Flexibility in e-Business Strategies:
A Requirement for Success

Gokul Bhandari
bhandag@mcmaster.ca

Michael Bliemel
bliememf@mcmaster.ca

Allan Harold
haroldas@mcmaster.ca

Khaled Hassanein*, Corresponding Author
hassank@mcmaster.ca

* DeGroote School of Business
McMaster University
1280 Main St. West
Hamilton Ontario, Canada L8S 4M4
Phone: (905) 525-9140 ext. 23956
Fax: (905) 521-8995

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Abstract

The complex and transient nature of the environment faced by e-Business ventures poses a challenge to organizations trying to formulate and implement strategies that are flexible enough to anticipate and react to the rapidly unfolding changes in this environment. In this paper we outline the main areas of flexibility requirements for organizations in the emerging economy. Traditional and more recent approaches to strategy are reviewed in terms of their characteristics and flexibility. Strategic imperatives and flexibility requirements are then derived for e-Business firms at different stages of maturity and linked to appropriate approaches to strategy setting. Creative exercises such as experimentation and scenario planning are then presented as being essential tools for expanding the knowledge base of firms yielding them more strategic options leading to more flexibility.

Key Words

e-Business , Flexible strategy, Strategy formulation, Strategy implementation, Strategic attributes, Flexibility requirements, Technology, Competition, Collaboration, Knowledge, Innovation, Scenario planning.

1.0 Introduction

Firms operating in today's economy are experiencing increased pressures due to several factors including a rapidly changing business environment, shorter product life cycles, increasingly demanding and less loyal customers with rapidly evolving preferences, and fiercer competition (Bucki & Pesqueux, 2000; Dryer & Gronhaug, 2004). These trends are motivated by an increasingly global economy, deregulation in many industries, and fast developments in information technologies that enable new business models and novel forms of collaboration and competition. This is especially the case for firms that operate within an online environment which is characterized by lower switching costs, lower barriers to entry, more substitution threats, quickly changing regulations and increased competition due to lower differentiation and increased geographic reach (Porter, 2001).

The dilemma facing managers of e-Business organizations operating in such an unstable environment is that there seems to be little value in coming up with a comprehensive business strategy if it is almost certain that it will become obsolete in the near future. However, the danger inherent in not having a business strategy is that success will most likely be achieved only by accident (Porter, 2001). The negative impact of such an approach has been demonstrated in the recent failure of many dot-com startups.

The traditional approaches to strategic planning by looking to industry structure for opportunities and threats, and internally to the firm for strengths and weaknesses have been called into question because of their lack of flexibility to respond to radical changes in the external environment (Salmela & Spil, 2002). Consequently, much research has demonstrated the importance of flexibility for firms to prosper in turbulent environments (e.g. Yeo & Qui, 2003; Knot, Van den Ende & Vergragt, 2001; & Dryer & Gronhaug, 2004).

Flexibility within a business context is a rather complex concept to define as it incorporates several dimensions (Shi & Daniels, 2003; Dryer & Gronhaug, 2004). Traditionally, flexibility tended to focus on the ability of firms to adjust their manufacturing volumes to varying market demand. However, more recently, the concept of flexibility has been extended to incorporate the ability of firms to develop new products, enter new markets and industries (Dryer & Gronhaug, 2004). Bucki & Pesqueux (2000, p. 2) define flexibility as "the ability to adapt in a reversible manner to an existing situation". Shi & Daniels (2003, p. 414) review various definitions of flexibility from the literature and define flexibility within an e-Business context as "an effective means by which an e-business can hedge against uncertainty in a swiftly changing environment"

This paper will explore the characteristics of the emerging economy and outline their implications to the need for flexibility in various areas of e-Business strategy (Section 2). The three predominant traditional approaches to strategy (Industry Structure, Resource-based, and Dynamic Capabilities) will then be reviewed and contrasted to the strategy as simple rules approach in section 3. In Section 4, we present an analysis of the characteristics of e-Business firms at various levels of maturity and outline the corresponding strategic imperatives and flexibility requirements. We also explore various means for realizing flexibility in strategy formulation and implementation. The paper ends with some conclusions in Section 5.

2.0 The Emerging Economy and the Need for Flexible Strategies

While the Internet has the potential to bring about the fundamental technological, social and economic changes that support innovation, efficiency, opportunity, and a level-playing field, it also poses several challenges for corporations. These challenges include hyper-competition from all corners of the world, uncertainty in the nature of product and service offerings, and the absolute necessity to perceive and respond quickly to changing environments (Whinston, Stahl, & Choi, 1997).

As such, the new market dynamics in the emerging economy stipulates that a corporation must define its industry, competition, customers, and boundaries in ways different from those governed by traditional industry rules. For example, in traditional strategic analysis approaches, an industry is assumed to be vendor-defined where players are faced with direct competition, whereas new rules for the emerging economy require that it be thought of as customer-focused where payers are prepared for collaboration and co-opetition. In such an environment competition becomes based on rapidly reconfigurable value chains as opposed to being between individual companies (Rayport & Jaworski, 2001). While very few industries could be considered global previously, almost all industries now have the potential for global reach and while the extent of vertical integration determined the limits previously, networks determine the boundaries in the emerging economy. One implication of this paradigm shift is that companies must incorporate into their strategy such measures of local adaptation as languages, demographics, currencies, attitudes toward pricing and quality, payment systems, local consumer tastes and habits, differences in national regulations (Guillen, 2002), and policy issues such as consumer privacy, taxation, fraud, intellectual property protection, and conflicts of international law (Jarvenpaa & Tiller, 1999). According to Forrester Research (2000), e-Business companies in the U.S. cannot fulfill about 46% of orders placed by foreign customers due to these reasons. Recent localization efforts made by Yahoo!, eBay, Amazon, Google etc. are a testimony of this necessity.

