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THE STRATEGIC IMPLICATION OF ELECTRONIC COMMERCE FOR SMALL AND MEDIUM SIZED ENTERPRISES (SME)

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ABSTRACT

The objective of this Paper is to examine the strategic implication of Electronic Commerce for small and medium sized enterprises. This paper explores how electronic commerce has the potential to transform the concept of market by changing firms' business models, business relationships and market structure. By changing firms' competitive advantages and nature of competition, electronic commerce may have strategic implications for small and medium sized enterprises. From the research undertaken, the paper draws conclusions of how electronic commerce fits into the broader context of their business and its strategy.

Key Words: E-Commerce, Small and Medium Sized Enterprises, Porter's Market Structure, Supply Chain.

I. INTRODUCTION

Electronic commerce has the potential to accelerate existing trends and introduce new ways of conducting businesses, coordinating work and interacting in society. E-commerce has the capacity to transform the marketplace by changing firms' business models, by shaping relationships, and by contributing to changes in the market structure. It also has the potential to change firms' competitive advantages and the nature of the firms' competition. Given the nature of these processes, the impact of e-commerce for small and medium size enterprises (SMEs) has strategic implications. With the explosion in Internet use, now SMEs can be potential users of e-commerce. By using e-commerce, business and managerial communications often are easier with email, web sites serving as brochures can be used to build brand awareness, and online catalogues can be used for distribution.

II. STRATEGIC FRAMEWORK

When e-commerce is still so new, can anyone really be sure what it is, and what a company needs to do to succeed at it? With the pace of change, one thing is clear: once an enterprise starts to put an e-commerce strategy into effect, they will be moving at a high speed. A common issue with e-commerce is that many companies do not carefully formulate their e-commerce strategy. Many companies have a web site without a specific goal. A popular perspective is to launch a web site and see what transpires (Kalakota and Whinston 1997). Since for many, the Internet is viewed as revolutionary, companies frequently fail to examine sufficiently the numbers to build a business case for web site development. The elements of compelling business case vary, but could contain the goals of cost reduction, switching customer behavior from one channel to a lower one, increasing customer retention, acquiring new customers and increasing value-added transactions (Mougayer 1998, Watson et al 1998).

It is important that company understands how to use e-commerce into its strategic fits. The primary question for a company is to ask itself whether the Internet is strategic to its core business or entirely to a new business. If this question is neither posed

nor answered, the outcome may be a situation where either the wrong strategic path is chosen or is a substantial under investment. Since the company's core business is affected by the annual growth rate of the market and the market share of the company, e-commerce has to be evaluated in terms of how its adoption can enhance the current position of the company.

For example, decisions made by enterprise may be seen as tactical instead of strategic. Many companies have established attractive web sites and allowed customers to use the sites for electronic ordering, or perhaps the companies used the Internet to offer services. That tactic has succeeded to the extent that the system works and the customers like it, but there is not necessarily a sustainable competitive advantage in it. According to Hoffman and Novak (1996), these tactics are the more obvious ways of employing the new technology just as automating payroll was an obvious use of computer technology some decades ago. It was not until later that our vision expanded to embrace notions that the computer can be a strategic weapon, an electronic postal system, and so forth. Thus observers of electronic commerce have already asserted that the Web requires a new marketing paradigm.

A. Sustainable Competitive Advantage

As with many good ideas, one of the problems of web sites is that it can be easily imitated. Since the web is public, it is possible for firms to systematically examine each other's web sites on a regular basis. This continual monitoring of competitors' web presence means that any new initiative can be quickly imitated (Watson et al. 1998). Web sites have the potential for creating competitive advantages by attracting numerous visitors so that many potential customers can learn about a firm's products and services. It can also be used for the influential stakeholders to obtain a positive impression of the firm (Watson et al. 1998). The advantage, however, may be temporary unless the organization has some valuable and rare resources (i.e. sponsorship of a popular sporting event) which cannot be reproduced. A valuable, but not necessarily rare resource for many organizations is the current Information Technology (IT) infrastructure. A company may find it useful to examine their existing databases to gauge their potential for highly attractive web applications. Building front-end web applications to create a customer service focused web site can be a quick way of capitalizing on existing investments, but competitors are likely to be undertaking the similar projects. IT infrastructure, however, is not enough to create a sustained advantage. The key assets are managers' IT skills and the ability to consider information as they key asset that can create competitive advantage (Watson et al. 1998). Sustainable attractiveness is dependent on managers' understanding of what information to deliver (Rayport and Sviokla 1994).

The original company may gain from being a first mover (Bakos 1991), but differentiation may be hard to sustain. Nevertheless, while investing in easily imitated websites may provide little gains, firms may have to match their competitors' offerings so as to stay equally attractive, reverberating to the notion of strategic necessity (Cleamons & Row 1991) of the strategic information systems literature. The key to understanding how easily something can be imitated is whether a firm possesses valuable and rare resources and how much it costs to duplicate these resources or how readily substitutes can be found (Barney 1986). Back end computer applications that support web front-end customer service can be a valuable resource, though not rare. For instance, Federal Express' parcel tracking service is an excellent example of a large investment back end IT application imitated by its competitor United Parcel Service (UPS). IT investment can create a competitive advantage, but it is unlikely to be sustainable because competitors can eventually duplicate the system (Mata et al. 1995).

Stakeholder analysis can be a useful tool for determining which types and forms of e-commerce to develop (Watson et al. 1989). Adapting the concept that a firm should sell to the most favorable buyers, an organization may focus on using its web site to attract the most influential stakeholders (Porter 1980), for example to communicate with employees or to attract and inform investors and potential suppliers. To understand the strategic implication of e-commerce for SMEs, it will be critical for companies to realize the new rules of engagement applying to their industries. In particular, companies will need to know if the Internet can be used to build sustainable competitive advantage and what form of advantage might take place.

B. Strategy Framework

The literature on the characteristics of effective strategic management is immense. At the basic level, it can be divided roughly between two lines. These two contrasting approaches can be described as the outside-in and the inside-out perspectives. The two perspectives are based on different assumptions and thus interpret behavior in distinct styles. Kenneth R. Andrews (1971) defined strategy as the match between what a company can do (organizational strength and weaknesses) within the universe of what it might do (environmental opportunities and threats). This starting point of the traditional SWOT analysis has been built upon by both schools of thought. While both schools share the conjecture that an enterprise must align itself with the outside world to gain competitive advantage, the division emerges with the means of achieving such a fit, disputing whether the right fit is to be found is consideration of either strengths or opportunities. According to Wit and Meyer (1998) these different approaches can be utilized to review the effectiveness of strategic management, with the critical criteria for effective strategic management defined as the creation and maintenance of sustainable competitive advantage. The advantage is achieved through the alignment of the firm and environment

C. Outside-in Perspective

From an outside-in perspective, the strategy of a firm should take the environment of the firm as the primary point in deciding their strategic plans. Day (1990) argues that in order to be prosperous a company should be market orientated. The environment has to be analyzed to find market opportunities; searching potential customers that can be better satisfied than they are presently. Customers those are willing and able to pay a premium price and who will demonstrate loyalty are the best. Once a place in the market is established, it must be defended by adapting to any changes monitored in the market. Strategy from the outside-in perspective can be seen to be about market positioning and understanding the role of the environment. Market positioning is not achieved through short-term opportunistic decision-making but from strategic thought and planning. The achievement of an excellent market position is not easy but the rewards of sustained competitive advantage and the associated profitability are compelling (de. Wit and Meyer 1998). To achieve a superior market position, awareness and knowledge of the market place is essential, not only the broad structure should be analyzed, but also the particular requirements, strength, views and intentions of all the market forces need to be ascertained. Probably the best known promoter of this view is Michael Porter (1980) and the five forces analysis.

