BUSINESS-TO-BUSINESS ELECTRONIC COMMERCE MARKETPLACES: THE ALLIANCE PROCESS

Hope Koch, MBA CPA
Texas A&M University
hope-koch@tamu.edu

ABSTRACT

Based on ethnographic studies of two business-to-business (B2B) electronic commerce (EC) marketplaces and a review of interorganizational relationship literature, this paper proposes a model explaining why organizations form alliances to create and why organizations join B2B EC marketplaces. This paper proposes viewing B2B EC marketplaces as a public good. The paper uses public good theory as an umbrella integrating transaction cost and resource dependency perspectives with Oliver's [1990] determinants of interorganizational relationships.

Keywords: interorganizational relationship, alliance, electronic commerce, marketplace

1. Introduction

Gartner Group forecasts the volume of non-financial goods and services sold through business-to-business (B2B) electronic commerce (EC) will reach $5.9 trillion worldwide by 2004 [Kemp 2001]. The development of alliances forming B2B EC marketplaces, which are envisioned as a mechanism enabling an entire industry to conduct business over the Internet, will be a significant component of B2B EC. In 1999 and 2000, trade journals were filled with press releases about firms coming together to do business via B2B EC marketplaces. It seems that every week, there was a new press release about another organization joining a marketplace. A closer look at marketplaces indicates many are not developing as well or as quickly as originally anticipated [Kennedy 2001]. A common problem is getting a critical mass of industry participants to join and use the marketplace.

This phenomenon requires revisiting existing theories on interorganizational relationship formation. Alliances forming B2B EC marketplaces are not complete when just a few organizations decide to come together. Rather, alliances forming B2B EC marketplaces involve an on-going process by which founders originate an alliance to form a marketplace and then solicit others to join. As others join, these new members draw upon their existing network soliciting even more organization to join the marketplace. To meet the marketplace's vision this process must continue until a critical mass of industry participants (buyers, sellers, and distributors) join the marketplace.

The creation of so many marketplaces and the high volume of organizations joining marketplaces leaves two research questions.

1. Why do organizations join alliances to create B2B EC marketplaces?
2. How do marketplace members get other organizations to join the marketplace?

This research paper has six parts. Section two defines and categorizes marketplaces and reviews literature on the formation of interorganizational relationships. Section three details the method. Section four describes the two marketplaces in the study. Section five develops a model positing the process by which organizations form and join B2B EC marketplaces. Section six presents the conclusion.

2. Literature Review

Section 2.1defines and categorizes marketplaces. Section 2.2 reviews work dealing with why organizations form or join interorganizational relations.

2.1 Marketplace Definition and Categorization

This paper discusses two B2B EC marketplaces, which are envisioned as an entire industry using the Internet to buy goods and share information. These marketplaces are envisioned as a place where any industry participant can buy from any other industry participant and information can be shared throughout the industry. This vision has roots in Bakos' [1998] electronic marketplace definition. Based on Malone et al.'s [1987] electronic markets hypothesis, Bakos defined an electronic marketplace's function as using information technology to match buyers and sellers, facilitate transactions, provide institutional infrastructure, aggregate product information, discover prices, and

provide procurement and industry specific expertise. Marketplace participants can include: buyers, sellers, technology providers, and investors.

Several authors [Berryman and others 2000; Dai and Kauffman 2001; Group 2001; Kaplan and Sawhney 2000] classify B2B EC marketplaces. Kaplan and Sawhney's B2B EC marketplace classification is based on what and how businesses purchase. The authors develop four categories of B2B EC marketplaces: MRO hubs, yield managers, exchanges, and catalog hubs. Berryman et al. [2000] classify B2B EC marketplaces by control structure positing three types of marketplaces: seller-controlled, buyer-controlled, or neutral. Boston Consulting Group's [2001] report finds two types of B2B EC marketplaces: private and public. Dai and Kauffman [2001] used pricing practices and supplier identification practices to categorize B2B EC marketplaces. Dai and Kauffman posit four types of B2B EC marketplaces: private aggregation, public aggregation, private negotiation, and public bidding.

This paper use the term B2B EC marketplace rather than one of the typologies because the two marketplaces examined do not cleanly fall into any one of the categories discussed above.