In order to meet the above challenges, companies must be flexible in three main dimensions that relate to their product/service offerings, their technology infrastructure and their collaboration strategies. The later two dimensions are required for the effective delivery of their value proposition to their different customer segments. Below, we explore the flexibility requirements in each of these areas in more detail.

2.1 Flexibility in Product Offerings

Products, hereafter, refer to both goods and services offered by companies to their customers. Companies must be flexible in their product offerings because one standard cannot meet the different needs, tastes, and expectations of an increasingly segmented and global customer base. Flexibility, in this context refers to the ability of a company to meet this challenge within the overall framework of its business strategy. The capacity and speed of product innovation is an attribute of such flexibility.

The ability to meet the rapidly changing and evolving customer needs comes from sustained innovation efforts. One source for innovation is the individual and collective expertise of employees. The tacit dimension of such expertise is also a source of competitive advantage as it cannot be easily imitated (Leonard & Sensiper, 1998). The Internet channel has allowed e-Businesses an unprecedented opportunity to capture all aspects of the consumer experience on their Websites. Hence, another source of innovation comes from the knowledge regarding customers' experiences, responses, needs and expectations. Companies must make a deliberate and formal effort to capture, manage, and disseminate this knowledge so that innovation can actually be realized and translated into compelling product offerings. Companies must see such knowledge as the key strategic resource and align its corporate strategy with its knowledge acquisition and management strategies (Winter, 1987).

2.2 Flexibility in Technology

Many studies in the past have shown that organizations can use technology as a resource to gain competitive advantage (Clemons, 1991; Clemons & Row, 1991; Parsons, 1983). Technology, which is the primary force behind the emergence of the new economy, has become not only a means of production but also a main component of service, relationship building, collaboration, and co-existence. In this context, the importance of flexibility in technology cannot be overemphasized. Byrd and Turner (2001) identify several dimensions of technological flexibility such as data transparency, compatibility, application functionality, connectivity, technical skills, boundary skills, functional skills, and technology management. They also observe that the flexibility in technology as measured by integration, modularity, and IT personnel flexibility is positively correlated to an organization's innovativeness, mass customization, market position, and difficulty to duplicate. Malhotra (2001) identifies technology flexibility as the ability to cope with the integration of new e-Business applications with the existing brick-and-mortar infrastructures. Such integration entails flawless fusion of enterprise resource planning, supply chain management, and customer relationship management, which is not possible without having integration standards, network capacity, data storage capacity, and processing power. Gronhaug (1999) links technological flexibility with product and services flexibility by using the open-system metaphor (Katz & Kahn, 1966) in which organizations are viewed as input-throughput-output systems. Flexibility in formulating and executing a technology strategy, which is critical to achieving a sustained competitive advantage for firms in the new market environment, must address such issues as:

- Impact of technological change within the organization –Drastic technological change can convert yesterday's core competence into a core burden today, which makes it necessary to examine how a company's core competence is related to technology and to determine the company's acceptable level of reliance on technology. While technology (e.g. e-mail, Groupware, etc.) can play an important role in building a positive and learning corporate culture, it can also pose challenges related to human factors associated with the effective adoption and use of technology to enhance productivity.
- Impact of technological change on the market – Technological change can exert a huge impact on the market by directly affecting the size and nature of customers, partners/suppliers competitors, and products. Companies must examine different dimensions of potential technological changes and their implications, while formulating its technology strategy.

The ability to exploit technology both inside and outside the company to gain a sustained competitive advantage is possible only when companies have flexible strategies in terms of acquiring and exploiting technology infrastructure.

2.3 Flexibility in collaboration

Collaboration and alliances are necessary because e-Business companies cannot do everything themselves (Hagel & Singer, 1999). Potential collaboration in e-Business generally includes content providers, IT vendors and software developers, suppliers, and intermediaries (Sculley, Woods & Woods, 2002). The right collaboration can help gain the trust of other players in the market as well as early liquidity in the e-Business (Brunn, Jensen, & Skogaard, 2002). Based on the survey conducted in the grocery industry, researchers found collaboration in B2B commerce to be the real source of performance improvement (Lee, Pak, and Lee, 2003).

Alliances, which refer to several governance modalities that range from relational contracting to licensing, to logistical supply-chain relationships, to equity joint ventures (Gulati and Singh 1998) is also becoming important due to the complexity and global reach of e-Businesses. In the period 1987-1997, the number of alliances grew at 25% per year (Harbison & Pekar, 1997) as alliances are viewed as a means of adding value to firms and a central element to strategy (Lorange & Roos, 1992). Strategic alliances are more likely to involve competitors (Duysters, Kok & Vaandrager, 2000). Contractor and Lorange (2002) suggest that the role of inter-organizational cooperation will grow in the future due to three broad reasons: regulatory factors, changes in the business and economic environment, and changes in industry practice and strategy. Companies must have flexibility in their alliance strategies to allow them to form quickly and effectively virtual supply chains that may transcend industry and national boundaries overcoming regulatory hurdles.