III. FIVE FORCE ANALYSES

Michael Porter's (1980) ideas in Competitive Strategy can be utilized as a good example of the outside-in perspective. Porter argues that a firm's strategist must position the firm against the background of five competitive forces. These five forces are the entry of new competitors, the threat of substitutes, the bargaining power of buyers, the bargaining power of suppliers, and the rivalry among the existing competitors.

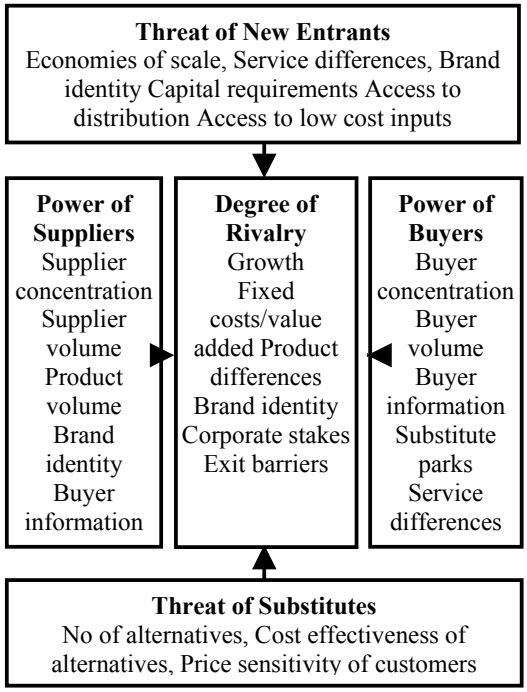

Figure 1: Porter's Five Forces (Adapted from Faulkner and Bowman Competitive Strategy, pp. 40)

A. Threat of new entrants

In many industries, particularly those with large information content, the World Wide Web will provide a low cost instrument of supplying a new customer interface. Examples include newspapers,

banking and retailing. In other industries, the Internet will provide a way for reshaping supply chain structure, decreasing costs and so redefining the game. It, therefore, threatens to be an entry point for innovators.

B. Supplier power

The Internet offers the possibility of shifting the focus of bargaining power down to the supply chain. It will provide manufactures and wholesalers with simple, cheap access to its customer base, augmented by on-line customer service. This may also open new channels to market and give opportunities to strengthen branding. The adoption of the Internet as a platform for business may encourage openness as an underlying technical and philosophical belief due to its non-proprietary standards and open nature. The typical type of short-term, scarcely profitable supplier relationships may be replaced with more co-operative partnership and joint ventures.

C. Buyer power

Buyer power of companies may be affected for the reasons given above. To combat this, many organizations in the front-line of a supply chain may consider backward integration. For example, American giant Wal-Mart has started on-line retail service. If this strategy becomes the norm then satellite wholesaling may become a core competency of an industry as goods are distributed via vans to local customers, or to local pick up points. A reduction in transaction costs may give firms the opportunity to find and use different suppliers and also give suppliers the opportunity to find different outlets. Similarly for buyers using the Internet, switching cost in terms of information search and product comparisons can be substantially reduced.

D. Threat of Substitutes

It is likely that substitute products will become easier to identify via database searches. For example, a key word search on an Internet search engine for 'refrigerators' would not return results restricted to traditional technologies. The development of commercial on-line intermediaries specializing in information should help focus searches but the ability to broaden them will remain available. Critically, the Internet will cause many substitute technologies to collide and may lead to horizontal integration.

E. Competitive Rivalry

Given that the Internet offers the potential to significantly reshape many industries, and that many new entrants may be encouraged to enter, there is likely to be enhanced competition in many markets. As market matures the possibility of reorganization and changes increases.

IV. THREE GENERIC STRATEGIES

This type of analysis aids insight into the natural structure of markets. Porter suggested that there are three possible generic choices of strategy to achieve sustainable competitive advantages. The three rational positions available to the enterprises are cost leadership, differentiation or focus. The firm will need to make a clear selection of strategy or it will risk the possibility of being stuck in the middle. Porter's (1980) analysis puts the spotlight on choosing the 'right industries' and within them, the most attractive competitive positions. Within this framework, SMEs should consider how the effect of e-commerce would transform industries and their marketplaces: traditional intermediary functions will replace (Hagel and singer 1999) new products and markets will be developed (Mougayer 1998) and new and far closer relationships will be developed (Kalakota and Whinston 1997).

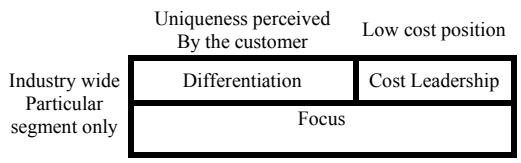

Figure 2: Three Generic strategies (Source: Porter (1980) Competitive strategy, pp. 39)

Although the model does not ignore the characteristics of individual companies, the emphasis is clearly on phenomenon at the industry level. Therefore the outside-in perspective does not rule out the importance of an enterprise's resources, but concentrates on the market position as the starting point for considering strategy. Many proponents of the outside standpoint (Day 1990; Porter 1980) accept the influence of firm resources on the ability of the firm to exploit any opportunities in the market. Indeed, if the firm does not have and is unable to acquire the

necessary resources, it may miss out on particular opportunities, which is why strategists from this perspective must always consider the firm's strengths and weaknesses when selecting an external opportunity. However the resources base of the firm should not be the starting point of the strategy selection, but only be acknowledged as a consideration. Thus the resource base will support the market position.

A. Inside out perspective

With the introduction of the concepts of core competence and competing on capabilities, the pendulum swings dramatically in the other direction, moving from outside to inside the company. This approach emphasizes the importance of both the skills and collective learning embedded in an organization and of the management's ability to marshal them. This view assumes that the roots of competitive advantage are inside the organization and that the adoption of new strategies is constrained by the current level of the company's resources. The inside-out perspective argues that a strategy should not be built around the external situation, but molded towards the enterprise's strengths and capabilities (Parahalad and Hamel 1990; Stalk, Evans and Shulman 1992). The origin of strategy formulation should be the particular resource base that a firm has; markets are then selected, adjusted or originated to take advantage of these particular strengths.

Emphasis is often placed on the importance of a firm's competences over its physical assets and tangible resources. This view was highlighted by Prahalad and Hamel (1990) and is often referred to as competence based. Hamel and Prahalad (1994) focused on how small companies could successfully enter existing industries that seemed to be controlled by large and established rivals. Building up resources as particular abilities is a long and difficult process that can have either positive or negative results. The positive effect may come through a unique ability of a firm since this unique ability is generally more difficult to copy, so imitation may be slower allowing the firm time to innovate its strength further. This may also lead onto a negative aspect where a firm may become disinclined to switch to other competences that the market requires (Rumelt 1996).