2.2 Interorganizational Relationship Forming and Joining

This research paper examines work in interorganizational relations [Astley and Fombrun 1983; Auster 1994; Benson 1975; Galaskeiwicz 1985; Miner 1990; Oliver 1990; Powell 1994; Whetten 1981; Zeitz 1980] including networks [Ahuja 2000; Gulati 1998; Gulati and Garguilo 1999; Powell 1996; Stuart 1998; Walker 1997] and alliances [Chung, Singh, and Lee 2000; Gulati 1998; Osborn and Hagedoorn 1997; Ring and Van De Ven 1994] to build on the work of other examinations of factors influencing organizations to form or join interorganizational relationships.

Oliver defines an interorganizational relationship as [1990, p. 241] "an enduring transaction flow and linkage that occurs among or between an organization and one or more organizations in the environment". Oliver identified six types of interorganizational relationships: trade associations, voluntary agency federations, joint ventures, joint programs, corporate-financial interlocks, and agency-sponsor linkages. Alliances to form B2B EC marketplaces most closely resemble joint ventures. Gulati [1998, p. 293] defines a strategic alliance as "a voluntary arrangement between firms involving exchange, sharing, or co-development of products, technologies, or services. Using Monge et al.'s [1998] classification of alliances, the B2B EC marketplaces discussed in this paper are value chain alliances since their purpose is to invest in efficiency-producing information and communication systems to reduce coordination costs, reduce transaction costs, and enable information sharing between buyers and sellers, benefiting an entire industry.

Auster's [1994] review of interorganizational linkage research indicated interorganizational relation research is grounded in perspectives from strategy, transaction cost theory, ecological theory, and resource dependency theory. Each perspective's key questions are presented below [Auster 1994, pps. 5-9].

- Resource Dependency [Cook 1977; Pfeffer 1978; Pfeffer 1981]: How does the formation of interorganizational linkages help an organization acquire resources and manage uncertainty?
- Ecological Perspective [Aldrich 1979; Astley 1985; Carroll 1984; Hannan and Freeman 1977]: What factors affect the patterns of founding rates of interorganizational linkages? What factors affect the founding rates, failure rates, and patterns of survival of different forms of interorganizational linkages?
- Strategic Perspective What are the comparative benefits (for both positioning and profiting) of creating alliances? What factors (macro-environmental, industry, firm) affect the performance of alliances?
- Transaction Cost Perspective [Williamson 1979; Williamson 1982; Williamson 1985; Williamson and Ouchi 1981]: How do characteristics such as asset specificity, opportunism, uncertainty, and small numbers bargaining affect the transaction costs associated with engaging in different forms of interorganizational linkages?

In the alliance literature, the transaction cost perspective explains interfirm strategic alliance formations. These explanations include: [Gulati and Singh 1998; Powell 1990]: sharing costs/risks, accessing financial resources, sharing complementary technology; reducing the time span of innovation, developing new technology, accessing new markets, and sharing production facilities.

Galaskiewicz's [1985] interorganizational relations literature review identified three arenas of interorganizational relations: resource procurement and allocation, political advocacy, and legitimation. Resource procurement, allocation, and legitimation arenas involve resource dependency issues in their explanatory framework. For example, the resource procurement and allocation perspective points out that organizations can be influenced to enter interorganizational relationships by the organizations that control resources. The legitimacy arena looks at organizational efforts to identify with a highly legitimate community and societal symbol.

Legitimacy involves resource dependency issues as members of an alliance may exert power in the form of legitimacy arguments to persuade others to join the alliance.

Oliver posited six contingencies prompting organizations to establish an interorganizational relationship. These contingencies include: necessity, asymmetry, reciprocity, efficiency, stability, and legitimacy [Oliver 1990].

- Necessity: firms enter relationships to meet necessary legal or regulatory requirements.
- Asymmetry: firms enter relationships to exercise power or control over another organizations or its' resources.
- Reciprocity: firms enter relationships to pursue common goals.
- Efficiency: firms enter relationships to improve their internal input/output ratio.
- Stability: firms enter relationships to respond to environmental uncertainty.
- Legitimacy: firms enter relationships to appear in agreement with the prevailing norms.

The section above defined and categorized marketplaces and outlined theoretical perspectives on interorganizational relationship formation. While the interorganizational relationship literature offers a number of insights it does not address the process by which alliance members influence others member to join the alliance or the idea of different perspectives explaining organizations forming and organizations joining alliances. This may be because alliances prevalent at the time these theories were developed did not include alliances requiring entire industry participation in order for the alliance to achieve success.