Another difficulty in the electronic marketplace is that there may be uncertainty about the quality of products since customers cannot see and touch the product to the extent they can in a physical store. This information asymmetry, which is known as the problem of Lemon markets (Akerlof, 1970), suggests that incorporating quality alone is not sufficient and companies must find ways to guarantee the quality of their products and services through intermediaries. According to Sarkar et al. (1995), intermediaries in electronic commerce provide consumers such services as independent product evaluation, needs assessment, product matching and aggregation. However, an intermediary's privileged position may introduce biases and inhibit the smooth flow of information between vendor and consumer (Ehrlich & Cash, 1999) and as such, consumers may not trust them. Also, intermediaries need to renew organizational skills, resources and functional competencies to sustain the advantages that they build (Teece, Pisano & Shuen, 1997).

Flexibility in forming strategic alliances must address issues such as:

- The nature of collaboration – As the nature of competition becomes increasingly based on rapidly reconfigurable value chains (Rayport & Jaworski 2001), e-Businesses must decide on the nature of the collaboration with different partners (e.g. whether it is short-term or long-term), and the organizational structures that will govern such collaborations. They also must examine how such collaborations will affect the company's brand image.
- Mechanisms of quality assurance – Digital intermediaries, who assure quality for the company's products and services, should be considered strategic partners because they can play a critical role in building brand image and enhancing customer satisfaction and loyalty.

The capacity of forming collaboration and alliances maintaining a strong brand image is possible only when companies can afford to be flexible in strategies related to the above issues.

3.0 Approaches to Strategy

Literature on business strategy provides three predominant approaches or views on how competitive advantages can be achieved and sustained (Teece, Pisano & Shuen, 1997). These approaches to strategy are the industry structure based view, the resource-based view, and the dynamic capabilities based view. They each have different strengths and various limitations to their applicability in unstable environments. This section will review each in turn, before introducing the strategy as simple rules approach that is derived from the need for flexibility and the realization that in practice, strategies grow and adapt to changing unstable environments. This section will conclude with an illustration of the key attributes of each of these four approaches and their implications to flexibility in formulating and implementing strategies in organizations.

3.1 The Industry Structure Approach

While fluctuations in economic conditions can affect the profitability of a firm in the short run, it is industry structure that determines limits to profitability, and the extent to which a firm can find a position within that industry to best cope with the competitive forces. This determines the profitability of a firm over the longer term (Porter, 1980). It follows then that the starting point for strategic analysis is industry structure, which elucidates the opportunities and threats. Competitive strategy is the position a firm takes relative to the five competitive forces (Threat of substitutes to the products/services offered by the firm, power of suppliers, power of customers, degree of rivalry within industry, and the treat of new entrants). In this framework, a defensive strategy would be formulated by positioning the firm within the existing forces, and an offensive strategy would seek to influence the balance of the competitive forces.

Porter (1996) seeks to differentiate between operational effectiveness and strategy by asserting that higher than average prices can be charged by competitive positioning and delivering higher value, but that greater operational efficiency can only generate lower average costs. Similarly, a definition is offered that positioning is doing different activities in different ways, but operational effectiveness is doing similar activities better than competitors. "… Strategic positions should have a life time of a decade or more, not of a single planning cycle" (Porter, 1996). Therefore, by this definition, operational effectiveness is reduced in ranking towards tactics, and is necessary but not sufficient for superior overall performance.

More recently and specifically addressing the formulation of e-Business strategy, Porter (2001) reasserts that the old rules still apply, and that the Internet did not change everything. The business's experience with the Internet to date has shown that we are in a period of transition, creating the artificial situations that dissipate the visibility of the old rules. If the old rules are still in effect, then Porter's thinking on strategic positioning should still be relevant. The Internet will not normally confer a competitive advantage, and in most cases will increase competition, and therefore reduce profitability within an industry. This is the case where the Internet is used within an existing industry. The argument is made that the Internet for the most part enhances operational effectiveness, which is not sufficient to provide competitive advantage. Where entirely new industries or markets have been created, such as online auctions, then in that instance it can be used to achieve a competitive advantage.

Common criticisms of the industry structure approach are that it down plays or ignores the firm's contribution to profitability, and that the focus on industry misses competitors emerging from other unrelated industries. The industry structure view also has low flexibility in both the strategy and decision making dimensions. The long term planning horizon of five to 10 years, hierarchical decision-making, and an assumption of relatively slow changes in the environment are key elements of this approach. The expectation is that by achieving a competitive advantage by industry positioning, the organization can expect relatively stable revenues, and therefore has a reduced need for flexibility. In other words, rather than design the organization for flexibility, design the organization to have a reduced need for flexibility.

3.2 The Resource-based Approach

The resource-based view asserts that a firm's resources are what drive its performance in a dynamic competitive environment (Collis & Montgomery, 1995). The industry structure approach may give average profitability to firms in an industry, but the resources of a firm give it its competitive advantage. For a resource to qualify as the basis for an effective strategy, five tests are made: inimitability, durability, appropriability, substitutability, and competitive superiority. Resources can be physical, or intangible.