It is worth noting that the term competencies are often used interchangeably with capabilities. This is partly due to the ambiguous definition originally offered by Prahalad and Hamel (1990). They define core competence as a mixture of production skills and individual technologies. According to Wit and Meyer (1998) the issue of competence identification is problematic, tangible resources are relatively easy to identify, but the less tangible areas such as knowledge and expertise are notoriously difficult to identify clearly. The nature of tacit knowledge within an organization could make it extremely difficult to identify the true extent of its knowledge base.

As markets have become more crowded and customers more discerning and varied in their demands and expectations, so the targeting decisions facing companies become more critical. Competitive positioning decisions embrace identification of target market or markets – where the firm will compete – and the competitive advantage that will be pursued in serving that targets-how the firm will compete. The positioning perspective recognizes that for resources to be leveraged for economic benefit, their application in the market place required. The impact of e-commerce may effect many SMEs' consideration of the where and how questions, since in many areas it will transform the marketplace (Mougayer 1998), accelerating and diffusing changes that already under way such as the establishment of electronic links between businesses (EDI), globalization, and the demand for highly skilled workers (Kalakota and Whinston 1997).

At the same time the positioning perspective also recognize that if that application is to be sustainable in the face of increasing competition, then competitive advantage must be built on instinctive resources and capabilities (Hamel and Prahalad 1994). The important consideration for SMEs is whether the utilization of e-commerce initiatives can help to enhance their innate resources and capabilities. McGahan and Porter (1997) argue that unique characteristics of specific firms within can industry can make a difference in terms of profit performance. To put balance back into the original notion of business strategy, recent work in the area of strategic management and economic theory has begun to focus on the internal side of the equation the firm's resources and capabilities. This emerging view is often referred to under the umbrella of the resource-based view of the firm.

Strategic management models traditionally have defined the firm's strategy in terms of its product and market positioning, that is the products it makes and the markets of serves. The resource-based approach suggests, however, that firms should position themselves strategically based on their unique, valuable, and inimitable resources and capabilities rather than the products and services derived from those capabilities (de Wit and Meyer 1998). Resources and capabilities can be conceived as a platform which the firm can derive different products for distinct markets. Leveraging resources and capabilities across many markets and products, rather than targeting specific products for specific markets, becomes the strategic driver. While products and markets may come and go, resources and capabilities are more enduring. Therefore, a resource-based strategy provides a more long-term view than the traditional approach, and one more robust in uncertain and dynamic competitive environments. Competitive advantage based on resources and capabilities therefore is potentially more sustainable than that based solely on product and market positioning.

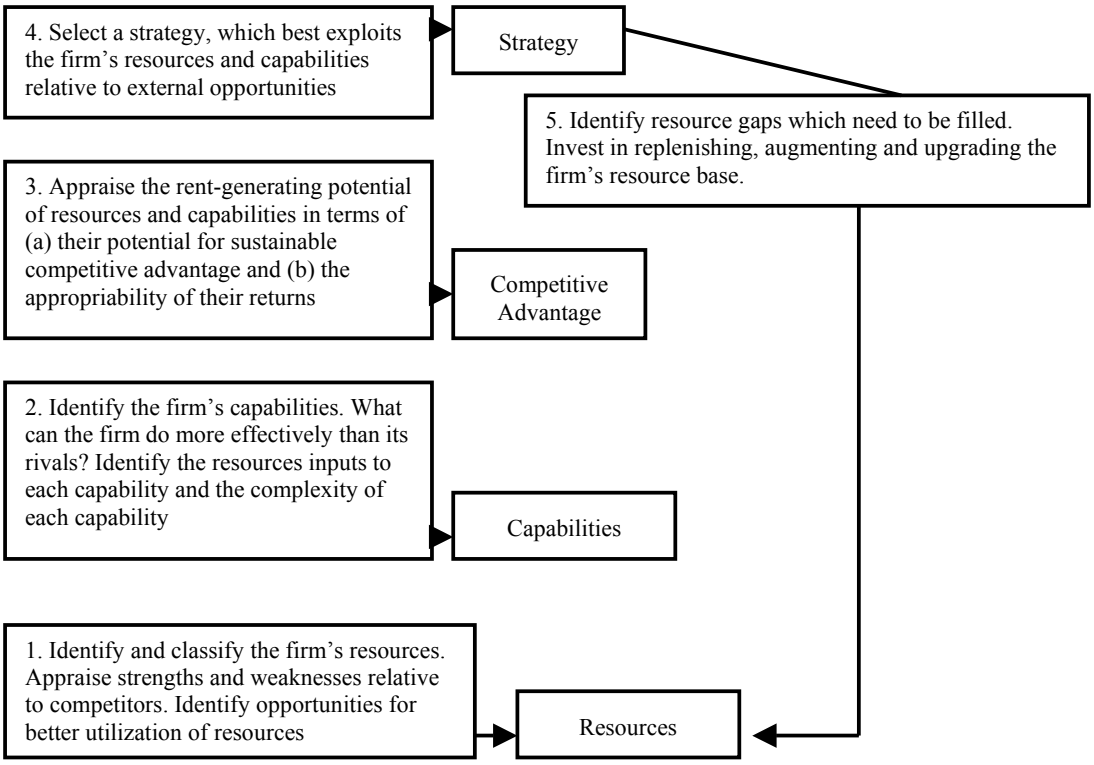

Figure 3: A Resource based Approach to Strategy Analysis: A practical Framework Source: Grant (1991), the resource-based theory of competitive advantage. Pp. 115

Grant (1991) proposes a framework for the resource-based approach to strategy. This framework comprises five stages in the process of strategy formulation. The implication of e-commerce for the resource-based view of strategy formulation is large; Grant (1991) argues that since technologies are continually evolving an externally focused orientation does not provide secure foundation for long-term strategy formulation. However, the impacts of the Internet and the associated changes in business models are strategic. Thus if the predicted rise in use of e-commerce. Forester Research estimated that by the end of 2001 on-line revenues in business trade, consumer retail, and content in Europe were expected to climb to over 70 billion Euros, with 53 million users connected to the Internet, there may be a need for firms to have a capability in e-commerce. This does not consider the additional impact of the efficiency on firms' internal process.

First movers into the e-commerce and web based business models may establish loyal customer bases, which will give some advantages through differentiation. Ghosh (1998) refers to customer magnets', arguing that people return to the sites that meet all their needs and with which they have a familiarity. Therefore these magnets can control an entire electronic channel, without having to own all the assets for delivering the service.

Companies that follow the inside-out view of strategy and do not wish to conduct business over the internet risk ignoring the market and may end up being forces later to embrace e-commerce by customers and the competitive market. The classic example of this is Encyclopaedia Britannica. They were forced to change their whole business model under competition from CD ROMs like Microsoft's Encarta. Encyclopaedia Britannica, with increasing losses, moved from its conventional medium of books to CD ROM and Encyclopaedia Britannica on line (http://www.eb.com). In practice it is much more difficult for managers to make strategic decisions on the implication of e-commerce. As Evans and Wurster (1997) point out if the assets of a company are central to the core competence of the organization, it is extremely difficult to withdraw from the organizational identity. In turn, it is difficult to strategically downsize high fixed cost assets that are related to the current business model if that model is currently popular with customers.