3. Research Method

This paper presents a model based on an ethnographic [Emerson 1983; Emerson, Fretz, and Shaw 1995; Gubrium and Holstein 1997; Strauss and Corbin 1998] investigation of two B2B EC marketplaces: one in the convenience store industry and on in the utility industry. Research with the B2B EC marketplace in the convenience store industry began August 2000. To date I have had nine field visits, with each visit averaging ninety minutes. My most recent field visit was May 2002. Research with a B2B EC marketplace in the utility industry began December 2000. To date I have had twelve field visits, with each visit averaging six hours. My most recent field visit was June 2002. After each field visit I used thick description to write up field notes. I used line by line analysis as advocated in grounded theory [Charmaz 1983] to analyze my field notes and develop the model. Ethnography was most appropriate for this investigation because it uncovers process and allows new concepts to emerge. Currently, scant academic research addresses the process in which organizations form and join B2B EC marketplaces.

4. Marketplace Descriptions

This section explains the business model and value propositions for the two marketplaces in the study. Marketplace names are disguised.

4.1 C-Store Marketplace

C-Store Marketplace is a marketplace intended to serve the entire convenience store industry. The marketplace is envisioned as including an array of suppliers including industry specific suppliers like candy manufacturers and service suppliers like repairmen. A convenience store chain founded the marketplace and formed an alliance with an industry distributor, an industry manufacturer, and a technology provider to create C-Store Marketplace. The marketplace's business model requires all participants pay a monthly subscription fee. Manufacturers pay for the benefit of listing their product information on the site. Retailers pay for the ability to use the site to gather information and purchase produces.

C-Store Marketplace's original value proposition is increased information and buying power for retailers, increased control for retail storeowners, and increased reach for manufacturers. The value proposition assumes information, control, and reach improvements will increase supply chain efficiencies.

The marketplace's founders expect the increased information proposition to materialize in a web site where retailers can find manufacturers, distributors, service providers, and products. Currently, retailers use a combination of sales person visits, printed material, telephone calls, and email to gather product information. By using the marketplace, retailers can find prices, products, promotions, and advice on displaying products. The marketplace's vision is allowing retailers to efficiently compare product prices and providing a mechanism where retailers can band together to negotiate price and products their store will carry. In the convenience store industry, manufacturers often require retailers buy "slow movers" or "test products" in order to buy "must stock" products.

C-Store Marketplace's value proposition for retail storeowners is increased control. The marketplace has technology similar to Microsoft Outlook enabling retail storeowners to manage store operations from afar. The program allows retail storeowner to create a daily "to do" list planning store clerks' days. For example, the "to do" list may require the clerk clean the restroom at 2:00 pm. The store clerk confirms task completion via the

marketplace. Utilizing the marketplace, storeowners can periodically download the "to do" list and see what has been accomplished without physically being at the store.

C-Store Marketplace's value proposition for manufacturers is a channel for sharing information directly with convenience store owners rather than depending on the distributor to share this information. Because of the convenience store industry's fragmented nature, manufacturers currently have little interaction with convenience store owners. By joining C-Store Marketplace, manufacturers can share information regarding product promotions and optimal product displays faster than if the manufacturer had to first share the information with the distributor and then had to rely on the distributor to share information with the retailer.

As C-Store Marketplace progressed, the marketplace's founders encountered challenges developing an industry-wide marketplace. These challenges forced C-Store Marketplace to reevaluate the marketplace's value propositions. Because of the challenge of getting manufacturer involvement, the marketplace's value proposition expanded to providing manufacturers point of sale information. For example, by combining data warehousing and data mining technology, this marketplace is trying to provide manufacturers the capability to capture sales information about their products at the retail store level. This would facilitate manufacturers' abilities to instantly analyze the effectiveness of product promotions, new product offerings, and other changes in marketing strategy.

4.2 Energy Marketplace

Energy Marketplace is envisioned as a marketplace linking all buyers, sellers, and distributors in the utility industry. The marketplace includes industry specific suppliers such as pole manufacturers and generic suppliers supplying items like office supplies. A majority of United States utilities formed Energy Marketplace. The marketplace's business model includes having a central web site where manufacturers can list their catalogues and customers can gather information and place orders. The original vision was for all purchasing to occur through the marketplace. The business model requires customers pay an annual access fee. Originally, vendors were also required to pay an annual fee to list their products on the site. In an effort to solicit vendor participation, the marketplace waived vendor subscription fees. The business model includes a transaction charge requiring both vendor and customer pay $2 for each invoice executed through the marketplace.