The resource-based view moves the focus away from industry structure to the firm as the basis for profitability. That profitability is derived from scarce firm specific resources (Teece, Pisano & Shuen, 1997). The approach to a new venture from the resource-based view, would be to first identify the firm's unique resources, then to look for markets where these resources would yield the highest returns.

The underlying assumption is that the acquisition or development of capabilities and resources is difficult, and must be built and cannot be bought, and therefore strategies that cannot easily be duplicated are possible (Eisenhardt & Martin, 2000). An older study by Porter of large U.S. firms showed that most companies that attempted to diversify by acquisition divested more acquisitions than they kept, and dissipated shareholder value (Porter, 1987). Additionally, a commonly held belief in equity markets is that there is a discount for conglomerates. Both arguments support the statement that capabilities cannot be bought. If acquiring resources is difficult, then forming partnerships may be a more attractive option, and is suggested as one of the capabilities that is facilitated by the Internet economy.

The acquisition of resources is a centralized decision in the resource-based view, and therefore indicates that strategic planning and decision making are still relatively low in flexibility, but higher than that of the industry structure view. This view assumes that the environment is more dynamic, and that the organization can also move between markets.

3.3 The Dynamic Capabilities Approach

This approach extends the resource-based view to address environments of rapid change by introducing dynamic capabilities (Teece, Pisano & Shuen, 1997). This approach continues the concept that enduring advantage is through a firm's efficiency and effectiveness. This concept can be seen working in areas such as research and development, product development, technology transfer or rapid technological change. In order for a firm to take advantage of a new opportunity, it must consider its current processes, the current state of its capabilities and resources, and the paths or options available to it, from that position. Dynamic capabilities are frequently used to build new resource configurations to take temporary advantage of an opportunity, and is most appropriate in moderately dynamic to high velocity markets.

To further explore the difference between resources and dynamic capabilities, Makadok (2001) developed a theoretical treatment of the two concepts. A key concept that emerged, in this work, is that capabilities can only be developed after the acquisition of the underlying resource. This reinforces the view that capabilities are the deployment of resources, and gives credence to the view that capabilities are internal to the firm and cannot be bought, short of buying the firm. The implication for the dynamic capabilities view is that for the rapid exploitation of an opportunity, the needed resources can be bought, but the capabilities (in the form of processes and systems) must already be in place in order to utilize the resource.

The dynamic capabilities approach requires the organization to design their processes and system for rapidly changing environments. This results in greater flexibility in the implementation of the resulting strategy, but maintains a centralized decision making process. This approach increases the overall flexibility of a firm over the resource-based view.

The end position in the development of this concept is reached in high velocity markets where strategy is based on simple rules (Eisenhardt & Sull, 2001), with the rules being based on a thorough understanding of a firm's resources and capabilities. In the next subsection we will examine this simple rules approach to strategy and show how it is an emergent strategy with the ability to accommodate uncertainty.

3.4 The Strategy as Simple Rules Approach

Another way to view dynamic capabilities is that strategy differs in its plans and implementation, as was explored by Mintzberg and Waters (1985). In their research they defined strategy as a pattern in a stream of decisions, and identified two different poles of the strategy continuum: the first being the perfectly deliberate strategy, where the realized strategy came about exactly as intended, and the second pole is the perfectly emergent strategy, where the realized strategy came about out of a complete lack of intentions. Neither of these poles is likely to exist in organizations, because the first assumes that everything is controllable and predictable, and the second pole assumes that a consistent pattern in a stream of decisions can come about from a total lack of intentions. Mintzberg and Waters recognized that strategies lie within these poles, and identified eight different categories of strategies.

Of the strategies identified by Mintzberg and Waters (1985), umbrella strategies seem to be the best suited for organizations competing in turbulent environments. This is because umbrella strategies are ‘deliberately emergent’. These umbrella strategies acknowledge that because of the complexities and variations in the environments, centralized control of all decisions is impossible. This does not mean that organizations give up on planning altogether; instead their strategies are guided by the constraints that their leaders impose on the actors making the decisions. Hence, realized umbrella strategies are partly emergent from the decisions made by individual actors, and partly deliberate through the constraints imposed on the actors by the organization’s leaders.

Interestingly, Mintzberg and Waters (1985) recognized that deliberately emergent strategy being best suited for organizations in turbulent environments. A recent version of deliberately emergent strategy is “Strategy as Simple Rules” (Eisenhardt & Sull, 2001). Here the constraints guiding the strategy of the organization are formulated as simple rules intended to give functional managers flexibility and focus in decision-making.

These rules facilitate rapid response to changing and uncertain environments through decentralized decision making.

Eisenhardt and Sull (2001) categorize these rules as: how-to-rules, boundary rules, priority rules, timing rules and exit rules. The purpose of these rules is to enable processes that determine which opportunities should be seized, how it should be done, how to synchronize efforts within the organization, and when to abandon opportunities. Since these rules provide functional managers a higher degree of autonomy within the organization, the desired effect of the “strategy as simple rules” is for better, more creative decision-making. As the changes in industry structure or the competitive landscape become apparent, managers can act quickly to seize business opportunities because they are not bound by traditional strategic planning cycles.