As Christensen (1997) states 'Disruptive technologies rarely make sense during the years when investing in them is most important... conventional managerial wisdom at established firms constitutes an entry mobility barrier that entrepreneurs and investors can bank on". If the capabilities of a firm are the product of the utilization of its resources, a firm should be able to identify what its capabilities are. Grant (1991) argues that the most important capabilities are probably the combination of functional capabilities. That is for example, a combination of human resource management, marketing and operations management. These strategic capabilities, which are central to the firm, are known as core competencies.

The important thing for the firm is to examine its capabilities relative to its competition's capabilities. For a strategy to prove successful, it will exploit a firm's relative strengths. Perhaps more pertinent when considering resource gaps (Porter 1990) is that strategy failure is often exhibited when the firm's activities are pushed beyond its current capability. Therefore from a resource point of view, strategy should make the most effective use of resources and capabilities (de Wit and Meyet 1998). Again Grant (1991) distinguishes between resource and capabilities, he argues that resources are the basic inputs in the production process, for example capital assets, skill, brands etc. A firm's capability on the other hand, is the ability to utilize the resource available to perform a particular activity. Resources are seen as the source of a firm's capabilities, and the capabilities themselves are the source of the firm's competitive advantage. A resource-based strategy may also encourage the firm to identify resource gaps (Porter 1990) and develop its resource base further. As customer needs evolve, firms need to update and develop resources to sustain competitive advantage. Porter (1990) advocated that the ability of nations and firms to sustain competitive advantage relies upon continual innovation and shifting of the basis of competitive advantage.

According to Grant (1991), a pre-requisite of updating a firm's resources and capabilities is strategic direction, especially in terms of the capabilities that will be the basis of the competitive advantage in the future. So in Hamel and Prahalad terms, core competencies are a commitment to the direction of future development. The development of resources and capabilities in combination with the existing resources is a fine balancing act. Capabilities are learnt through repetition and develop through the following of a specific strategy therefore the strategy should push just beyond the normal boundary of the firm's capabilities. Grant (1991) argues that capabilities are created through complicated patterns of co-ordination. The co-ordination involves not only people- to- people co-ordination, but other resources as well. The introduction of e-commerce has the potential to enhance a SME's capabilities by providing more useful information, expanding choice, developing new services, streamlining purchasing processes and lowering costs (Watson et al 1998). Grant (1991) maintains that a capability can be seen as a routine, where a routine is a regular, foreseeable pattern of activity consisting of a number of sequential co-ordinate activities. The utilization of e-commerce initiatives can become part of this routine and enhance the firm's capability.

The strength of the resource-based view and competence-based competition is that these theories begin at the firm level and focus on the distinctive capabilities of the firm relative to its competitors. The weakness of both these theories is that they do not provide clear guidelines for identifying what exactly are the core competences and inimitable resources of the firm, and how they compare to the resources and competences of others competing in the same market. In addition to this, the identification of inimitable resource or core competence does not constitute the development of a strategy. Rather than signal the end of the strategy development process, the identification of competencies and resources should signal the beginning of the process and as such, resource and competencies should therefore be the basic building blocks, which are, leveraged through the strategy development and implementation processes. Stalk, Evans and Shulman (1992) argue that there are four basic principles of capabilities based competition: the key role of business process, the continuation of superior value provided by the key processes, investment in support infrastructure and the need to have the CEO as champion. Stalk, Evans and Shulman's (1992) view is that the positioning perspective on strategy is too static, that more and more markets are moving fast and the best way to achieve flexibility is through better capabilities.

V. BUSINESS MODELS

The literature about e-commerce is not consistent in the use of the term 'business model' Therefore a definition of what is meant by the term 'business model' is appropriate. Timmers (1998:4) defines a business model as. "An architecture for the product, service and information flows, including a description of the various business actors and their roles; a description of the potential benefits for the various business actors; and a description of the sources of revenues". There are three broad sectors of business models, business-to-business business to consumer, and intra-organizational. There are different characteristics to each sector but ultimately they are all concerned with the same subject of electronic commerce. Mougayar (1998) argues that companies should approach all three areas with a holistic method to ensure that they fully take advantage of leverage, the synergy that can be acquired from the collective aspects of implementation. The intra-organizational dimension of e-commerce is illustrated with the use of Internets with companies, whereas the use of intranets and extranets with working partners and consumers represents the business-to-business and the business-to-consumer. A development of the broad sectors of business models is pertinent, followed by a more detailed examination of business models identified by Timmers (1998).

A. Business-to-Consumer

Roger (1995) classifies individuals into five groups based on how quickly they adopt technology. These groups are called innovators, early adopters, early majority, late majority, and laggards. Several surveys (Frentzen 1995) have been published in the popular press indicate the profile of the typical Internet user, who is, on the average, male, 25-40 years old, college-educated, with some disposable income. This picture offers some insight into the characteristics of innovators and early adopters of electronic commerce, but certainly not in complete detail. To increase the likelihood of success for electronic commerce projects, particularly with firms that already have traditional means of ordering it is important to know the type of person who is likely to use electronic means to purchase goods and services and who is likely to use electronic means to purchase goods and services and who is in the target market.

It has become clear that e-commerce can enable companies to become much more customer-focused. An electronic transaction is in essence a one-to-one transaction, and information about each customer's buying habits and preferences can be stored (Watson et al 1998). This allows companies to tailor promotional materiel to suit each individual, and lets the bigger companies regain a closer link with each customer. Hagel et al (1997) argue that new entrants into the financial services arena are pursuing a business model unlike that of the traditional retail bank. By focusing on a specific customer segment, they are able to target specific groups of customers, especially affluent households that are early adopters of new computing and online technologies. The goal is to develop a trust-based relationship with these customers and sell them a wide range of financial services.

B. Business-to-Business

The business-to-business market is concerned with businesses selling either products or services to

each other, with one organization buying and another selling. This can relate to trade and information between suppliers at the back end of the supply chain. Electronic payment, self-billing distribution and logistics management are all areas that can benefit from the utilization of Internet e-commerce (O'Connor and O'Keefe 1997). Again Mougayar (1998) argues that e-commerce business models have four significant characteristics: interactivity, spontaneity, pervasiveness and the creation of a marketplace. Interactivity during a transaction can be achieved by various means, such as email, voice and video. Spontaneity refers to lack of need to take on lengthy negotiation procedures and the establishment of relationships. Pervasiveness applies to the extensiveness of Internet use, both in terms of business and consumers. The creation of a marketplace concerns the internet as both a marketplace and delivery medium: so that by reaching these markets, companies make them accessible/ Companies can assess how these four characteristics will affect their relationship with customers, suppliers and other trading partners.

Electronic commerce is fulfilling its early promise for business-to-business trade. Marketplaces that connect buyers and sellers are up and running in many product categories, and are creating value by making trading more efficient. The experience of early participants suggests that an electronic marketplace can capture savings of 10 to 20 percent on sales and deliver lower prices for buyers (Berryman et al 1998). How should companies determine which e-commerce business model fits them best and evaluate when or perhaps whether to compete in a market? Berryman et al (1998) suggest that companies should contemplate the answers to the following four questions to aid with the formulation of an appropriate strategy.