Energy Marketplace's value propositions include: increased ordering efficiency, enhanced price comparison-shopping, improved supply chain processes, and improved information sharing. Energy Marketplace increases reach for manufacturers allowing manufacturers to post their catalogue on the marketplace, thus increasing the number of organizations that can see and potentially buy from the catalogue. The auction function allows manufacturers to gather information on competitor bids. The marketplace's vision includes several benefits to utility companies. One of the envisioned benefits is increased ordering efficiency. Rather than dealing with the maze of potential order mediums and mechanisms (e.g. mail, face-to-face, telephone, fax, computer, catalogue, EDI, automatic replenishment, Internet), the marketplace is intended to simplify the ordering process by using a central web site to place all orders and solicit bids. Because Energy Marketplace links all industry players, the marketplace enables reverse auction which provide benefits to both buyers and suppliers. Reverse auctions allow utilities to dynamically solicit supplier bids and allow suppliers to anonymously view competitor bids.

5. Model

The review of interorganizational relationship literature indicates multiple perspectives [Auster 1994] and contingencies [Oliver 1990] for organizations forming and joining alliances. However, there is not an integrative model explaining the iterative process in which organizations form and join alliances [Oliver 1990]. This section presents a model explaining the iterative process of organizations forming and joining B2B EC marketplaces. The model is based on our ethnographic investigation of two B2B EC marketplaces. The model starts by viewing a B2B EC marketplace as a pubic goods and then integrates resource dependency and transaction cost perspectives to explain the process by which organization form and join B2B EC marketplaces.

If organizations are successful in forming a B2B EC marketplace they will create a public good in the form of an information and communication system for an entire industry. B2B EC marketplaces have connectivity and communality characteristics mentioned in public goods theory [Fulk and others 1996].

Connectivity has physical and social components and is the ability to reach [Monge and others 1998]. B2B EC marketplaces are using Internet computing infrastructure to achieve physical connectivity among industry marketplace participants. Monge et al. [1998] define social connectivity as the actual use of physical connections. Monge et al. [1998, p. 415] further posit "social connectivity is only achieved by the active participation of each member in the use of the physical infrastructure". The challenge B2B EC marketplace founders face is that for a marketplace to be successful a critical industry mass must join and use the marketplace.

Communality occurs through collectively storing and sharing information. Communality is created when participants exchange information through shared databases. Communality occurs when contributed information is

reassembled creating a whole greater than its parts. Marketplaces offer communality in a variety of ways. In purchasing situations, they allow buyers to compare vendor offerings. In reverse auction situations, they allow suppliers to compare and evaluate competitor bids. In the supply chain, they facilitate industry players coming together to evaluate and improve supply chain processes.

As a public good, industry B2B EC marketplace grapple with the same issue mentioned in public goods theory [Fulk and others 1996; Monge and others 1998]. How is collaborative action among self-interested individuals, groups, or organizations that share a common goal achieved? Figure 1 shows the proposed model for how collaborative actions among organizations creating an industry B2B EC marketplace is achieved. Particularly, how does a marketplace get a critical mass of industry organization to join the marketplace?

The model takes a process perspective to interorganizational relationship formation, focusing on the interactive process by which organizations form and are influenced to join B2B EC marketplaces. The model proposes environmental changes lead to environmental pressures. Organizations form alliances creating B2B EC marketplaces to deal with these pressures.

The model shows rationale for forming a B2B EC marketplace comes from the transaction cost perspective [Williamson 1979; Williamson 1982; Williamson 1994; Williamson and Ouchi 1981]. The transaction cost perspective states that organizations choose organizational forms in order to reduce transaction costs in terms of the cost of exchanging resources in the environment and the cost of managing exchanges inside the organization while reducing uncertainty. This perspective fits with why founding organizations create an alliance to form a B2B EC marketplace positing that the marketplace is a way of reducing transaction costs. Our field studies indicated marketplace founders were interested in using the marketplace to reduce supply chain costs such as product and acquisition costs as well as deal with a changing environment in terms of new technology and increased competition.