The strategy as simple rules approach moves a large part of the decision making process to operational levels of the organization, and removes a large part of the strategic planning process, resulting in a highly flexible organization. Of the four approaches to strategy reviewed, this is the most flexible. This does not necessarily mean that it is the best approach for e-Business strategy, as it is obvious that different firms have different needs and priorities. In Section 4 we investigate this issue in more detail.

3.5 A Comparative Summary of Strategic Approaches

The preceding review of approaches to strategy formulation and implementation has shown the development of thinking over the past few decades in this area, and how early work has been continuously updated to remain relevant. We have summarized the key attributes of each approach to strategy in Table 1.

Competitive advantage and the source of profits are the signature attributes of each approach. It is critical that organizations ensure that they are internally consistent on these two attributes; for example, seeking to exploit short-term market anomalies is antithetical to industry positioning.

The time frame for strategy and the flexibility in strategy formulation are the inverse of each other. The industry structure approach expects that a strategy should be good for 5-10 years, and therefore the requirement for flexibility is low. At the other end of the spectrum, where high flexibility in strategy formulation is required, the expectation is that the strategy's life span is short.

The industry structure approach tends to be a top down process for the development of strategy, which complements a hierarchical organizational structure, typically resulting in low flexibility in strategy implementation. Likewise, the resource-based approach allows little flexibility at the strategy formulation stage as it is based on the long term development and optimized deployment of resources. The dynamic capabilities approach recognizes the changing nature of capabilities, yet tries to plan in the long term; therefore it allows a medium amount of flexibility in strategy formulation. The simple rules approach places the least amount of emphasis on year to year planning, resulting in the highest degree of flexibility in strategy formulation compared to the other approaches.

Table 1: Approaches to Strategy Formulation and Implementation

Attributes	Industry Structure	Resource Based	Dynamic Capabilities	Simple Rules
Competitive Advantage	Industry Positioning	Difficult to replicate resources	Difficult to replicate capabilities	First to exploit opportunity
Source of Profits	Monopoly Rents	Efficiencies within the firm	Efficiencies within the firm	Exploit short term market anomalies
Time Frame for Strategy	5-10 years	5-10 years	2-5 years	0-2 years
Flexibility in Strategy Formulation	Low	Low	Medium	High
Flexibility in Strategy Implementation	Low - Hierarchal	Medium - Centralized	High - Centralized	High -Decentralized
Issue(s) Addressed	Focus on source of profits and competitive forces	Contribution of internal resources	Contribution of internal processes	New Markets, New Products, New Business Models
Weakness(es)	Low emphasis on internal capabilities of firm	Low ability to compete in volatile markets	Slow response time to new opportunities and threats	Risk of too much experimentation

It is important to bear in mind that these different approaches all utilize the tools that are typical to business plan development at the strategy formulation stage, even though the tools were originally developed from one approach or another. For example, the widely used SWOT analysis examines the strengths and weaknesses of a firm (derived from the resource-based approach), and opportunities and threats (derived from the industry structure approach). Strategy formulation requires the structured knowledge gained from applying these business planning tools in order to assess the current state of the business and create the educated predictions about the future which are essential in developing a strategic plan, according to the methodology of each approach. So, for instance, when formulating a business strategy using the simple rules approach, management will examine the structure of the industry it is in, its resources, and capabilities before formulating their strategy in the shape of simple rules.

The industry structure approach allows little flexibility in strategy implementation because of its hierarchal decision making structure. The resource-based approach allows a medium degree of flexibility in strategy implementation because of the centralized control mechanisms utilized to foster operational efficiency and acceptance of the fact that the firm will sometimes move between markets if it can do so efficiently. Although the dynamic capabilities approach still maintains a centralized decision making mechanism, it has a high degree of flexibility in strategy implementation because it is more outwardly focused, recognizing that it has unique capabilities in an unstable environment that continuously presents new challenges and opportunities. Similarly, the simple rules approach enables a high degree of flexibility in strategy implementation through its persistent environmental scanning and decentralized management structure.

The approaches to strategy formulation and implementation have been developed to meet existing issues, weaknesses in existing approaches, changing needs, and advances in strategic thinking. To reflect this, the attribute rows for issues addressed and weaknesses should be read from left to right, with the understanding that an approach has dealt with the issues and weaknesses to its left. This should not be taken to imply that the furthest right approach is necessarily the most highly developed, since if simple rules are taken to excess they result in no strategy at all. In the same way that there is not one right approach, there is not a requirement that an organization use only one approach, either at the same time or over time. For example a mature firm may establish a stand alone e-Business with its own strategic approach that may well be simple rules, maintaining a resource-based approach at the parent firm. As the e-Business, and its market mature, you may see the e-Business move towards the parent firms approach over time.

4.0 Flexibility in e-Business Strategy

The complex and transient nature of the environments faced by e-Business ventures, as described in Section 2, poses a constant challenge to organizations trying to formulate and implement an e-Business strategy that is flexible enough to anticipate and react to external changes as well as provide the strategic direction needed for success (Smith, 2000). In this section we start by examining the combined strategic attributes of e-Business firms at different stages of maturity to see what their strategic imperatives are. We then proceed to link those imperatives to specific flexibility requirements and outline which strategy approaches are best for firms at different stages of their development. We also show how creative approaches, such as experimentation and scenario planning, can increase flexibility and suggest what additional actions must be taken to refine e-Business strategy implementation through increasing knowledge in organizations about the dynamics of their environment.

