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STRATEGIES FOR E-MARKETS: TOWARD A UNIFIED MANAGEMENT MODEL

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Abstract

This paper reviews the theoretical relevance of strategic analysis in eMarkets and proposes a co-evolutionary approach to development, management and change. This implies a view of strategy which includes an evaluation of the stages of evolution for the eMarket and the processes generated. It considers, as a central feature, the notions associated with value creation, cultures and knowledge. A number of empirical examples are used throughout the paper to illustrate the various options adopted by global organizations to facilitate aspects of the models. The paper argues a perspective of organizational dependency within eMarkets in this respect. A framework encompassing critical elements is advanced for future strategic analysis and a model of staged growth is proposed. The model is believed to be of value for further empirical assessment of virtually communities where unique attention to customer demands and dynamic organizational change are considered imperative for competitive success in the post-Net era.

Keywords: eBusiness strategy, change management, co-evolutionary strategies, eMarkets, value creation, eKnowledge

The Co-evolutionary Approach to Strategy

There are many existing theoretical approaches to strategy - designed strategy, emergent strategy, strategy as revolution, etc and yet few examples of organizations applying these well defined models to secure competitive advantage in an environment of constant change. It may be argued that these frameworks are inappropriate and redundant in the post-net era. Beinhocker (1999a) suggests that what is needed is a model of a world where innovation, change and uncertainty are the natural state of competitive engagement. Strategy may be associated with many contradictions and dilemmas as evidenced by the Red Queen effect (Kauffman, 1995). The Red Queen in *Through the Looking Glass* remarks "It takes all the running you can do to keep in the same place". In a system of co-evolution, when the predator learns to run faster, the prey starts to climb trees and then the predator develops alternative means of pursuit. Long term sustainable advantage isn't possible without continual adaptation. A study of the performance of more than 400 organizations over thirty years reveals that companies find it difficult to maintain higher performance levels than their competitors for more than about five years at a time (Beinhocker, 1999b).

Advantage tends to be competed away quite quickly and increasingly in sophisticated new global markets. In a system of co-evolution, adaptation can be seen as the attempt to optimise systems riddled with conflicting constraints. It is therefore critical to reconcile opposing issues of tension, dilemmas or polarities. Traditional strategic approaches are incomplete since they over emphasize executives' abilities to forecast and predict in a highly competitive, high-velocity market and under emphasize the challenge of actually creating effective strategies. Given uncertain environments, strategies must also be robust and allow for the organization to pursue a package of potentially conflicting issues at the same time (Hackney and Burn, 2001). Strategies can be likened to a portfolio of real options and as with financial options, the greater the uncertainty, the greater their value (Jarvenpaa and Tiller, 2000). The value of an option represents the potential benefit a firm may reap in the future beyond a value that can be estimated using the current organizational capabilities and knowledge in the market. Hence a strategy is a path of related options and there is no such thing as rationale a well thought-through overall strategy. Organizations need to cultivate evolving populations of strategies. Kauffman (1995) refers to this evolutionary process as the development of fitness landscapes where the corporations will search for the high points of their competencies and objectives.

This process of evolutionary search is continuous but should also employ parallelism with multiple landscapes and strategic teams employing different techniques to explore the terrain. Such strategies force people to deal with ambiguity and accelerate constructive conflict (Eisenhardt et al, 2000; Beinhocker, 1999a, 1999b) and this requires the development of a new mindset that will encompass the following:

- Investing in diversity
- Valuing strategies as if they were options
- Categorising the mix of strategies
- Stress-testing strategies
- Bringing the market inside
- Using venture capital performance metrics

Successful adaptation also implies co-evolution between the organization and the strategy model. Not only must strategy models be adapted to fit the unique characteristics of an organization but also organizations need to evolve to benefit from the lessons incorporated into the strategic model and so both the organization and model continually change and learn. This perpetual co-evolutionary process takes place within an ecosystem of evolving markets.

eMarket Ecosystems

The post-Net era is driven by such phenomena as the World Wide Web, mass customization, compressed product life cycles, new distribution channels and new forms of integrated organizations, the most fundamental elements of doing business are changing and a totally new business environment is emerging. This environment is characterised by rapid exchange of information within a virtual network of customers and suppliers working together to create value-added processes (Wigand and Benjamin, 1995; Burn and Barnett, 2000). Described here as the eMarket, it brings with it new forms of IT-enabled intermediation, virtual supply chains, increasing knowledge intensity and information based business architecture strategies. Core business processes may need to be rethought and redesigned, new organizational forms and inter-organizational structures may need to be developed and where the emphasis will be on collaboration rather than competition.

