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A Multi-process Actors Strategic Analysis Model for Flexible E-business Proposition based on Value Networks Configuration Framework

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ABSTRACT
How to select the most strategically appropriate partners for e-business venture according to the value networks configuration is the research question that we attempt to answer. In this paper we contend that for a multi-partners e-business venture to succeed the structural arrangements of the value network must take into consideration strategic factor of critical business processes possessed by each partner, the power structure of players in the industry, and the level of fit between partners. We propose a multi-players and multi-processes model adapted from negotiation literature to quantify and modeling the power structure of actors based on the value network framework. The model is based on two design premises. First, in order for partners in a value network to cooperate effectively, there must exist a satisfactory level of convergence of their business processes capability and objectives. Second, the level of technological and operational fits should be incorporated to optimize the value.

Keywords  
e-business model, value networks, value chain, e-business process, value configuration, strategic partnership

INTRODUCTION AND LITERATURE REVIEW
Creating value for customers is the raison d’être of business in today’s hypercompetitive and dynamic environment that is characterized by; intensified competition, more demanding customers, the internet and digital technology, and globalization. Strategic alliances, collaborative commerce, virtual corporation, and value chain integration are among other responses of businesses to this dynamic environment. To be successful these strategic moves must rely upon a business design that configure the value proposition to ensure the satisfaction of customers’ needs that is the only way firms can maintain their relevancy in the market.

Porter’s value chain (internal to firm) and value system (inter-firm) concepts (1985) that are based on the activity-based view of business’s value creation is more appropriated for analyzing the value of manufacturing firm and process driven enterprise due to its sequential and linear nature. In today’s networked world where firms rely more and more on the core competencies of their partners along the supply chain to create value, they have to extend the value chains and integrate them with those of suppliers, customers, complementors and competitors (Brandenburger and Nalebuff, 1996). This new model of value creation is called value network. Value network refers to the network of value chains of players in an industry or cross-industries including customers and competitors. Bovet and Martha (2000) define value network or value net as “a business design that uses digital supply chain concepts to achieve both superior customer satisfaction and company profitability. It is a fast, flexible system that is aligned with and driven by new customer choice mechanism.” According to this definition value networks involve the integration the best of value chains to form value networks of partnerships between business partners for achieving competitive advantage. Value constellation was also proposed as a new logic of value creation. Value is created not in sequential chains but in complex constellations. Business is value-creating systems that should be kept malleable, fresh and responsive through the dialogue between firm’s competencies and customers’ needs. “The goal is not to create value for customers but to mobilize customers to create their own value from the company’s various offerings.” As a result, the value that is packed in each offering is dense in terms of amount of information, knowledge and other resources. No single firm can deliver such value, the key is to co-produce with business partners in the
value constellation and a company’s strategic task is the reconfiguration of its relationships and business systems (Normann and Ramirez, 1993). In the network age, value tends to be created at the ends (the core of the firms and the users), in common infrastructure (shared and integrated infrastructure), in modularity (self-contained modules of processes), in orchestration (by coordinating among partners). As a result “a key success factor for companies will be the ability to form (and re-form) value network alliances.” (Copacino, 1999; Mohanbir, 2001) The capability to identify, cultivate, and manage a network partnership is an essential condition for survival and success. (Larson, 1991)

All in all the business models of value creation in the network era tend to stress on two important variables, the network of actors or business partners and the self-contained modules of business processes. Manage the two variables effectively is the key to success in the new economy. However, it is not a new idea, the Uppsala model of industrial networks also argued about the important of managing three interwoven basic groups of variables that are related to each other: actors, resources, and activities (Hakansson and Johanson, 1994). Another observation is; all aforementioned models agree that the value chain concept does not fit well in the networked world. However, their arguments are qualitative at best. They stop short of providing any concrete tool to deal with the myriad actors and business processes that are potentially involved in configuring the new e-business proposal. How to select the most strategically appropriate partners for e-business venture according to the value networks configuration is the research question that we attempt to answer. We propose a multi-actors and multi-processes model adapted from negotiation literature to quantify and modeling the power structure in e-tourism industry based on the value network framework.