Oliver's stability and efficiency contingencies explain B2B EC marketplace formation within the transaction cost perspective. This research paper posits that organizations create alliances in response to uncertainty (stability contingency) and the response manifests in efficiency contingencies. In our field studies, Energy Marketplace was formed to deal with uncertainty associated with industry deregulation and the emerging digital economy. The impetus for C-Store Marketplace was the changing technological environment and the desire to stay up with the new ways of doing business.

In our field studies, efficiency contingencies are used to address environmental uncertainty and influence the value proposition of both marketplaces. Both marketplace's value propositions center around increased industry efficiency. Oliver [1990] also linked efficiency contingencies and the transaction cost perspective.

This discussion leads to the following propositions:

Proposition 1: Changes in the environment cause organizations to feel environmental pressures.

Proposition 2: Environmental pressures lead to uncertainty.

Proposition 3: Organizations form alliances to create B2B EC marketplaces to cope with uncertainty.

Proposition 4: The coping contingency manifests itself in actions that try to improve efficiency.

Moving further into Figure 1, upon forming an alliance creating an industry B2B EC marketplace, founding organizations solicit participation from other organizations. The soliciting process is in line with the resource dependency perspective. However, B2B EC marketplace members use transaction cost arguments in soliciting other organizations to join the marketplace. These arguments include economic benefits of the B2B EC marketplace in terms of improved information sharing and reduced coordination costs.

The resource dependency perspective deals with how the formation of interorganizational linkage helps an organization acquire resources and manage uncertainty. This perspective fits with the process of getting others involved in a B2B EC marketplace as the founding organizations have changed the environment. These founding organizations draw on other organizations' concerns about uncertainty and dependence on resources to solicit their involvement in the B2B EC marketplace. Three contingencies (reciprocity, legitimacy, and asymmetry) Oliver used to explain the causes prompting an organization to join an alliance fit with the resource dependency perspective and the process in which marketplace members get other organizations to join the marketplace.

B2B EC marketplace members draw on other organizations they have relationships with to request they join the marketplace. Monge et al. explain that connective and communal benefits for public goods like B2B EC

marketplaces are not clear to potential members and later joiners are not likely to envision or achieve the same level of benefit as the founders [Monge and others 1998]. Given this, the reciprocity contingency explains why these later joiners will join the marketplace. Although these organizations did not found the original marketplace, they are likely to join because they have overlapping goals and interests with the marketplace's members. The reciprocity contingency is congruent with the resource dependency perspective as organizations joining for reciprocity reasons are joining because their business partners have exerted their power in requesting they join. These organizations will join the marketplace because they are tied to their partner and want to support their goals.

The asymmetry contingency refers to "interorganizational relations prompted by the potential to exercise power or control over another organization" [Oliver 1990, p.243]. Asymmetry can explain why some organizations join B2B EC marketplaces positing that marketplace members will call on organizations that are dependent upon them, requiring they join the marketplace. This is in line with the resource dependency perspective because these organizations are using their control over critical resources to solicit involvement. The reciprocity and asymmetry contingencies may be interrelated as organizations that have common goals and interests are also likely to be dependent upon one another.

In the creation of a public good such as a B2B EC marketplace, interest in interorganizational communication and information systems will grow as initial system features are refined, initial outcomes appear, and system benefits are publicized [Monge and others 1998]. With this increased interest, more organizations will become part of the B2B EC marketplace and the legitimacy contingency will come into the resource dependency perspective as an explanation for organizations joining the marketplace. The legitimacy contingency has roots in institutional theory [DiMaggio and Powell 1983; DiMaggio 1988; Meyer 1977; Tolbert 1988; Tolbert 1996; Zucker 1987; Zucker 1989] and states that organizations pursue actions in order to appear in agreement with prevailing norms. B2B EC marketplace members will draw upon the legitimacy argument to get other organizations to join the marketplace touting industry leader participation, the number of marketplace participants, and that this is the way to do business. Legitimacy fits with the resource dependency perspective because it draws upon arguments of being left behind in the new way of doing business, therefore stimulating feelings of uncertainty and inability to acquire resources.

Figure 1 shows the iterative process of getting other to join the marketplace. As new organizations join the marketplace, they use reciprocity, contingency, and legitimacy arguments soliciting involvement from organizations where they have existing relationships.