Moore (1997) suggests that businesses are not just members of certain industries but parts of an ecology that incorporates different industries. The driving force is not pure competition but co-evolution. The term co-evolution originated in biology. It refers to successive changes among two or more ecologically interdependent but unique species such that their evolutionary trajectories become intertwined over time. As these species adapt to their environment, they also adapt to one another. The result is an ecosystem of partially interdependent species that adapt together. This interdependence is often symbiotic (each species helps the other), but it can also be commensalist (one species uses the other). Competitive interdependence can emerge as well: one species may drive out the other, or both species may evolve into distinct, noncompetitive niches. Interdependence can change, too, such as when external factors like the climate or geology shift.

The eMarket ecosystem is seen as “an economic community supported by a foundation of interacting organizations and individuals....Over time they co-evolve their capabilities and roles, and tend to align themselves with the direction set by one or more central companies” (p. 26). The ecosystems are identified to evolve through four distinct stages and at each of these phases the ecosystem faces different leadership, cooperative and competitive challenges. This ecosystem can be viewed as the all-embracing eMarket culture within which an organization maintains equilibrium, as shown in Figure 1.

EcoSystem Stage	Leadership Challenges	Cooperative Challenges	Competitive Challenges
Birth	Maximise customer delivered value	Find and Create new value in an efficient way	Protect your ideas
Expansion	Attract Critical Mass of Buyers	Work with Suppliers and Partners	Ensure market standard approach
Authority	Lead co-evolution	Provide compelling vision for the future	Maintain strong bargaining power
Renewal or Death	Innovate or Perish	Work with Innovators	Develop and Maintain High Barriers

Figure 1. eMarket Ecosystem. (after Moore, 1997)

This view is supported by Eisenhardt and Galunic (2000) who point out that the new roles of collaboration in eBusiness are actually counterintuitive and that collaboration does not naturally lead to synergy. Where synergies are achieved the managers have mastered the corporate strategic process of coevolving. These managers routinely change the web of collaborative links - everything from information exchanges to shared assets to multibusiness strategies - among businesses. The result is a shifting web of relationships that exploits fresh opportunities for synergies and drops deteriorating ones, as show in Figure 2.

	Traditional Collaboration	Coevolution
Form of collaboration	Frozen links among static businesses	Shifting webs among evolving businesses
Objectives	Efficiency and economies of scale	Growth, agility, and economies of scope
Internal dynamics	Collaborate	Collaborate and compete
Focus	Content of collaboration	Content and number of collaborative links
Corporate role	Drive Collaboration	Set Collaborative Content
Business role	Execute collaboration	Drive/execute collaboration
Incentive	Varied	Self-interest, based on individual business unit performance
Business metrics	Performance against budget, preceding year, or sister-business performance	Performance against competitors in growth, share and profits

Figure 2. Traditional Collaboration Versus Coevolution (after Eisenhardt and Galunic, 2000)

Models of eMarkets

This ecosystems approach can be applied to different market models such as the four models of market environments identified by Ticoll et al (1998) in their examination of Business communities. They suggest that such markets differentiate along two primary dimensions: economic control and value integration, as show in Figure 3.

	High	
Control	Aggregation	Value Chain
	Open Market	Alliance
	Low	High
	value integration	

Figure 3. Four Models of eMarkets

The open market model is basically a business to consumer model without any single player in overall control although different players and market alliances can drive events at different times. The aggregation model normally has one business in control positioning itself between suppliers and producers. Value chains have a similarly hierarchical model but maximise value integration through operational effectiveness and alliances retain that high value integration but rely on shared visions, standards and business practices to provide a full solution environment without any single company exercising overall control. Jansen et al (1999) suggest that another classification can relate the control variable to the emphasis on efficiency or flexibility and innovation and that this will imply a stable or dynamic market. In many virtual market environments this can be seen as a staged growth evolution of e-business maturity. Each of these stages of maturity demands different approaches to strategy and different approaches to process management.