4.1 Flexibility Requirements for Different e-Business Firms

When considering the different approaches to business strategy available to e-Business firms, it is important to take into account that every firm has a unique combination of business model, capabilities and resources. The flexibility and creativity enabled by the dynamic capabilities and simple rules approaches to strategic planning is beneficial to firms, as it allows them to cope with the uncertainty of changing environments. It must be said that not every kind of firm is best off using the strategy as simple rules or the dynamic capabilities approach to strategy formulation and implementation. The trade-offs that come with these approaches to strategy are that the utilization of resources is not as efficient as with some of the more ‘traditional’ approaches to strategy, and that the higher degree of flexibility leads to less focused strategic planning.

To bring this into perspective it is useful to examine the different strategic imperatives for e-Businesses at different stages of maturity as shown by Rayport & Jaworski (2001, p. 333). Table 2 illustrates the differences between e-Businesses at different stages of their lifecycle in terms of their growth patterns, products and knowledge of their markets, and competitive positions. The combination of these attributes determines what the strategic imperatives for each of the different types of business are. These strategic imperatives have different flexibility requirements for which some approaches to strategy are more suitable. Note that the use of the term 'products' refers to tangible products, digital products and also services in the following discussion.

Table 2: Requirements for Flexibility and Choice of Strategic Approach

Lifecycle Stage*	Startup/Beta →	Customer Acquisition →	Monetization →	Maturity
	6 Months-1 Year	*1 Year-2 Years*	*2 Years-5 Years*	*> 5 Years*
Typical Growth Pattern	Exploiting niche opportunities in new markets/products	Extending product offerings and expanding markets	Increasing market share through complementary products and new markets	Defending market share, growth by acquisition, introduction of complementary products
Products / Information Gap	High Market/technical uncertainty, few products	Good knowledge of existing business, less known about new areas	Existing product lines, good knowledge of markets and technology	High knowledge of markets, wide range of products
Competitive Position	Low industry power, susceptible to changes in the environment, relying on limited product offering	Low power in industry, vulnerable to drastic changes in environment	Medium degree of power, susceptible to juggernaughts, specialists and sudden shifts in the environment	Substantial presence in industry, price maker, vulnerable to specialists
Strategic Imperatives*	Develop a platform for rapid growth by building a strong team and creating a flexible site	Build market share as quickly as possible by aggressively spending on partnerships and promotion	Increase revenues and customer lock-in by developing new revenue streams	Control costs and optimize marketing expenditures to achieve profitable growth
Flexibility Requirements	High Product High Technology High Collaborative	Medium Product Medium Technology High Collaborative	Medium Product Lower Technology Medium Collaborative	Lower Product Lower Technology Lower Collaborative
Strategic Approach	**Simple Rules**	**Simple Rules/ Dynamic Capabilities**	**Dynamic Capabilities**	**Industry Structure / Resource Based**

Increasing Stability and Expectations for Consistent ROI →

← **Increasing Uncertainty and need for Flexibility**

* from Rayport and Jaworski 2001, p. 333

E-Businesses at the **Startup/Beta** phase typically grow by exploiting opportunities in changing environments with new products that fulfill previously unmet needs. They face the challenge of high degrees of product and technological uncertainty, which combined with the limited size of their product offering, exposes them to high risk. They have very little power to influence the industry or environment that they operate in due to their small size. They are highly vulnerable to unforeseen changes in their environment, whether from new consumer preferences, new products competing with their own, or changes in the value chain. Thus the strategic imperatives for new ventures are to launch their products quickly to exploit their business opportunity before someone else does or the opportunity fades. Since they face high uncertainty about their markets and the potential of their products, they must be highly flexible to make adjustments to their business models as they gain further insights about their markets, products, environments, and competition. For these reasons, the strategy as simple rules approach is the most suitable approach for startups in order to cope with uncertainty, yet have the strategic direction they need to succeed.

Once e-Business ventures have already successfully launched their first products, they enter the **customer acquisition** phase of their life-cycle, and typically grow by expanding their market and by extending their product offering. They have already gained a fair degree of knowledge about their existing market space and technology, but usually face new uncertainties around the areas they plan to grow into. These young firms only have a little power to change the rules in their industry, and must be wary of how they use it. E-Businesses at this stage often pursue a low-cost negative profit margin business model in order to 'get big fast'. They need to be certain that their business model in fact has scale economics or they will fail (Oliva, 2003). Typically their past success has drawn the attention of larger firms operating in the same or a tangential industry, who may enter the same market as the young firm. For the young firm the arrival of such a new entrant can bring about devastating changes to its business environment. Changes in technology and consumer preferences can also prompt the young venture to reconsider the validity of its business strategy. Flexibility in business strategy is crucial to young e-Commerce firms as they focus on growth through new products and markets, while refining their operations to improve profitability. Their planning horizon is still short term, as the uncertainties of their business environments make it difficult at best to predict the outcome of their endeavors. They require a medium degree of flexibility when it comes to making strategic decisions regarding their products and choice of technologies. Although their recent successes have let them establish a competitive position for themselves, they still need to be wary of changes in their industry and thus require a high degree of collaborative flexibility. The strategic approaches suitable for this kind of firm are dynamic capabilities or simple rules, as these allow high degrees of flexibility.

