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Benchmarking business-to-business electronic commerce

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Abstract *The last decade of the twentieth century brought with it exponential growth of electronic commerce (EC). The growth of business-to-business (B2B) EC outpaced that of all other forms of EC. During roughly the same time period, benchmarking became an important approach for accessing organizational performance. Benchmarking is a methodology suitable for evaluating virtually any aspect of organizational performance in public or private organizations. In this manuscript B2B and benchmarking are discussed with the objective of developing directions for research and the application of B2B benchmarking. A framework for benchmarking B2B EC is proposed that describes five levels of benchmarking: independent B2B EC benchmarking, buyer-seller (1:1) collaborative benchmarking, 1:M consortium benchmarking, 1:M:N collaborative benchmarking, and buyer-intermediary benchmarking.*

Introduction

E-commerce (EC) is an umbrella term that covers virtually all forms of electronic trading (Greek, 1998). The essence of e-commerce is buying, selling and marketing on the Internet (House of Lords Select Committee on the European Union, 2000). EC is a subset of e-business. A company is engaging in e-business to the extent that EC pervades fundamental business processes and activities. Business-to-business (B2B) EC is the network supported buying, selling, marketing and supporting of products (goods and services) by businesses. Electronic networks such as intranets, extranets and the Internet support communications and transactions among trading partners. The infrastructure resulting from various combinations of the above-mentioned networks facilitates the exchange of data, information, money, and in some cases products, within and among organizations.

B2B is an activity that, from the standpoint of most final consumers, takes place behind the scenes. Most final consumers care little about the supply chains that bring them products, or the role of B2B in those supply chains. The primary concern of final consumers is value – getting the best quality for the lowest possible price. Although final consumers probably do not know or care that B2B can have a very significant impact on the value of products they purchase, many businesses do! Manufacturers, retailers and service providers now recognize the potential of B2B for improving supply chain performance and ultimately the value delivered to final consumers. This may well be the reason that B2B is the fasting growing area of EC.

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There are six subcategories of e-business. They are as follows: B2B; B2C – business to consumer; G2C – government to consumer; G2B – government to business; G2G – government to government; and C2C – consumer to consumer.

Big businesses first used B2B extensively to buy and sell industrial products, but B2B is no longer restricted to large companies (Mayer-Guell, 2001). A recent Dunn and Bradstreet survey of small businesses in the USA, found that one-fourth of the survey respondents were engaged in B2B (Dunn and Bradstreet, 2001). Recent developments have accelerated the trend towards B2B. The advent of centralized Internet sites called exchanges, that allow small businesses to pool their buying power, is contributing to the spread of B2B to small businesses (Mayer-Guell, 2001). Technological developments have and will continue to contribute to the growth of B2B. The ease of use and rapid proliferation of wireless and mobile communications are a case in point. These technologies make EC both easy and convenient – one need not be seated in front of a desk-top computer or mainframe terminal to make personal or institutional purchases. Technological developments such as these simply make B2B more practical and attractive.

B2B is the dominant form of EC because it is where most of the money and activity are focused at present (Targett, 2001). New forecasts of B2B growth appear almost daily, and although they are often conflicting, they clearly show that B2B is growing rapidly. Optimistic forecasts suggest that EC will account for over 30 percent of the US gross domestic product by 2004. In the European trading community, the figure may be closer to 10 percent (Targett, 2001). The contribution of B2B to EC growth is very significant, with some suggesting that it may exceed the contribution of other types of EC by a factor of 12 (Targett, 2001). The B2B market is projected to reach $1.55 trillion in the USA by 2003 (Mayer-Guell, 2001), $27 billion in the Asia-Pacific region by 2003, and $408 billion in Europe by 2004. Even if the contribution of B2B EC and its growth rate are overstated, there can be little doubt about its importance to the future of business in the USA, Europe and elsewhere around the globe.