This leads to the following propositions:

Proposition 5: Organizations who form or join an alliance creating a B2B EC marketplace will try and get other organizations in the industry to join the marketplace.

Proposition 6: Marketplace members will solicit involvement from organizations in which they have existing relationships.

Proposition 7: Marketplace members will present the marketplace to potential members from a transaction cost perspective; however, the resource dependency perspective and reciprocity and asymmetry contingencies explain why potential members will join

Proposition 8: Once a critical mass of organizations and/or leading organizations join the B2B EC marketplace, the legitimacy contingency will influence others to join.

The field data indicated the iterative process of getting others to join the marketplace becomes less important once a critical mass of industry participants join. Because of the evolving process of industries, the process will not end as long as the marketplace exists. The process of getting others to join the marketplace will end when the marketplace no longer has resources supporting existence. This situation occurs when the marketplace is unable to achieve a critical mass of participants and thus is unable to deliver intended benefits. Or, if after an implementation period, the participants do not see benefits.

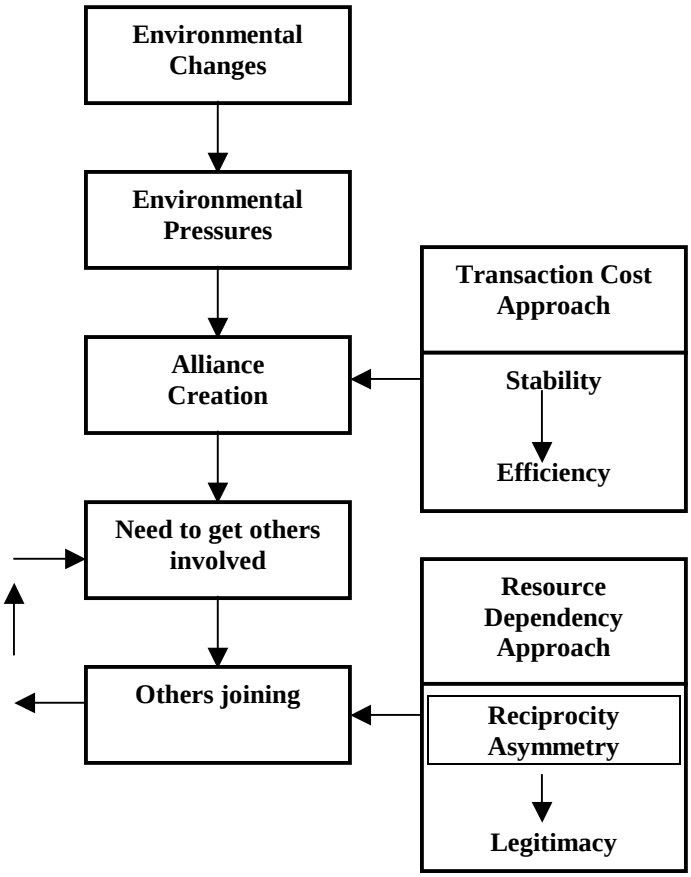

Figure 1: Process of Forming and Joining B2B EC Marketplaces

6. Conclusion

Based on an ethnographic investigation of two B2B EC marketplaces, this research paper develops a model examining the process by which organizations create and become part of a B2B EC marketplace. The research views a B2B EC marketplaces as a public good and links transaction cost perspectives and resource dependency perspectives. The model posits the transaction cost perspective and stability and efficiency contingencies explain why initial organizations form B2B EC marketplaces. The model further explains that B2B EC marketplaces require a critical mass of industry participants. The model posits the resource dependency perspective and reciprocity, asymmetry, and legitimacy contingencies as explanations for the process of getting other organization to join the B2B EC marketplace.

6.1 Theoretical Implications

By looking at the evolving process, the model adds to the interorganizational relationship literature as Whetten's [1981] literature review indicated most research to date has not focused on network evolution. And, Ring and Van de Ven [1994] note little research has studied the developmental process of interorganizational relationships. One exception is Zeitz [1980] who outlines a framework for interorganizational analysis based on dialectical thought.