Can transaction savings or benefits be obtained?

Cost reduction through better process efficiency is one of the main attractions of the electronic marketplace (Mougayar 1998). Companies should therefore make a thorough examination of their selling and procurement processes to determine the amount of savings to be gained (Berryman et al 1998).

Is an electronic market rapidly developing for the company product?

The higher the possible savings or benefits, the more active competitors are likely to be about an electronic marketplace, and if electronic market are developing quickly for a company's key product categories, them it might be pressured to establish an early presence by competitive force (Berryman et al 1998).

Does the company possess significant market share or buying power?

Berryman et al (1998) argue that this question will help ascertain which business model will be most effective. For example a company with a strong product that is differentiated from the competition perhaps through effective branding may consider, selling from its own Web site, whereas the seller of a product with a deficient market position on the other hand, may attempt to secure a broader reach by entering several marketplace (Watson et al 1998).

Would benefits be gained through a neutral intermediary?

From both a buyer and seller's perspective, there may be several reasons why marketplace administered by a neutral intermediary might be advantageous (Berryman et al 1998). The first is the advantage of scale in transaction processing. An electronic marketplace that only sells caviar, for example, may have inadequate volume to acquire scale in its back –office, but a marketplace that retails all kinds of gourmet food may be achieve greater efficiency. Furthermore, a marketplace that can utilize the same technology to establish markets in different products may have a sizeable cost advantage over marketplaces fixed to single products or industries (Berryman et al 1998). The advantages of scale are therefore likely to drive the emergence of third party, neutral marketplaces that not only bring buyers and sellers together, but can provide a service, supplying facilities such as customer data analysis, payment processing, and logistics (Berryman et al 1998).

A second factor is the value of the information acquired during buying and selling process (Hagel and Singer 1999). A neutral third party intermediary can gather information about buying patterns; this can be analyzed and sold to sellers to help improve their marketing although this is unlikely to occur in buyer or seller controlled marketplace, as there is little reason to pass information on (Berryman et al 1998). Anonymity is a third reason, companies concerns about

competitors having access to sensitive information can be eased in a neutral market in which agents' identities are protected (Berryman et al 1998). In product markets where anonymity is important, both buyers and sellers will congregate to neutral marketplaces (Timmers 1998). Finally, neutral intermediaries can be useful because they understand how Internet e-commerce marketplaces operate, since this is a new channel that requires a specific set of skills and experience, intermediaries may help the participants in a market move promptly up their learning curve (Berryman et al 1998). Using the Porter and Millar (1985) concept of the value chain it is possible to identify the components of the value chain and identify possible ways of integrating information along the chain, while taking into account the number of buyers and sellers, to identify architectures for business models.

VI. TIMMERS'S TEN BUSINESS MODELS

Timmers (1998) identifies ten business models that are currently in use or being experimented with. Using a process of identifying architectures for business models based on value chain de-construction and re-construction. Timmers classifies these models as e-shop, e-procurement, e-auction, e-mall, 3rd party marketplace, virtual communities, value chain service provider, value chain integrator, collaboration platforms and information brokers.

A. E-shop

Usually this is established as a promotional device, but this has now been superseded by the possibility of a transactional site. Timmers (1998) argues that the benefits that can be achieved by the company include increased demand, a low cost way of establishing a global presence, and the cost reduction of sales and promotions. While for customers, the benefits include lower prices in comparison to the traditional method, wider choice, greater information and convenience. The other benefit that can be gained from such a business model is the opportunity for one-to-one marketing if the customer repeats visits.

B. E-procurement

Timmers (1998) defines this as electronic tendering and procurement of goods and services. Large companies or public authorities may try some form of procurement on the Web in order to achieve a wider choice of suppliers and the expected lower cost, better quality, improved delivery and reduced cost of procurement. This may take the form of tendering specs, which can be downloaded by suppliers rather than mailed by post.

C. E-auction

Internet electronic auctions offer an electronic realization of the bidding mechanism also known from traditional auctions. This can be supplemented by multimedia presentation of the goods. Timmers (1998) argues that usually they are not restricted to this single function, but that they may also offer integration of the bidding process with contracting, payments and delivery. The auction provider acquires income form the selling of the technology platform and in transaction fees and advertising. There are increased efficiency benefits to be gained by both suppliers and buyers.

D. E-mall

An electronic mail, in its basic form, consists of a collection of e-shops, usually enhanced by a common umbrella, for example of a well-known brand. It might be enriched by a common guaranteed payment method. By specializing a particular market segment such malls become more of an industry marketplace, for example Industry. Net (www.industry.net). This can add value with virtual community features such as FAQ and discussion forums. The e-mall operator may not necessarily have an interest in any individual business that is being hosted, but instead may seek benefits in improved sales of the supporting technologies, for example IBM with World Avenue. Benefits may also be pursued in services, or in advertising space and/or brand reinforcement. There may be collective benefits for the e-shops that are hosted; this may include increased traffic, with the possibility that visiting one shop on the e-mall will lead to visits to 'neighboring' shops (Timmers 1998). Benefits for the customer are the same benefits gained for each individual e-shop with the additional availability of easy access to other e-shops and through a familiar user interface. When a brand name is used to host the e-mail, this can lead to more trust, and therefore improve readiness to buy (Handy 1995). Benefits for the e-mall members, the e-shops, are

the lower costs gained and complexity of their Web presence, with sophisticated hosting facilities such as electronic payments, and extra traffic generated from other e-shops on the mail or from the attraction of the hosting brand. The e-mall host generates revenues from membership fees, which may include a contribution to software/hardware and set-up cost as well as service fee, advertising, and perhaps a percentage fee on transactions if the mall hosts process payments.

E. Third party marketplace

The third party market place is an emerging model that is appropriate for companies to outsource their Web marketing to third party. This does not mean that it is an exclusive channel to market and may be an add-on to their existing channels. Timmers (1998) contends that they all have a commonality in that they present at least a user interface to the suppliers' product catalogues. Several other features like branding, payment, logistics, ordering, and ultimately the full scale of secure transactions can all be included to third party market places. An example of business to-consumers would be to have mutual marketing around a special one-off event supported by well-known brand names, such as the millennium. Internet Service Providers (ISPs) may be interested in this model for business-to-business utilizing their expertise in building Web architecture. However, it may equally appeal to banks or other value chain service providers. Revenues can be generated on the basis of on off membership fee, service fees transaction fee, or percentage on transaction value.

F. Virtual Communities

Virtual communities are groups of people with common interests and needs who come together on line. The opportunity to share a sense of community with like-minded people, regardless of physical location draws people together. Hagel and Armstrong (1997) argue that virtual communities are more than just a social phenomenon. What begins as a group drawn together by common interests can culminate as a group with a critical mass of purchasing power, partly due to the way that communities allow members to exchange information on, for example, a product's price and quality? Timmer (1998) argues that the ultimate value of virtual communities comes from the participants, who add their information onto a basic environment provided by the virtual community company. Revenue can be generated from membership fees as well as from advertising. Companies with long-term views will recognize that virtual communities actually represent an enormous opportunity to expand their geographic reach at minimal cost. Virtual communities also give companies the chance to understand their customers better than ever before by giving those customers the ability to interact with each other and with companies themselves. Companies that organize virtual communities may be able to use what they learn to crate previously unheard-of-customer loyalty (Hagel and Armstrong 1997).