Strategies for eMarkets

Berryman et al (1998) suggest there are three types of marketplace: those controlled by sellers, those controlled by buyers, and those controlled by neutral third parties. Marketplaces controlled by sellers are usually set up by a single vendor seeking many buyers. Its aim is to create or retain value and market power in any transaction. Buyer-controlled marketplaces are set up by or

for one or more buyers with the aim of shifting power and value in the marketplace to the buyer’s side. Many involve an intermediary, but some particularly strong buyers have developed marketplaces for themselves, as shown in Figure 4.

Seller Controlled	Information-only vendor web Vendor web sites with on-line ordering	Cisco Systems
Buyer controlled	Web site procurement planning Purchasing agents Purchasing aggregators	Japan Airlines Freemarkets Online TPN Register
Neutral	Industry/product specific search engines Information marts Business malls Auction spaces	FastParts

Figure 4. Strategies for e-Markets

Companies wanting to evaluate which model suits them best should answer the following four questions to help them determine an appropriate strategy.

- Are there transaction savings or benefits to be realized?
 - Cost reduction through greater process efficiency
 - Improved reach
 - Reduction in prices to buyers
- Is an electronic market for our product developing quickly?
 - Do we have transaction inefficiencies?
 - How sophisticated is the buyer?
 - Is the product e-friendly?
- Would a neutral intermediary be beneficial?
 - Advantage of scale in transaction processing
 - Value of the information acquired during buying and selling
 - Anonymity.
- Do we have substantial market share or buying power?

For buyers, the strategic imperative is clear. They have little to lose and much to gain, and should therefore organize a buyer-controlled marketplace as quickly as possible. The dynamics of eMarkets also create clear opportunities for third-party intermediaries, which can develop value by virtue of their neutrality. Sellers are the most vulnerable participants, because they will increasingly have to compete with other vendors in a transparent environment. The dynamics and rapid growth of eMarkets are obviously forcing businesses to engage their strategies with some degree of urgency. Electronic business-to-business commerce is not simply a question of automating existing channels and processes. It is a whole new way of creating value in eBusiness environments.

Value Creation in eMarkets

The potential added value within eMarkets has been considered by a number of analysts and have been variously associated with concepts from value chain frameworks (Porter, 1985), resource based view of the firm (Barney, 1991), transaction cost economics (Williamson, 1975), strategic network theory (Dyer and Singh, 1998) and most recently intangible assets (Subramani and Walden, 2001).

Amit and Zott (2001) in particular applied a range of theoretical constructs to an empirical analysis of 59 ‘virtual’ organizations and determined four primary (and interrelated) value drivers for eMarkets as, novelty, lock-in, complementarity and efficiency. Their framework is shown in Figure 5 where various factors are included to represent aspects of value through virtual activities.

