question. The following section describes the literature of e-SCM includes characteristics of new economy, e-SCM definition, and differences between SCM and e-SCM. The final section presents proposed model of developing strategies for e-SCM that end with conclusion.

Research question
The problem might be easy to solve in some chains, where a focal