Why is B2B attractive to businesses? There are many reasons, but some of the more important reasons are listed below:

- Projected productivity gains of 1-2 percent of sales in the short run, and possibly as much as 6 percent of sales by 2010 (Brewton and Kingseed, 2001).
- Lower cost of procurement made possible by expanded access to suppliers, more choice, reduced search time, lower requisition processing costs and more (Jeffrey, 2000; Mayer-Guell, 2001).
- Increased flexibility resulting from lower per-unit price (Brewton and Kingseed, 2001).

- Enhanced relationship management (with customers and suppliers) made possible by the ability to interact with trading partners via the Web (Choi and Graham, 2001). The Web offers a combination of communications media richer and more efficient than the telephone or snail mail – Web-supported communications can be much more like face-to-face communications.
- Evolution of new institutions to facilitate exchange. On-line marketplaces (OLM), exchanges and auctions are good examples. They offer opportunities (and risks) that did not exist just a few years ago (Segal, 2000). These new institutions have the potential to alter dramatically supply chains, inventory management, supplier selection, logistics and marketing practices for large and small firms.
- Greater control over purchasing activities. Good e-procurement software gives greater visibility to the activities of employees involved in procurement and it can guarantee greater control through the requirement of electronic approval that cannot be circumvented (Jeffrey, 2000). The workflow and approval process can thus be more thoroughly integrated, and without a loss of control.
- Greater control over operations, finance, and marketing made possible by anywhere, anytime access to real-time business views constructed with current information from integrated systems.
- Small to medium-sized companies (SMEs) can, with the help of hosting initiatives, exchanges, OLMs and business networks (numerous businesses essentially acting as one for mutually advantage), achieve many of the same benefits of B2B EC available to the largest and most powerful of enterprises, thus making them more able to complete with larger firms.
- Access to new customers, suppliers and markets not accessible before the advent of EC.

How can firms reap the benefits of B2B? First, they must realize that the benefits to be gained from B2B are limited, if B2B is viewed simply as a new way to purchase products. B2B is that, but it is more. B2B is a set of capabilities that can enable a firm to gain, sustain or combat competitive advantage (Marshall, 2001). B2B has the potential to change radically the way in which a firm conducts business, both internally and externally. Organizations must look at B2B from a strategic perspective and define its role in corporate strategy. Not only should the strategic role of B2B be defined, but also its contribution must be measured. Of the many tools and approaches used to measure performance, benchmarking seems particularly well suited for the task of assessing the contribution of B2B to organizational success. The benchmarking methodology can assist firms in developing and controlling

strategic, tactical and operational plans that define the appropriate role of B2B in the enterprise.

Benchmarking

David T. Kearns, the CEO of Zerox defined benchmarking as "the continuous process of measuring products, services and practices against the toughest competitors or those companies recognized as industry leaders" (Camp, 1989). Camp's (1989) own operational definition of benchmarking is "the search for industry best practices that lead to superior performance". Codling (1996) defined benchmarking as "an ongoing process of measuring and improving products, services and practices against the best that can be identified worldwide". The American Productivity and Quality Center (APQC) defines benchmarking as "the process of identifying, understanding, and adapting outstanding practices and processes from organizations anywhere in the world to help your organization improve its performance" (O'Dell, 1994). Spendolini (1992) defines benchmarking as "A continuous, systematic process for evaluating the products, services and work processes of organizations that are recognized as representing best practices for the purposes of organizational improvement". From these definitions we can glean the following:

- The benchmarking process is continuous. Best practice does not remain constant – it changes over time as does an organization's own performance. Consequently, benchmarks must be revised to reflect internal changes and the changing competitive landscape.
- Performance must be measured. To select right strategies and methods for organizational competitiveness, performance in critical areas must be measured. Quantitative measures are preferred, but qualitative measures might be used where appropriate – all that is important cannot easily be quantified.
- Many things can and should be benchmarked. For example, products, services, processes and activities can be benchmarked. Any one or all of these and more can contribute to an organization's success or failure.
- Companies should compare themselves to best-in-class performance wherever it can be found. Industry leaders, competitors, other organizational units within an organization, government agencies, non-profit organizations or any other entity believed to demonstrate best practice can be used in establishing benchmarks. Those striving to become world-class competitors should define best practice from a global perspective, i.e. who is the best in the world?
- The objective of the benchmarking process is to improve organizational performance – to make a firm more competitive. Realistically, success is a relative thing; therefore, an organization should probably tailor its benchmarking effort to its own broad improvement goal, whether it be

lofty (to be the best in the world) or more modest (to be the best in a more narrowly defined area – perhaps a small market segment).