**MASAM Model**

Multi-issue Actor Strategic Analysis Model or MASAM is a decision support tool for large scale negotiation that involves many actors on numerous issues. It merges the advantages of two negotiation model; Godet’s MACTOR model (1991) and another negotiation model by Allas and Georgiades (2001). The model is based on the multi-issue actor model of negotiation under the premise that negotiation is a game between participants (i.e. actors) that have divergence of interests (i.e. position, and salience) in a set of key issues and try to influence the negotiation outcomes toward their personal preference using all means at their disposal. The model uses four inputs in matrix format; position, salience, clout, and influence matrices. The model use matrix algebra to transform the data that is stored in the matrices to analyze the structure of the negotiation battle field. (Bendahan, Camponovo, and Pigneur; 2003)

The **position** of an actor on an issue represents the preferred outcome that the actor has on the issue.

**Salience** represents the relative utility that an actor gains if the expected outcomes go closer to its position.

An actor’s **clout** on an issue represents the percentage of direct control that the actor has on the issue.

The **influence** represents the control that an actor has on oneself (auto-determination) and the control that other actors can exert on the actor. The total influence that an actor can receive is 100%.

Once the inputs have been collected from experts and standardized by using Excel spreadsheet, the following can be analyzed: 1) Direct and indirect influence among actors; 2) Analysis of the importance of each issues to each actor; and 3) alliance determination. (Bendahan et al., 2003) The determination of the alliance partners is facilitated by a visualization tool called OMEN. It is a kind of dash board that analyst can see the whole structure of the playing field. (see Monzani, Bendahan & Pigneur, 2003 for detail formulas)

**MASAM MODEL APPLIED TO E-BUSINESS VALUE NETWORK (MASAM-VN)**
From previous section we see that managing the two variables of value creation in e-business; actors and business processes is the key to succeed in today’s business. In MASAM there are also two variables; actors and issues. We propose to use MASAM analytical framework as a decision support tool for business actors engaging in an e-value network. Potential e-business partners are comparable to actors in MASAM model; while business processes and strategic position of the actors are comparable to issues in MASAM. Each actor has to reduce the uncertainty to streamline their business processes with those of the most appropriate partners when business opportunities emerge. Hence, we propose the MASAM-VN, or Multi-process Actor Strategic Analysis Model for Value Network. We shall describe the four input matrices of the MASAM-VN as the following:

**Position Matrix**: Traditionally the role of firms in the market determines how firm compete and collaborate. In value network the role of firms is becoming less important because, opportunity is the deterministic factor in firms’ collaboration. Brandenburger and Nalebuff (1996) who coined the term coopetition categorize players in value network into five strategic roles; focal firm, supplier, competitor, complementor (whose products is synergetic with those of focal firm), and customer. All six can be active players in a value network with different level of synergy and value adding. We use this categorization to identify potential partners’ position in the position matrix of MASAM-VN.

Based on the five-dimension (structural flexibility, collaborative relationship, coordinated planning, operational alignment, and technology integration) extended enterprise model of Bowersox at Michigan research team; Edward, Peters and Sharman (2001) develop a framework to classify enterprise into three categories reflecting the level of sophistication of the extension of an enterprise; extended enterprise, coordinated enterprise, and cooperated enterprise. Enterprise in the extended enterprise category is the most extended and ready to interconnect its business processes with partners. The level of extension of the partners influence the degree of alliance success because two partners being at the same level of extension will have less difficulty to link together their business processes. They are technologically and operationally fit. From strategic alliance literature, the level of success of alliance partner increases when the level of fit increases.

**Salience Matrix**: The inputs in salience matrix are the answer to the question; how important is each process to the strategic survival of the actor? When the process is viewed to be very important by an actor, it is likely that they want to safeguard their core competencies and try to stay as competitive as possible. As a result the actor can be a valuable partner.