Once e-Businesses further mature, they enter a phase of **monetization**, where they typically grow by increasing market share through marketing efforts, offering complementary products, and expanding into new markets. These kinds of businesses have a good understanding of their markets, technology and industry through their history of operations. Although they have a medium degree of power to influence their industry, they still face threats from niche serving competitors and from the giants in their industry (Lumpkin, Droege, & Dess, 2002). Sudden changes in business environment are also threats that these kinds of firms must anticipate and be ready to adapt to. Their strategic imperatives are to lock in their customers and increase their market share, while keeping abreast with new developments in their industries and remaining prepared to adjust their business models to take advantage of them. These strategic imperatives require medium degrees of product and collaborative flexibility, and lower technological flexibility, since they are already established in terms of their business model. For these kinds of firms, the dynamic capabilities approach to strategic planning is the most suitable as it provides them with flexibility to cope with changes and the centralized control needed to focus decision making towards the longer term business strategy.

Mature e-Businesses typically grow by defending their market share, and introducing complementary products, while making strategic acquisitions of smaller businesses that fit their portfolio. These firms have a wide range of products and a high degree of knowledge about their customers, markets, and products which allows them the ability to manage their operational efficiency in minute detail (Tung-lung, Chang, & Ping Li, 2003). Through their size they have a substantial presence in their industry that allows them to be a price maker. These large businesses can still be vulnerable to rival specialist businesses that focus on the more profitable market segments. Their strategic imperatives are to their stakeholders who expect them to produce consistent returns on investments by protecting their market share and improving their operational efficiencies. These kinds of businesses have the luxury of being less vulnerable to changes in their environments than younger e-Businesses because of their considerable power in shaping their industry structure. These mature organizations require far less flexibility along all aspects, since they have significant power within the industry, and can utilize it to force suppliers and distributors to adopt their ways of doing things. For them, long term strategic planning is possible and therefore the traditional industry structure or resource-based approaches to strategy are the most suitable to help mature e-Businesses focus on operational efficiency and profitability.

Throughout this analysis it becomes evident that the uncertainties decrease for more mature firms, as they have longer operating histories and more knowledge and influence in their industries. The younger ventures face a much higher degree of uncertainty for their business and therefore require more flexibility in their strategy. The expectations of the stakeholders for consistency in the financial results become higher with larger and more mature firms as they are seen as less vulnerable to environmental influences.

4.2 Flexibility through Creativity, Experimentation and Knowledge

Decentralized decision making in a strategy approach such as simple rules, increases flexibility by enabling management to increase the scope of their solution sets of acceptable decisions that fulfill the criteria embodied within the guidelines provided by upper management. Since these criteria are defined through simple rules instead of complex analysis and planning methods, it allows for timelier problem solving by easing away from long term planning and the need for accurate forecasting. Hence, this could be viewed as a creative approach to formulating and implementing strategy.

According to empirical research by Ogilvie (1998), creativity is beneficial to the overall quality of strategic decisions in fast-changing and ambiguous environments. She argues that this creative action approach to strategy focuses on creating new industry dynamics and a new competitive space as opposed to concentrating on incremental improvements.

Rather than concentrating on the fit between existing opportunities and available resources, it seeks to expand on the opportunity horizon and competence base of firms.

Scenario planning is an example of a creative approach to planning strategy. Scenario planning, when done properly, is an imaginative process, which tries to explore future possible outcomes of actions, and in the process, develops assumptions about the dynamics of competitive environments. Scenarios involving disruptive technologies are of particular importance to e-Businesses, as they can often enable or destroy firms' chances of survival (Phaal, Farrukh, & Probert, 2004). Scenarios are often the basis for experiments with new business models and the development of new opportunities.

Venkatraman (2000) further supports the importance of scenario planning and strategic experimentation. He states that "Past success is no guarantee of future success, and calendar-driven strategic planning is giving way to strategic experimentation and rapid adaptation. The challenge is to pursue experiments that not only augment current business models but also create new ones and rules of competition" (ibid, p.19). Furthermore Venkatraman stresses that organizations should not focus all their efforts on experimenting with predictable opportunities but should also explore probable ones.

The fact that e-Business firms today are already performing countless experiments has two main consequences on the competitive environment. They increase the rate and magnitude of change in the industry and competitive rules in the near future, and according to Malone (2001) these experiments will enable companies to eventually determine the details required to build more stable and profitable business models. This will not happen for several years though; in the mean time e-Business companies must continue to learn from their experiments and those of others to keep abreast with environmental changes.