The model developed in Figure 1 posits the transaction cost perspective explains why organizations create alliances forming B2B EC marketplaces. The model answers Oliver's [1990] call for integration of competing perspectives by further explaining that contingencies based in the resource dependency perspective explain why additional organizations join the marketplace. Oliver pointed out that the existing perspectives on the formation of interorganizational relationships overlook the potential for multiple or concurrent causes of interorganizational relationships [Oliver 1990, p. 249] and Osborn and Hagedoorn [1997] call for more studies that integrate transaction and non-transaction cost arguments.

The model also attempts to overcome a shortcoming of the interorganizational relationship field by linking efficiency contingencies with reciprocity and asymmetry contingencies. The model posits that founders will draw upon organizations that they have relationships with to join the alliance explaining the benefits in terms of the efficiency contingency, however these organizations are likely to join because of reciprocity and asymmetry contingencies. This model acknowledges multiple contingencies in an organization's decision to create/join B2B EC marketplaces. This is in line with Oliver's point [1990] that the decision to initiate a relationship with another organization is commonly based on multiple contingencies. This model adds to the existing thoughts on interorganizational relationships because neither the resource dependency nor transaction cost framework acknowledge the potential for concurrent contingencies in the decision to establish an interorganizational relationship [Oliver 1990].

By pointing out that organizations enter/form alliances for stability contingencies and that the goals of the alliance manifest themselves in efficiency contingencies, the model answers Oliver's call for more research on how the contingencies interact to explain why organizations choose to enter into relationships with one another. The model further shows the interaction of contingencies by positing that reciprocity and asymmetry contingencies are interrelated and drawn upon before legitimacy contingencies.

6.2 Practical Implications

The issue in creating an alliance to form a B2B EC marketplace is not envisioning or developing the technology; it is changing existing business practices to implement the vision. This research is useful to practitioners trying to get other organizations in their industry involved in an alliance to form a B2B EC marketplace as one of the biggest challenges marketplaces are facing is getting the entire industry involved.

Since the model and the literature posit that organizations draw upon existing relationships to solicit involvement, organizations forming marketplaces in competitive industries like the convenience store industry may have difficulty getting industry involvement because competitors do not have close relationships. Organizations in non-competitive industries, such as utilities, which have been regulated until recently, have a better chance achieving complete industry involvement. The lack of competition has enabled utilities to develop long-term relationships and a history of collaboration and information sharing.

In addition, the founders of B2B EC marketplaces may consider the importance of distributor involvement. As the traditional middleman, distributors have a network of relationships to draw upon in soliciting others to join the alliance creating the B2B EC marketplace. Trade organizations also have a network of relationships to draw on in getting organization to join the marketplace.

Finally, since industry-wide involvement is critical, this research suggests that unless the powerful members of an industry, the one's with the critical resources and a large percentage of the market share, form the marketplace, they are unlikely to join the marketplace. This is because the ways in which organizations are influenced to join the marketplace are unlikely to influence them. By not being dependent on one organization's critical resource, these organizations cannot be influenced by threats to withhold resource unless they participate. By possessing market share and critical resources, these organizations will not be influenced by institutional pleas that "everyone else is doing it" and "the leaders are doing it".

6.3 Future Research

Since 1999 many organization have decided to form or join B2B EC marketplaces [Tumolo 2001]. Boston Consulting Group estimates savings from B2B EC marketplaces will reach $1 trillion dollars by 2010; Gartner predicts the global B2B market will be worth $7.3 trillion or seven percent of the total global economy by 2004 [Tumolo 2001]. Some predict using B2B EC marketplaces will result in annual cost savings of seven to thirty percent [Tumolo 2001].

B2B EC marketplaces have also encountered many challenges. These include achieving critical mass, getting organizations to use the marketplace, technology integration, and lack of uniform standards, among others. As a result of these challenges in a recent poll [Clark 2001] 50% of companies said their marketplaces were either absolutely not or mostly not meeting expectations. In 2001, Forester research predicted that of the existing 1,300 B2B EC marketplaces only 180 will exist by 2003 [Krovi 2001].

Given the anticipated benefits yet numerous challenges implementing B2B EC marketplaces, many research opportunities exist. How is B2B EC marketplace success defined? What are the characteristics of a successful marketplace? What facilitates a marketplace achieving critical mass? Upon joining a marketplace, why do some organizations use the marketplace while others do not? I am currently investigating these issues in my dissertation.

Our field will also benefit by looking at the legal issues of marketplaces, technology issues in implementing marketplaces, and the effect of marketplaces on the supply chain.

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