- Benchmarking is about learning. It is about learning how to do better, the things that matter most in attaining organizational success. The learning process is never ending, for internal and external change invariably brings about the need for additional learning.

There are in essence three types of benchmarking: internal, external and best practice. Internal benchmarking involves establishing best practice within a company. Another function, or division within a company that performs some process or activity particularly well, or provides a product or service of high quality, might be used in establishing benchmarks. Codling (1996) describes this as "nursery" benchmarking and suggests that it can be a starting point for a firm's benchmarking program. Internal benchmarking is likely to result in greater internal efficiency or effectiveness, but not necessarily significant improvement in competitiveness. Although internal benchmarking may be a good way for a firm to start its benchmarking program, it is not the way to become world-class.

External benchmarking examines best practice in other organizations, be they direct competitors or organizations in similar or unrelated industries. External benchmarking can be conducted among partners in different industries but under common ownership (companies comprising large multinationals are a good example), among partners in different industry sectors but sharing similar processes and among competitors (Codling, 1996). Diverse companies often utilize the same or similar processes – not just manufacturing processes. Purchasing, selling, employee training and development, product development as well as other processes often have great commonality, even when undertaken in different industries.

The third type of benchmarking is the best practice benchmarking (Codling, 1996). Best practice benchmarking is best viewed as an extension of external benchmarking that focuses on emulating the best in the world. It involves identifying the undisputed best at performing the process or processes believed critical to business success. Codling (1996) suggests that the challenge of this approach is not just finding the best, but rather defining what best means in terms of critical processes being examined. Best practice benchmarking holds the greatest promise for bringing about dramatic improvements in performance, major breakthroughs, and ultimately helping an organization to be "the best it can be". Best practice benchmarking and external benchmarking (perhaps internal benchmarking to a lesser extent) require firms to isolate common metrics as used in functions and use those metrics to compare themselves to other firms established as the best (Spendolini, 1992). Codling (1996) advises that more than hard processes are involved in benchmarking and notes that the combination of similar processes with

different management and employee attitudes might be the determinant of best practice. Codling (1996) highlights a significant challenge for those who would benchmark; precisely measuring intangibles such as attitudes presents a significant challenge, but it may be a necessary part of a successful benchmarking program.

Benchmarking in B2B EC

O'Dell (1994), the author of "Out-of-the-box benchmarking," advises firms to consider benchmarking more than competitive analysis, or number crunching. She advises firms to look at benchmarking as an approach to organizational learning. This seems particularly good advice for firms with an interest in establishing benchmarks for EC, and more specifically, B2B. Although some forms of B2B, EDI for example, have been around for years, new developments like on OLM and exchanges have been around for only a short time. EDI is in essence, a mature technology for which there exists a significant body of knowledge. Firms have considerable experience with EDI, but little with purchasing and selling via OLM. Developing benchmarks for EDI would appear to be a less challenging task, than developing benchmarks pertaining to OLM enabled transactions. O'Dell's advice seems particularly salient here, because firms need to learn how best to utilize OLM based B2B toward the attainment of specific operational, tactical and strategic goals. An approach to benchmarking that emphasizes organizational learning seems very practical for firms engaged in B2B.

An examination of B2B EC benchmarking produces many questions, but few answers. This is an area of benchmarking where there is little guidance for practitioners, and consequently, great opportunity for researchers. The next section of this manuscript sets forth a framework for B2B benchmarking. It is not a "how to" framework, but rather a framework for thinking about who (trading partners, intermediaries and others) should be involved in B2B benchmarking. There will be few prescriptions for specific benchmarks because the diversity of firms involved in B2B make that impractical – one size will not fit all, but certain broad areas like information flows, product flows and payment would be areas of concern in B2B. At present, there is no single dominant model of B2B, but instead numerous models at various stages of evolution. Broad approaches are proposed herein that focus on the general areas and parties involved with benchmarking B2B, internally and externally.