G. Value Chain Service Provider

Value chain service providers specialize on an individual function for the value chain, such as electronic payments or logistics, with the intention to transform this into their distinct competitive advantage (Timmers 1998). Banks for example have long since been positioning themselves as such, but may find new opportunities using networks. New processes are also emerging in production and stock management systems where new intermediaries offer specialized expertise needed to analyze and fine-tune production (Timmers 1998). A fee or percentage-based scheme is again the basis for revenues. A good example of value chain service providers is the FedEx online package shipping support.

H. Value Chain Integrators

Timmers (1998) views value chain integrators as focusing on the integration of the multiple steps of the value chain, with the potential to exploit the information flow between those steps as further added value. Revenue is generated from either consultancy fees or transaction fees. Timmers (1998) uses the example of Marshall, which provides its customers added value from transaction information, which is provided through extranet solutions like PartnerNet and MarshallNet.

I. Collaborative Platforms

Collaborative platforms supply a set of tools and an information environment for collaboration between organizations. This can focus on specific functions, such as co-operative design and engineering, or in providing project support with a

virtual team of consultant. Business opportunities are in managing the platform (membership/usage fees), and in selling the specialist tools (e.g. for design workflow, document management).

J. Information, Trust and Other Services

A whole range of new information services are emerging, to aid value to the huge amounts of data available on the open networks or coming from integrated business operations, such as information search, e.g. Yahoo (www.yahoo.com) customer profiling, business opportunities brokerage, investment advice etc. Usually information and consultancy have to be directly paid for either through subscription or on a pay-per-use basis, although advertising schemes are also conceivable (Timmers 1998). A special category is trust services, as provided by certification authorities and electronic notaries and other trusted third parties. Revenue is generated from a variety of sources including subscription fees, one off service fees, software sales and consultancy (Watosn et al 1998). An example of a trust service provider is Globalsing (http://www.globalsign.net). Many consultancy and market research companies are now offering commercial business information services via the Internet (Timmers 1998).

VII. SUPPLY CHAIN MANAGEMENT & E-COMMERCE

Supply chain management (SCM) is a generic term that encompasses the co-ordination of order generation, order taking and order fulfillment, distribution of products, services, or information (Kalakota and Whinston 1997). These processes link manufacturers, suppliers' retailers and customers. The objective of trying to manage the supply chain is to gain from the benefits of streamlined movement of goods from production to customer. An integrated supply chain and value chain can therefore be seen as a connected series of organizations resources and activities involved in the creation and delivery of value, in the form of both finished products and services, to end customers.

Management of the supply chain is one area of business that can benefit in these ways from new processes enabled by e-commerce technology. To understand how e-commerce makes a difference in global supply chain management consider the common scenario of the time when products leave a manufacturer and when they arrive on store shelves, this is often an information black hole. Problem with goods delayed in customs, bad weather, or slow shipments from the regional warehouses are not quickly known.

This lack of visibility in the supply chain may cause a company to overcompensate. The reaction may be a decision to order early to protect against delays, but this can result in having expensive inventory sidelined in warehouses. Of course the company could make advance orders for their entire catalogue of items, even though only one of the products is selling well. New orders are based on what has been sold, which does not account of the items still on retail store shelves. In contract to this scenario, companies that practice Web-enabled supply chain management no longer see themselves as standing alone or out of touch. Instead, they focus on their role as part of a supply chain with links to customers, suppliers, and other business partners. This approach requires a shift in focus from a product viewpoint to customer-centric, team-orientated outlook as well as the technology to support such a shift. On its Web site (http:// www. ibm.com), IBM defines e-commerce in terms of business benefits that go beyond improving process to leveraging the Web to bring together customers, vendors suppliers, and employees in ways never before possible, and Web-enabling your business to sell products, improve customer service, and get maximum results from limited resources.

The strategic importance of collaboration to create an integrated approach to the broader supply chain was identified by Carlisle and Parker (1989). They argued that the traditional adversarial relationship between supplier and buyer contained inherent contradictions, which only served to create competitive advantage in the short term. They suggest that the standard approach to price negotiations was limited and that much greater and sustained, direct and indirect benefits could be achieved through collaboration. They further suggest that this approach also offered a serious reduction in business risk through the integration of the supply base rather than its deliberate dislocation from the purchasing organization. Many initiatives have been implemented over the last few years to help manage an integrated approach to the supply chain; these have included just-in-time (JIT), efficient consumer response (ECR) and vendor managed inventory (VMI).

Ultimately these and other initiatives all have a similar goal: to effectively manage the supply chain. The impact of web-based technologies means that sharing and disseminating information across the supply chain can be achieved even more effectively. Companies with a network of suppliers, vendors, and distributors can now gain a fast, efficient way to disseminate information and enable two-way communications. The common limiting factor in developing valuable supply chain strategies has been the lack of information flow across organizations. Now, there are secured and unsecured technological in the form of Internet and the Web and more advanced information systems such as SPA and Oracle, that enable this cross-enterprise communication to a much greater than ever before was possible.

A. Pull versus Push Models

The traditional push-based manufacturing model has been superseded by the pull-based model with the influence of consumer choice on strategy. Consumers have continued to become more demanding because of the wealth of information available to help them make educated and informed decisions. Technology has offered greater consumer choice and this, in turn, has strategic implications for enterprises. The diagram below illustrates the pull versus the push model. The pull concept is a demand driven model, where the customer initiates the supply chain. So by moving through the supermarket check out, the customers purchases trigger product deliveries form the distribution depot and so on down the supply chain, Retailers, as the chief agents of consumers, have also been gaining in the balance of power with other supply chain participants As a result, supply chains are moving toward a 'pull' orientation. This shift to the pull model has meant that many enterprises have experienced a change in their customers' demands with increased quality expectations lower costs, shorter lead time and shorter runs.

Supply chain management takes isolated business functions, for example marketing, purchasing, production and outbound logistics and allows them to function together. This does not have to be limited to one company, but can cover all firms in the supply chain from initial supplier to end customer. In recent years the evolution of world competition over capacity in many manufacturing sectors and the growing demands of customers have created a fast moving environment for many manufacturing companies. These developments have helped to stimulate a continuous change process within the manufacturing sector, impacting on various areas of the business from rapid step changes in the technology employed to shortened product life cycles. The late 1990s can therefore be characterized by change and uncertainty for manufacturing organization and their respective supply chains (Womack and Jones, 1996).