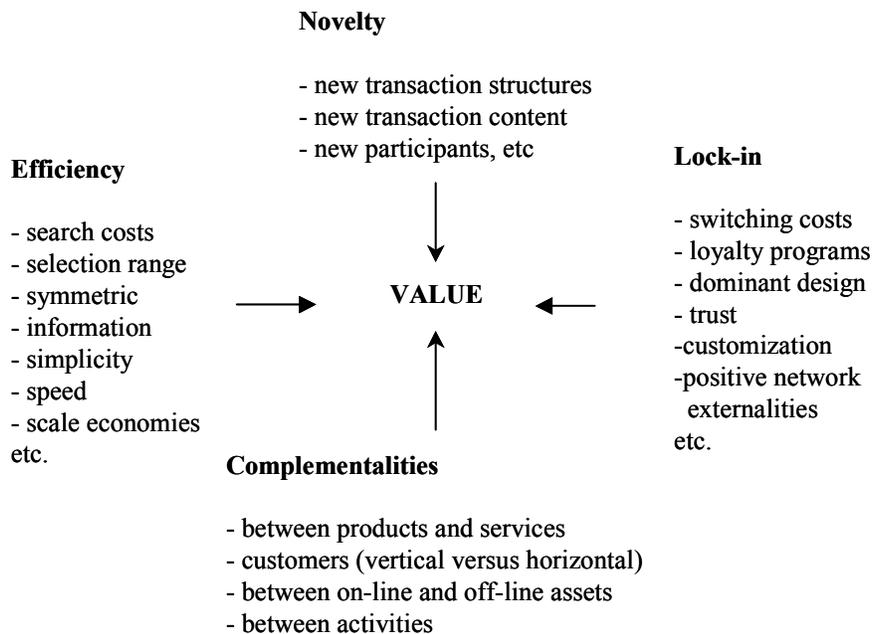


Figure 5. Value Creation in eBusiness (Amit & Zott, 2001)

The initial notion of efficiency within eMarkets is self explanatory and is essentially consistent with transaction cost economics (Williamson, 1975). Here the extent of virtual engagement relates to a decrease in costs for each transaction, which may be specifically identified from search, selection, speed and scale economies, through online trading. Complementarities consider the combined advantage of value from a collection of similarly traded goods over their individual value. The implications for eMarkets in this respect are clear where attention to customer demands may be met more easily through similar product adoption. It is useful to note that the recent literature on customer relationship management has failed to include complementarities as a feature within strategic marketing (Romano and Fjermestad, 2002). The benefits for further virtual transactions are therefore not being realized as customers may be unaware that complimentary goods exist, ie those that they would buy if they had the full set of products available. The lock-in effect is the notion that customers within eMarkets are encouraged to repeat transactions through the provision of online facilities. The extent of value creation in this respect is clearly increased ordering from improved customer attention credit. Customized services, trust, web feature design and switching costs are strong factors for retaining customer loyalty and therefore repeat business. Finally novelty also appears to be a major feature for value creation where customers engage in online processing as an innovative means to search and purchase goods. This is manifest in original marketing strategies, for example web enabled auctions, etc as customer-to-customer alliances are made possible.

This approach has usefully been summarised into a ‘value cubicle’ which integrates the value chain into an expanded eMarket model, as shown on Figure 6 (Hooft and Stegwee, 2001). In this way an analysis of the opportunities for different parts of the organization is possible based on customer relationship management principles. The value cubicle enables eBusiness applications (functional facilities with eMarkets) to focus upon customer requirements by considering the value chain as the primary framework. In this way several value grids may be created, each focusing on a certain part of the value chain. The cells may then be related where value activities interconnect through strategic requirements

Figure 6 is based upon the eBusiness vision, strategy and application areas where it is possible to identify the relevant cells within the cubicle which need further attention. Such an analysis is carried out on the basis of a thorough understanding of feasible techniques. The result consists of a portfolio of specific applications that realise the eBusiness benefits and hence contribute to attaining the strategic goals of the organisation. Where longer term relationships have developed a value alliance may be adopted that forms a value constellation where organisations have multiple interactions and a complex and enduring communications structure embedded within the alliance (Burn and Barnett, 2000).. Substitutability has traditionally been a function of efficiency and transaction costs: searching for, evaluating, and commencing operations with potential partners has been a costly and slow procedure, relying on information transfer, the establishment of trust and policy rules, time zones, culture, and legal frameworks. These have determined the relative positioning of partners on the chain and the reciprocity of the customer relationship.