A framework for B2B benchmarking

Offered herein is a framework for categorizing B2B benchmarking on the basis of trading partner participation, the essence of which is the extent of benchmarking collaboration among B2B trading partners (supply chain participants). This approach recognizes a particularly critical aspect of B2B, that is, B2B involves electronic links among at least two participants, a buyer

and a seller, who must coordinate at least some activities and must have certain minimum capabilities for B2B to occur. It is reasonable, therefore, to suggest that participants benchmark performance pertaining to the things that make B2B possible among trading partners, either individually or collectively. The different levels of B2B benchmarking reflect the level of commitment, coordination, and benchmarking process integration among trading partners. To generalize one could say that level 1 B2B benchmarking involves the lowest level of trading partner commitment, coordination, and process integration). Level 2 B2B benchmarking involves greater commitment, coordination, and process integration among trading partners than level 1, level 3 more than level 2, level 4 more than level 3, and so on.

Level 1: independent B2B EC benchmarking

In level 1 B2B benchmarking (see Figure 1) buyer and seller develop benchmarks independently. Each could use internal, external or best practice benchmarking, but there is no collaboration with trading partners on B2B benchmarking – no benchmarking process integration. In addition to depicting level 1 benchmarking, Figure 1 highlights areas where benchmarking is needed. Beyond the traditional benchmarks for marketing, finance, operations, human resources, engineering and so on, there is a need for benchmarks that pertain to information flows at either end (sender/receiver) in terms of speed, reliability, accuracy, etc. Additionally, the level 1 model suggests that benchmarks pertaining to product flows would are important. Buyers typically want products to be delivered quickly (as fast as possible), reliably (arrives by promise date), or both, and they expect them to be delivered in good order – not damaged in shipment. Benchmarking in these areas is not new, but examining them in light of B2B is new. The model also suggests that benchmarks pertaining to payment for goods and services might be appropriate. Sellers normally like to receive payment as fast as possible and in the correct amount. Independent benchmarking has obvious disadvantages. The seller, in order to receive timely payment is dependent on the buyer to remit payment promptly. The buyer, in order to achieve objectives pertaining to product delivery, must depend on the seller, and possibly third party transportation providers. Traditional information flows require some type of coordination, often by telephone, whereas electronic information flows like those that support B2B

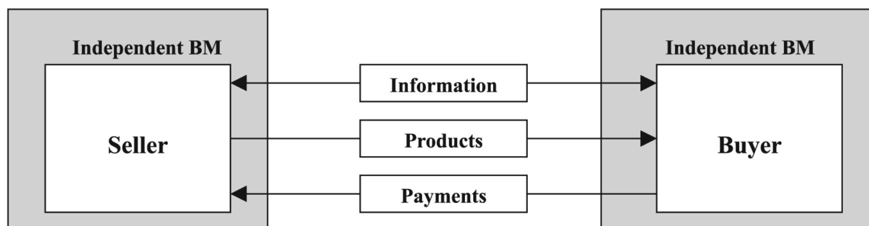

Figure 1.
Independent B2B EC benchmarking

(EDI is a specific example) require more technical coordination and cooperation to achieve efficiency and reliability. This is particularly important, because goods and payment do not flow before information flows. When buyer and seller develop benchmarks pertaining to information flows, product movement, and payment independently, as they do with level 1 benchmarking, optimally efficient and reliable exchanges are not likely. The deficiencies of level 1 benchmarking are readily apparent in Figure 1. The figure shows linkages between firms where some form of joint benchmarking would be appropriate, but is not undertaken. The shaded area denotes that the each trading partner benchmarks independently.