Activities such as experimentation, scenario planning and technological forecasting increase the knowledge base of firms allowing them more flexibility in setting and updating their strategies on a regular basis to remain competitive especially in turbulent environments (Knot, Van den Ende & Vergragt, 2001). Zack (1999) takes a comprehensive approach to analyzing the link between knowledge and strategy in organizations. In his work he identifies that a firm's strategy is closely linked to the level of knowledge that it possesses. Hence, a firm's strategy and actions in its market or what it "can do" is dependant on what "it knows". Consequently, Zack identifies what he terms as the "strategic gap" which is defined as the difference between what a firm "must do" to compete in the market place and that which it "can do". What a firm "must do" in turn dictates what a firm "must know". The strategic gap, as such, is highly related to a "knowledge gap". Zack argues that the strategic gap could only be bridged by bridging the knowledge gap.

When firms are operating within turbulent environments, as is the case for many e-Business firms, bridging the knowledge and strategic gaps becomes a necessity for survival (Oliveria, Roth, & Gilland, 2002). Since both e-Business and R&D management face similar challenges coping with uncertainty and rapidly changing environments, we suggest knowledge can also be gained through the R&D strategic management mechanisms proposed by Menke (1997):

- *Active environmental scanning* – managers must dedicate time for monitoring developments by competitors, suppliers, and distributors.
- *Using cross-functional teams* – projects should promote cooperation and mutual learning by members from technology, marketing, and financial backgrounds.
- *Constantly focusing on customers* – from an e-Business perspective this poses opportunities as well as challenges, such as the ease of online data collection, online personalization, privacy issues, lack of face-to-face contact, rapidly changing customer preferences, and low switching costs for customers.

The knowledge gained from these activities needs to be disseminated throughout the organization in such a way that managers receive it and can act on it on a timely fashion. The concept of the adaptive enterprise (Evgeniou, 2002) epitomizes this, as it strives for high information visibility and high flexibility. Evgeniou (2002, p. 492) describes the adaptive enterprise as having the capability using information systems to "view company, product, and customer information in 'as was',' as is' and 'as if' scenarios so that the past and potential success of strategic decisions can be accessed and new strategic operations analyzed."

As an e-Business matures it can refine its strategy by reducing uncertainties through increasing knowledge about its environment, customers, and technologies. The limit of how much uncertainty can be reduced is governed by the pace of disruptive change faced by the firm. Since it is not likely that disruptive changes for e-Business will disappear anytime in the near future there will always be requirements for flexibility in e-Business strategy.

5.0 Conclusions

Flexibility is the key to dealing with industry volatility and complexity faced by e-Businesses today, by hedging against the uncertainties inherent in a swiftly changing environment (Shi & Daniels, 2003). We have identified the different kinds of flexibility required for survival in the emerging economy, and shown that e-Businesses at different stages of maturity require varying degrees of flexibility to cope with and exploit changes in their environment. Creative exercises such as experimentation and scenario planning were presented as being essential tools for expanding the knowledge base of firms yielding them more strategic options leading to more flexibility. In the turbulent environment of e-Business, maintaining flexibility becomes a key success factor to cope with uncertainty and continuous change. Such flexibility could only be maintained through continuous learning and knowledge management processes.

Companies trying to cope with the unsettled e-Business environments today must balance the need for flexibility with the need for focus when they develop and implement strategy (Malhotra, 2001). This requires the managerial ability to recognize when to apply classic strategy paradigms to drive business focus and when to embrace creativity and innovation by fostering a ‘trial and error’ environment (Loebbecke & Wareham, 2003). It is crucial to continuously expand the knowledge the company possesses and to foster creativity and innovation when confronted with new situations.

It is important for companies engaged in e-Business to continuously scan their environment to anticipate and react to any threats and rapidly cash in on opportunities as they arise. This could only be achieved by maintaining flexibility in their business strategy. The paradigm of strategic flexibility in e-Business can summed up in the words of the boxer Muhammad Ali: “Float like a butterfly, sting like a bee”.

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Highlights

In the same way that there is no one single strategy that is appropriate for all organizations, there is not a single approach to strategy formulation, or level of flexibility required for all organizations.
In order to determine the appropriate approach to strategy formulation and level of flexibility, an organization requires a deep understanding of:

- The volatility of the environment in which they are operating,
- The level of maturity of their organization
- The resources and capabilities of their organization,

Based on this understanding, the organization can choose an appropriate approach to strategy formulation from those that are highly structured to those that are highly decentralised.
The level of flexibility required for an organization can then be determined along the dimensions of the organization's product offerings, technology infrastructure and collaborative strategies.
An organization can then consider ways to increase flexibility with techniques such as:

- Strategy as simple rules,
- Scenario planning,
- Strategic experimentation,
- Technological forecasting,
- Active environmental scanning,
- Use of cross-functional teams,
- Keep a focus on the customer

Flexibility Mapping

1. How volatile is the environment in which your organization operates?

Stable — High Velocity Change

2. What stage of maturity is your organization?

Startup — Mature

3. Given the above assessment, what level of flexibility is required of your organization in each of the following dimensions?

Product & Service Offerings / Value Proposition

Low Flexibility Required — High Flexibility Required

Technology Infrastructure

Low Flexibility Required — High Flexibility Required

Collaboration Strategies

Low Flexibility Required — High Flexibility Required

Reflecting Applicability in Real Life

1. As a result of the mapping of the strategic flexibility of your organization, what is the strategic gap that you have identified in terms of what you know and can do (resources, capabilities) and what you must do?

2. What are the appropriate techniques needed for your organization to reach its optimal level of flexibility?