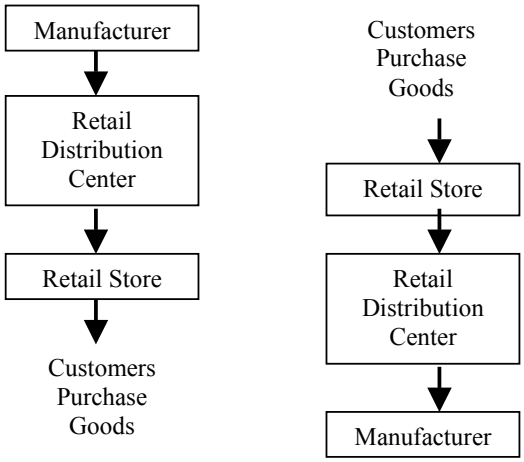

Figure 4: The push versus the pull models

As a result of theses trends the crucial questions that a business has to address have become largely more complicated, Companies are facing difficult decision making with basic questions, such as what to make, how much to make, where to stock it; how much to stock, and how to transport it. Once these initial decisions are made, companies are then under tremendous pressure to be quicker, more efficient and more flexible in the execution of their operations. The ideal solution is the establishment of inter-enterprise linkages, however, the inflexibility and restricted function of most systems has made it extremely costly. The result is that very few inter-enterprise processes have been linked automatically.

The delivery of customer service has intensified in the post-mass production era, creating much management interest in potential areas of time-based competitive practices. The interest has resulted in the development of new; flatter organizational structures new logistical capabilities, such as just-in-time manufacturing (Christopher, 1992, Hill 1985 Womack and Jones

1996). Furthermore, the exceptional speed and amount of change is requiring companies to become more alert, responsive and efficient, or be substituted by ones that are able to strategically plan in this new environment. For example, the market trend to mass customization has created and expanded the number of product options that a company must offer in order to meet the wants and needs to its customers. Consider how the live cycle for a product has shortened, heightening the importance of decisions based on new product launches and the discontinuance of products (Prahalad and Oosterveld 1999).

VIII. GLOBALIZATION

The business and the market have taken on characteristics that are much different than a decade ago (Hamel and Prahalad, 1994). Globalization, frenetic demand for more instantaneous service, and a general communications overload are characteristic of these changes (Gouillart and Kelly, 1995). Globalization also increases the difficult of making strategic decisions. Processing material and information in modern global enterprises is very different from in traditional, vertically integrated businesses. Global companies of all sizes must transcend geographical, functional and enterprise boundaries to include suppliers and customers. For instance, a business must be able to optimize across geographic, plants, shipping costs, labor, tariffs more to determine which plant should fulfil a customer order. Prahalad and Oostervveld (1999) argue that a firm's activities are now conducted at ever-increasing pace with cycle times for product development in most industries becoming shorter and the pressure to build volumes quickly to amortize R & D investments, becoming greater. They state that taking advantage of global markets is one way to build volume. The life cycles of business models and management processes changes, management processes must be constantly evaluated for their relevance (Prahalad and Oosterveld 1999). The global launch of products is a consequence of these pressures.

Standardized technologies alone do not necessarily guarantee successful global implementations. If a company manages to solve the technology standardization issues with sophisticated client/server software solutions, standard ERP applications, and international e-commerce tools for the exchange of information, goods, and orders, this will be ineffectual if the cultural and language issues are not resolved in the technical implementations. Successful globalization requires the management of multilingual and multicultural implementations of applications and data (Baker 1999). Consider the challenge of obtaining a consistent definition of data elements within only one business group. The data definition process can take much skill and patience to bring just one group to consensus. The complexity of the problem is multiplied many times when those same definitions must be shared worldwide among groups with differences in linguistic and cultural routines (Baker 1999). Since every successful global implementation must employ components of the technology that require multilingual and multicultural service and support, there may be opportunity for SMEs that specialist in translation, localization, and cultural practices to thrive as part of the global e-commerce solution.

The need to translate and localize anticipates that the true challenges in the global implantation of e-commerce systems may still centre on culture, not on the employment of new technology (Baker 1999). Notwithstanding the challenges, software standardization and fulfillment of new technologies may actually be relatively easy, compared to the complex cultural management issues involved. Everyone can be given the same applications, but ensuring that those applications are used consistently to benefit the enterprise is much more difficult. Culture, the amalgam of tradition, relationships, and values, shapes business practices and processes in various ways. Cultural variances often make it difficult to obtain consensus and collaboration, no matter what technology is used. The issue is a complex problem with no common solution. The gap between culture, technology, and required knowledge can be tremendous (Baker 1999). Closing this gap requires an understanding of the company's own culture as well as the culture of others.

A. Intranets and Extranets

The intranet as a concept is an internal communications system that uses technology developed for the Internet. Often introduced as basic electronic mail, firms can eventually add scheduling and collaboration applications to create an organization that extends beyond the constraints of buildings and walls, thus producing an

organization built on communications as much as material production. When the move outward includes customers, suppliers and trusted partners, the resulting communications structure is described by a new buzzword: the extranet. An extranet is a private business network of several co-operating organizations located outside the corporate firewall. An extranet service uses existing Internet interactive infrastructure, including standard servers, email clients and Web browsers. This makes extranet far more economical than the creation and maintenance of a proprietary network. In this way extranets are transforming enterprise networking, rather than using proprietary networks to exchange information, companies can now leverage their investments in intranet and internet technology and use extranets to exchange data and share applications with business partners, suppliers, and customers (Moad 1999). It enables trading partners, suppliers and customers with common interests to form a tight business relationship and a strong communication bond.

Although the associated technical and cost advantages are very important, a real significant aspect of an extranet is that it is the first non-proprietary technical tools that can support fast evolution of electronic commerce (Moad 1999). Much of the literature on the impact of the Internet concentrates on retail sales, the use of credit cards and various digital each and payment settlement schemes. However, a genuine revolution over the next three to five years may be seen in systems for global procurement of goods and services at the wholesale level. In this arena extranets can play a critical role. An extranet requires a degree of security and privacy from competitors. They might contain repositories of information and data that could possibly, in the wrong hands, be damaging to the firm. Extranets can be seen as the intersection of a number of different company intranets. Security and privacy is implemented either by ensuring that the transmission lines are privately owned or leased or by using the Internet with password authorization.

In a typical intranet, a local area network (LAN) is established, and a special device, commonly referred to as a Proxy Server, is established to offer one-way (outgoing) access to the Internet by serving as a third-party between the user and the sites the user wants to visit. Sometimes called a firewall, proxy servers trust those on the local network side and do not trust anybody on the Internet, thus disallowing requests from entering in from the outside. Most proxy servers require those on the trusted side to log in as proof of their authorization to use it. Since extranets are concerned with letting third-party users into company networks, they need to be extremely secure, and access needs to be highly controllable. Access control, authentication, encryption, and filtering should therefore all be core elements of a secure extranet (Moad 1999). These are most effective when tightly integrated into a single comprehensive security and management platform (Communications News 1998). Extranet applications could include any of the following:

- Project management for companies collaborating, such as partners
- Online training for resellers
- Sharing information in databases, with different levels of access for different users
- Sharing proprietary ideas with select members of an extranet newsgroup
- Extending ERP of custom applications over the Internet

Extranets, as long as they are secure, enable organizations to manage very specific rules about who has permission to see or use what, and as a result they are giving companies the control they need to share information and gain a competitive edge.