Level 2: buyer-seller collaborative benchmarking

Figure 2 depicts level 2 buyer-seller collaborative benchmarking which involves, not only each participant developing its own benchmarks (internal, external or best practice) in appropriate areas, but also a collaborative effort to develop benchmarks pertaining to critical areas of B2B performance that are jointly determined and important to both. The shaded area denotes collaborative benchmarking between firms – an integrated benchmarking process. For instance, with information flows, the buyer and seller could jointly establish and evaluate performance against benchmarks pertaining to things like information accuracy, timeliness of information flows, transmission speed, data link reliability and so on. Collaborative benchmarking could help trading partners work individually and in unison to improve performance in these and other key areas pertaining to information and data flows between the organizations in support of their B2B relationship. As with any other benchmarking effort, whether the trading partners use internal, external or best practice benchmarking depends on what the trading partners hope to accomplish with B2B. B2B benchmarking requires trading partners to find excellent B2B related processes and practices to emulate. There may be little opportunity for internal benchmarking if neither trading partner has much

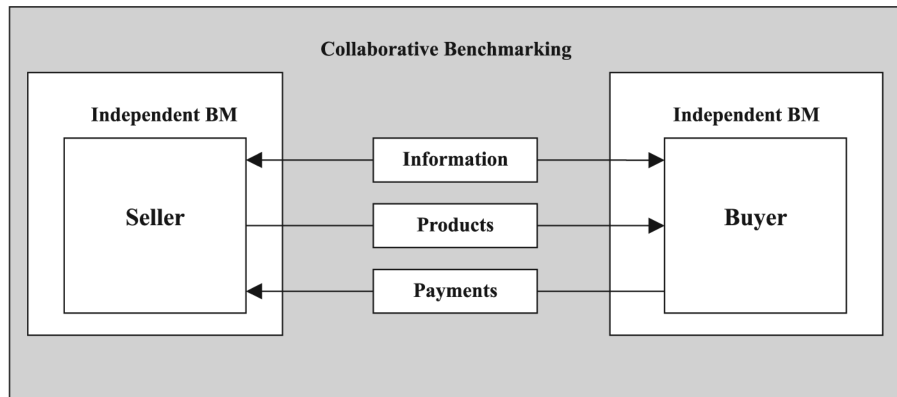

Figure 2. Buyer-seller collaborative benchmarking

experience with B2B. This would likely encourage the trading partners to use external or best practice benchmarking, which is probably better in terms of its benefit to both trading partners and the improvement of their B2B relationship and outcomes. A collaborative effort seems quite attractive because it would involve both trading partners working together toward shared goals important to each in achieving a mutually advantageous, electronic trading partnership. The two firms could jointly develop benchmarks pertaining to product flows and payment flows in order that each might have greater success in attaining individual goals. Each trading partner influences the success of the other, so it seems quite reasonable that they should jointly develop B2B benchmarks that benefit both. This approach is certainly consistent with the current trend (born out of JIT) towards the establishment of closer working relationships between buyers and sellers. A close working relationship between trading partners seems particularly important in the arena of B2B.

Level 3: 1:M consortium benchmarking

One company to many suppliers consortium benchmarking involves a company working with many immediate suppliers to develop B2B benchmarks that would be mutually beneficial to consortium participants. This is similar to the approach General Motors took in the 1980s when it encouraged suppliers (some say forced suppliers) to develop EDI capabilities if they intended to conduct business with GM. Although some felt that GM was a bit "heavy handed" in its approach and actually forced suppliers to comply, the result was widespread adoption of EDI by suppliers. This not only improved the efficiency of their transactions with GM, it enabled GM suppliers to become more efficient in dealing with other customers that utilized EDI. In 1:M consortium benchmarking a company could take the initiative by inviting its immediate suppliers to participate in a collaborative B2B benchmarking effort. Consortium participants would then set collective benchmarks aimed at getting the most out of B2B relationships among participants. Participants should develop internal B2B related benchmarks consistent with and contributing to the success of the collaborative benchmarking effort (see Figure 3).