**Clout Matrix**: The inputs in salience matrix are the answer to the question; how competent are the actors in delivering the processes? It is likely that if they are competent in the process, they can deliver the best result that help to enhance the total value of the network.

**Influence Matrix**: From strategic alliance literature, firms select partners that will provide complementary resources and capabilities. (Hagedoorn, 1993) and they are more likely to enter into alliances with those firms with whom they have prior ties due to higher level of trust that they have on each other (Gulati, 1995b; Garcia-Pont and Nohria, 1997). In supply chain integration literature, level of ties among enterprises can be categorized into four level; information integration (info access and sharing), synchronized planning (collaborative planning, joint design), workflow coordination (coordinated production planning) and new business model (mass customization for economy of scale, virtual resource, new services). (Lee and Whang, 2001) When two enterprises has new business model together, it indicates the highest level of ties (integration). Other forms of ties should also be taken into consideration; interlocking board directorates, corporate ownership, contractual agreement, Joint Venture, and Franchise Arrangement. The stronger the tie an enterprise has with another enterprise the more influential it become because of long term strategic commitment.

From Social Network Analysis literature the centrality level of an actor defines his level of influence in the network. The simplest measures of network centrality are degree, closeness, and betweenness. Vasara et al. (2002) use the three measures to distinguish between basic player and dominant players in a market. Similarly, we content that firm with higher level of the three measures is more influential than firm with smaller measures of centrality. In innovation literature, it has also been proved that firm with higher centrality has higher level of innovation than those with less centrality level.
Figure 1: Behavioral Model of MASAM-VN

METHODOLOGY AND MODELING STEPS

The following steps are to be undertaken by the focal firm or researcher in using the MASAM-VN model. The main methodology of generating the input is expert opinion.

- **STEP 1**—Define business opportunities and business model: in this step the focal firm identify the business opportunities and try to define the business model that is appropriate for the opportunity.
- **STEP 2**—Identify and select potential alliance partners to include in the extended value chain network: they could be partners or competitor (concept of cooperation and competition – co-opetition) and they should be active “Actors” in the market. For the case of e-tourism the actors could be airport, airline companies, tour operators, travel agencies, etc…
- **STEP 3**—Identify critical value components for the business model strategy: Porter’s framework of identifying the value chain activities can be used here (Porter, 1985). Critical Value Component could be resources, knowledge, skills, and technology that is necessary to configure the value offers. For example, web-based technology, Information Synthesizing capability, Information Distribution Capability, etc…
- **STEP 4**—Input Generation: This step involves the generation of inputs to the four input matrices. Expert opinion will be solicited regarding the following aspects.
  - Degree of integration of each partner.
• Network structure of ties among actors in the market
• History of tie with focal firm (different ties, frequency and strength of ties)
• Define Strategic Roles of actors in value network
• STEP 5 – Plug all input in the matrices; position, salience, clout, and influent (refer to the discussion of the four matrices in the previous section.)
• STEP 6—Computation and Analyses
  • Actor Analysis—power repartition. Which actor are the most influential and capable in most of the value components for the business model in question.
  • Value Component Analysis—area of convergence and divergence of actor on each value component. Firms with convergence of most value component that the focal firm needs should be the most appropriate partners.
  • Influence Analysis—relationship of power among potential partners on graph of passive influence on OMEN Visualization tool.
  • Alliance Analysis—the proximity map of all or chosen actors.

We intend to use this model to study the structure and potential alliance of a focal firm in e-tourism industry. E-tourism is emerging as the leading online B2C industry in terms of revenue. By applying the model to the industry we expect the focal firm to get the following benefits: (1) understanding the existing structure of value networks of the industry, (2) identifying appropriate business model based on value network configuration to best take advantage of the structure, and (3) monitoring the ongoing structure changes and deciding on the best course of actions accordingly.

REFERENCES