B. Problems

There are many issues that surround extranets, and enterprises should be aware of a few of the major ones. The first, most obvious issue is security (Communications News 1998). Most Information Systems directors would protect themselves against intrusions, but an extranet may provide a significant threat form either disgruntled employees or businesses lacking ethics. A multilevel approach is needed to protect against the outside attacks that can infiltrate any casual protection. Another significant issue affects those whose lives and livelihoods may be affected by a new way of working. There are a lot of barriers to adopting extranets, since they can represent tremendous change (Baker 1999). A lot of resistance can be encountered because there is an elimination of certain power bases. People who have controlled information in the past lose their power and this can be highly threatening to some

people. Legal issues may also be a cause for concern. Business that was previously face to face will now be conducted through a different system and things that were not written down before may now be written and stored. As a result, it may now be possible to capture information that was never possible to capture before. Electronic files are now the only records of contracts in millions of transactions. A contract may now not necessarily be signed in the traditional fashion. How should the law react to commercial society in dealing with electronic commerce?

Finally, even when everyone in an organization supports the initiative to develop an extranet, the magnitude of the change should not be underestimated. It can be tempting to focus on the wrong measures of success when an extranet is created. The natural tendency for management is to be interested in this automation for more transactions. If you do not handle the change correctly, your vendor or customer touch declines, and you lose something. A question posed since automation first entered the sales and marketing arenas is, how much touch can you afford to lose without losing the crucial interactions? If you drive transactions two times their previous rate but lose the contract with the customer, is it a loss you can afford? The creation of an extranet can be placed in the same category of large-scale organizational change that includes reengineering. If the intranet is moved outside the company, it could be compared to a reengineering project. There can be enormous cultural problems and resistance because of the level of changes.

C. Portals

The term portal has become a buzzword and its use has increased in popularity (Stackpol 1999), although the term can be used in different ways, a portal can be defined simply as a gateway defining what that gateway leads to depends on the context. Internet portals like Yahoo and Excite have established and popularized the term, and as their current valuations show, portals are seen as today's pivotal sites. They are conceived in terms of providing entry points to the Internets riches. According to this concept, this would be the first port of call for users as they start their search of the Web (Computer Weekly 1999). Firms have begun to apply the concept to their own intranets in an effort to simplify the access to valuable information. The next logical step is to apply the portal strategy to the extranet market. Eventually, the line between intranet and extranet portals may blur, and portal views and access will vary depending on the end user's relationship to the organization.

The Yahoo portal model may offer features and formatting ideas for any organization, such as simple searches and organized directories, but different business goals will drive business portal developments. For instance, a business portal may become the jumping-off point for customers to complete e-commerce transactions, resellers to access sales tools, and partners to collaborate on co-marketing or engineering strategic. Because of the diverse users involved, for example partners, customers, suppliers and employees, business portals need a robust management and security framework in order to allow varied levels of access to protected resources via one central interface.

If business portals are used as the interface to an IP-based extranet, they have the potential to leverage true resource sharing, which can lead to competitive advantage through increased loyalty from customers and partners. In competitive e-commerce environment where only the fittest survive, making it easy for crucial constituencies to access corporate resources could be the key to staying operative. The drive behind portal initiatives is the hope that a portal will help employees and other portal users overcome the frustrations involved with spending valuable time searching for information, whether it be on the World Wide Web, on a partner extranet, or on the enterprise's intranet. With the emergence of the business portal, users can easily tap into dispersed data and applications form any desktop with network access (Stackpole 1999). One primary concern for firms implementing a portal is how well the end-users will respond to a new kind of resource sharing model. In many ways, knowledge means power and some departments and individuals may have trouble with the concept of sharing the ownership to their resources. It may be necessary to encourage resource sharing through training programs for the internal users.

IX. CONCLUSIONS AND RECOMMENDATIONS

The companies interviewed illustrated various degrees of e-commerce use and exhibited various different strategic perspectives. There certainly

was not a collective consensus on the strategic impact of e-commerce. There was some evidence from all the firms at various stages that concuss with Scholhammer and Kuriloff's (1997) assertion that SME management practice is often based on short-term, informal and hoc lines. Crest's use of e-commerce in manufacturing has great potential in the future, but at the moment there are some to be a lack of integration with the company's overall business strategy. The company's position on the Web site agrees with the contention of Kalakota and Whinston (1997:69). *'Although many corporations have Web pages or are in the process of adding them, not much commerce is being transacted on the Web. Most corporate Web site are being used to provide a presence – marketing in a new medium- for the organization because for now, the Web has mostly information that organization and individuals do not mind giving away. This is expected to change over time'.*

Crest's understanding of how e-commerce fits into the broader context of their business and its strategy is that currently the Internet and the use of e-commerce is not strategic to their core business. The response of Crest to the issue of e-commerce growth is defensive at this time, with the monitoring of the market place and the use of e-commerce at the industry level. The Managing Director is unsure whether the use of a new e-commerce business model in the business-to-business sector is the most attractive of competitive positions. Crest concentrate on the market position as the starting point for considering strategy and since there is an inherent imitable element to many e-commerce initiatives, the company do not consider that it will provide them with enough differentiation to create sustainable competitive advantage. However, from the outside-in perspective, the company may be missing the opportunity to enhance a cost leadership strategy through the utilization of e-commerce initiatives for cost reduction and the possibility of switching their customer behavior from an existing channel to a lower cost one (Mougayer 1998).

There was certainly evidence from Crest and Grey Cells to support Malone's (1985) contention that historically, managers in SMEs have had reservations regarding information systems usage, i.e. a lack of resources needed for implementation, a lack of formalized systems and the short management time frame characteristic of the SME business environment. Malone (1985) found that SME business managers rated accounting and inventory control functions as the most important computer application, and reported that inventory control was the most problematic area of computer usage. Grey Cells may also share some sympathy with Grant's (1991) view that since technologies are continually evolving an externally focused orientation does not provide secure foundation for long term strategy formulation. Grey Cells prefer to remain focused on their resource base of knowledge experience and expertise in commercial advising and select markets to take advantage of these particular strengths. However, Grey Cells should not ignore the risk of negative exposure identified by Rumelt (1996) where the company is reluctant to move to other e-commerce enabled competence that the market may require in the future. The cost of creating an e-commerce initiative was an issue for Grey Cells, and it is debatable whether Crest would have a Web site if financial justification had been needed. Even through the technology is cheaper than ever before, it still remains a significant investment. Like many SMEs, Crest and Grey Cells may be too busy surviving to invest time in IT project despite the fact that it takes only one failed introduction of technology to be fatal to the SME that starts out lacking adequate financial and production cushioning (Scholhammer and Kuriloff 1997). This may indicate that SMEs do not have the resource to train existing staff or purchase technology skills in the marketplace.

Conversely, The Hub regards technology as a core to its business and therefore skills are actively recruited and promoted. This is in accordance with Grant (1991) who regards a pre-requisite of replenishing a firm's resources and capabilities as strategic direction. Especially in terms of the capabilities that will be the basis of the competitive advantage in the future. The Hub's core competencies, in the terms of Hamel and Prahalad, are a commitment to the direction of future development. It should be noted that form the resource-based view, the identification of inimitable resources or core competencies does not constitute the development of a strategy. The identification of competencies and resources should signal the beginning of the strategy formation process. The Hub should use the e-commerce enhanced resources and competencies it has developed as basic building blocks, which are, leveraged through the strategy development and

implementation processes. If there is a common denominator in the strategic impact of information technology and e-commerce initiative, it is that companies can gain the biggest benefits not by superimposing computers on top of old work processes, but by restructuring those processes and the company culture. This strategy over time should help to develop new business capacities.

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