Level 4: supply chain benchmarking or 1:M:N collaborative benchmarking

Supply chain B2B benchmarking requires a collaborative effort among supply chain members. Note the information flows among all participants – a short supply chain was used for illustration purposes, but supply chains can encompass many players (links). Figure 4 depicts 1:M:N collaborative B2B benchmarking. The shaded area denotes a benchmarking effort involving all trading partners that make up the supply chain, or at least spanning several links in the chain. Although product and payment flows need not extend beyond any two supply chain links, information flows pertaining to the benchmarking effort extend to all participants. As with level 3 (Consortium Benchmarking), some combination of internal, external and best practice

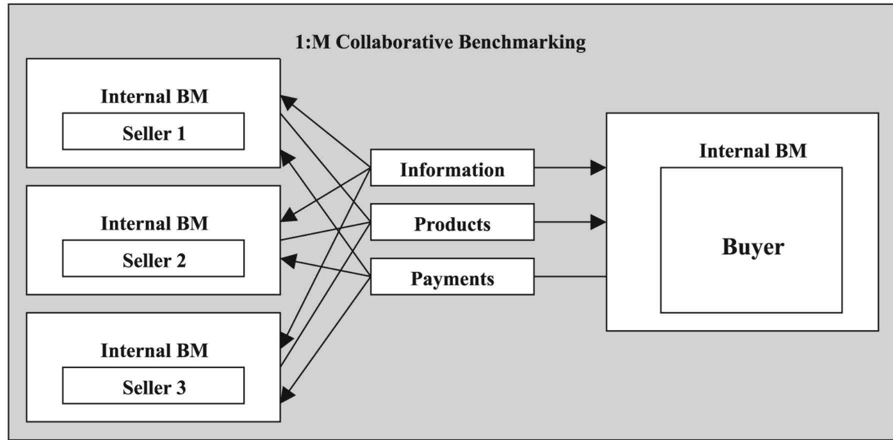

Figure 3.
1:M collaborative benchmarking

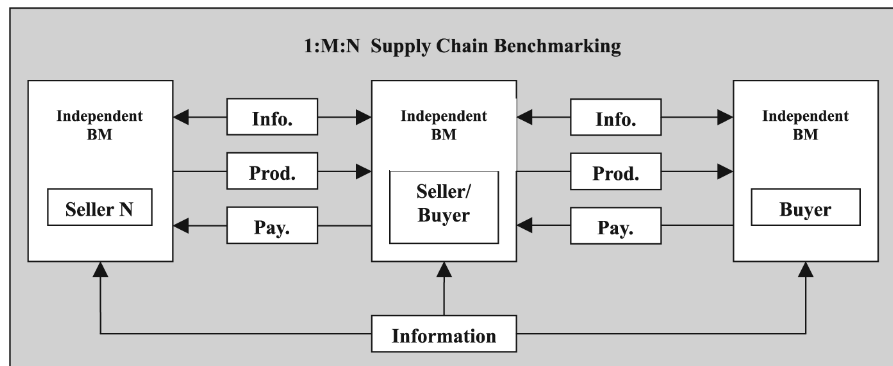

Figure 4.
1:M:N supply chain benchmarking

benchmarking would seem appropriate. It is likely, however, that external and best practice benchmarking would contribute to a higher degree of collective success – moving towards the illusive goal of a fully optimized B2B supply chain. Active participation of all members of the supply chain involved in B2B would be desirable. Even more desirable would be a supply chain where all of the supply chain links utilize B2B and all participate in the B2B collaborative benchmarking effort.

Although the concept of optimizing the supply chain is not new, it is unlikely that there are many, if any such cases of a collaborative effort to optimize a B2B enabled supply chain at present. Only with complete supply chain participant cooperation, is it likely that supply chain optimization will become a reality. With continued evolution of B2B, coupled with continued improvements in more general supply chain management, a fully integrated supply chain may eventually be possible. B2B generally, and B2B supply chain benchmarking

specifically, could play a prominent role in bringing about supply chain optimization in the future.

Level 5: buyer intermediary benchmarking

Exchanges, on-line auctions and OLMs have evolved as intermediaries that facilitate exchange between buyers and sellers. These new institutions essentially place a new link, or perhaps it is more accurate to call it a new version of a link, in a supply chain. Although brokers, agents and auctions have for many years facilitated exchanges between buyers and sellers, the new cyberspace versions of these institutions exist primarily to facilitate B2B transactions among buyers and sellers. These new forms of old institutions serve as a go-between to simplify and expedite exchanges between buyers and sellers. These new institutions and new versions of old institutions are expected to play a significant role in B2B in the future (Mayer-Guell, 2001; Segal, 2000). OLMs, exchanges and on-line auctions do not typically take possession of products, but rather bring buyer and seller together in cyberspace to facilitate exchange. Organizations that purchase products via these intermediaries may find their direct interaction with suppliers reduced and the success of business exchanges dependent in large part on their relationship with the intermediaries. If this is the case, then it will become important for buyers to cultivate good relationships with those intermediaries to achieve success. This will create important new B2B relationships with the intermediaries and necessitate another type of B2B benchmarking labeled buyer intermediary benchmarking (see Figure 5).

At least two forms of buyer intermediary benchmarking are possible. The first would involve a joint benchmarking effort between the buyer and the intermediary. The second, denoted as possible by the dashed line through the model in Figure 5, would involve buyer, intermediary and seller collectively

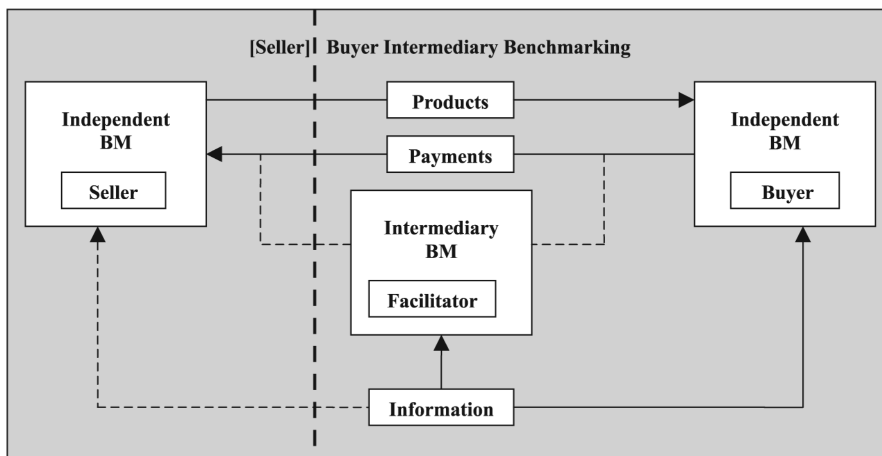

Figure 5. Buyer intermediary benchmarking

involved in a mutually advantageous B2B benchmarking process. The first would be desirable in situations where there is minimal interaction between buyer and seller, and wherein there is a greater role for the intermediary in payment and arranging for product transportation (most do not currently transport products, but that is a possibility in the future). In this context, there is little need for interaction between buyer and seller (information exchanges) and the relationship between the buyer and intermediary is paramount in importance as it relates to the success of the exchange. The second situation is where the role of the intermediary is not significant in payment and shipment related activities, and thus there is a greater need for interaction and information exchanges between buyer and seller. In the latter context, the buyer-intermediary-seller B2B benchmarking would likely entail a three-way interaction and warrant a collaborative benchmarking effort among the three. The dashed lines denote this variant of buyer intermediary B2B benchmarking with inclusion of the buyer-seller information exchanges. The brackets around seller in the model label denote that inclusion of the seller in the collaborative benchmarking effort is optional – it depends on the level of seller interaction with buyer. The dashed payment line reflects the possibility of the intermediary receiving payment from the buyer and remitting payment to the seller. The actual form of buyer intermediary B2B benchmarking depends on the extent of intermediary support for B2B exchanges. As with the other models, the overall B2B benchmarking effort might include internal, external or best practice benchmarking with a greater likelihood ascribed to external and best practice benchmarking.

Conclusion

A major premise in setting forth this framework is that B2B is new for most firms. Although some firms are entering their third decade of EDI use, which is technically B2B, it is the World Wide Web (a relatively new phenomenon) that has been the catalyst for explosive B2B growth in the last decade. Most organizations are still learning about B2B and what is required for success. B2B necessitates interaction among trading partners, as has always been the case with traditional commerce, but B2B is different. B2B relies on the successful use of sophisticated information technology as well as cultivation of good relationships with trading partners. Different types of coordination and communications are necessary and involve firms working together closely to insure mutually advantageous trading relationships now and in the future as B2B expands. As noted in the description of benchmarking, it is about learning. A B2B benchmarking effort can expedite the learning process and help make B2B work to the benefit of all trading partners, whether viewed from a narrow buyer/seller perspective or a broader supply chain perspective. The proposed framework considers possibilities that range from the former to the latter, and also includes perspectives shaped by the evolution of new institutions that facilitate B2B.

As the label B2B EC implies, a firm is not alone in this endeavor. The question arises; is it enough for a firm to undertake B2B benchmarking on its own, or is there a need to work with external entities in B2B benchmarking? The framework presented herein describes many possible approaches to consider. In some respects, organizations should approach the benchmarking of B2B as they would any other process or activity – the fundamentals of benchmarking are essentially the same. They must understand, however, that B2B involves activities and processes unique to B2B as well as those involved in more traditional approaches to buying, selling and marketing goods and services. Furthermore, like other business undertakings, B2B activities and processes extend across functional boundaries within firms and they extend across organizational boundaries to other entities; therefore, process focused benchmarking and cooperative benchmarking are appropriate. The essence of benchmarking is to discover those things, success factors if you will, that most influence the success of an activity, process or broader undertaking. Once key performance areas are identified, specific things contributing to positive outcomes in those key areas must be identified, measurements prescribed and measurements taken. After establishing baseline measures, organizations must decide who and what to use as a yardstick for comparison. Firms may compare performance only to their own past performance, they may compare their performance to best practice in other internal units (functions, or business units) and they may compare their performance to best practice in other organizations, public and private – the best at what they do. The appropriate "benchmark" depends on organizational goals. If an organization is satisfied with focusing within and benchmarking against its own performance, then internal benchmarks will suffice. If on the other hand, an organization wants to become and remain world-class, it should establish external as well as internal benchmarks. A firm striving to become a world-class competitor must compare itself to the best – if best practice is found in another company within the same industry, or even in a different and seemingly unrelated industry, then that best-practice should be the basis for the benchmark(s) established. Little advice is offered herein about what specific aspects of B2B should be benchmarked. Instead, a framework is set forth that encourages thinking, "out of the box," about the inclusion of trading partners in an effective B2B benchmarking effort.

Practitioners should consider using this framework to examine the current state of their B2B benchmarking effort. It is hoped that the framework will encourage those firms benchmarking B2B to think creatively about their benchmarking effort, and to search for ways to gain more from B2B and their benchmarking effort by moving to the next level, and ultimately to a level where all trading partners reap the benefits of a fully optimized B2B supply chain. This framework can help guide the thinking of managers as they plot a course through the different levels – to map out a strategy for B2B benchmarking. Perhaps this framework will encourage organizations engaged in B2B, yet not using benchmarking to assess performance, to consider

seriously benchmarking as a way of measuring and improving performance. More importantly, benchmarking could become a means of promoting organizational learning about B2B, benchmarking and more.

This framework should help researchers target specific areas of B2B benchmarking for future research. B2B benchmarking harbors many significant research opportunities, yet one finds scant evidence of empirical research on B2B benchmarking. Few areas hold so much promise for dramatically shaping the future of business as EC generally, and B2B specifically. A good framework should encourage thought about a topic or phenomenon. Over time a good framework will become better because of the contribution of other researchers or be upstaged by competing frameworks. Researchers should consider testing and/or revising this framework. The development of competing or related frameworks is encouraged. Both courses of action will promote a better understanding of B2B, what constitutes successful B2B, and how best to assess B2B performance from a single player (buyer or seller) perspective and/or from a collective perspective (buyer and seller or broader supply chain perspective).

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