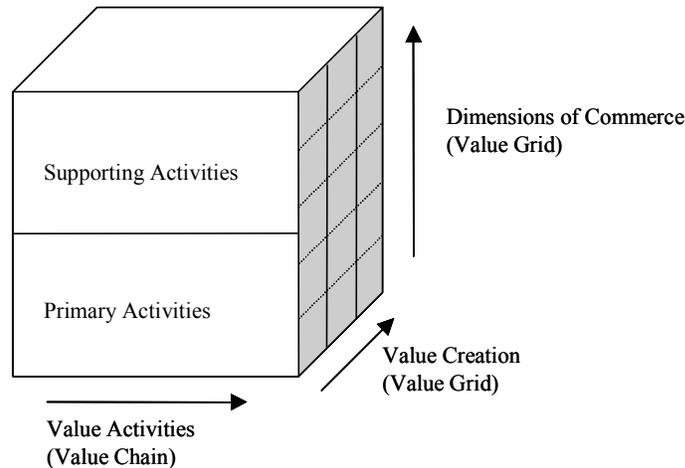


Figure 6. The eBusiness Cubicle

This value-alliance may be built around customer value chains and the sharing of resources, skills and knowledge to produce a 'best' customer solution and enable agencies to be more responsive to customer requirements. Each organisation may be required to form several value-alliances depending on what has been identified as requiring one stop processes for customers. In order to achieve a successful value-alliance it is essential that a business planning model is established that ensures each member agency has 'buy-in' to the desired outcomes. Therefore, any business planning must be built on services, delivery goals and objectives that focus on its customers through direct front-line employee input. To achieve this there must be a evolutionary shift in management thinking and practices that include:

- Pervasive knowledge sharing, feedback and communication;
- Integration of environmental considerations at the earliest stages of design;
- Effective partnerships with customers.
- Commitment to using customer feedback to drive changes
- Frontline employees given the authority to deal with customer issues.

Fundamentally, and central to the proposed unified management eMarket model, organizations need to embrace the value of the knowledge sustained within their own environments.

eKnowledge Strategies

In the eMarket knowledge is the most strategically important resource and learning the most strategically important capability (Zack, 1999; MacLeod, 1999; Hansen et al, 1999). However, initiatives being undertaken to develop and exploit organizational knowledge are of little value if they are not explicitly linked to the overall business strategy. In turn, the strategic process must reflect the continual learning capabilities of the organization. The solution is to develop a perpetual strategy process which will embed knowledge and competitive intelligence into a continual monitoring of the external and internal environment and induce continual re-engineering of the organization in line with shifting demands (Tyson, 1998). Such a strategy should be resource-based emphasizing distinctive, firm-specific and hard to copy assets, skills and knowledge. These are generally referred to as core competencies or distinctive capabilities that confer competitive advantage on the business. (Pitt and Clarke, 1999). Strategic management or management of strategic innovation is the purposeful orchestration and directed application of such organizational skills and knowledge. Such strategies, however, are not so easily implemented in a virtual community where concepts such as assets, skills and knowledge may not be firm specific but rather stem from the synergistic coalescence of multiple organizations networked in the virtual chain. It is nevertheless vital that as organizations become more virtual, experience, information and expertise is coherently managed and used to support future eBusiness initiatives and enhanced virtual alliances (Burn and Hackney, 2002).

Knowledge management is concerned with recognizing and managing all of an organization's intellectual assets to meet business objectives. Knowledge does not come from technical facilities or processes; it comes from people and communities of people. An organization needs to know what knowledge it has and what knowledge it requires – both tacit and formulated, who knows about what, who needs to know and an indication of the importance of the knowledge to the organization and the risks attached.

The goal of a knowledge management strategy should be to understand the presence of knowledge communities and the various channels of knowledge sharing within and between them, and to apply information and communication technology appropriately. Networks of knowledge within the organization and community can be described as:

- Knowing individually what we know collectively and applying it
- Knowing collectively what we know individually and making it (re)usable
- Knowing what we don't know and learning from it

(Havens and Knapp, 1999)

Knowledge management is both a discipline and an art. There are techniques that can be defined, taught, learned, replicated, customized and applied to yield predictable outcomes but, it's the art part that counts. Emphasis on the human nature of knowledge creation has moved knowledge management away from its early technology-centric interpretation towards a view that can provide multiple, diverse and contradictory interpretations.

This is described as "the sense-making view" by Malhotra (2000) and is one that promotes continual challenge of the current company way and the basis for creative abrasion (Eisenhardt et al, 1997).

Competitive strategy must drive knowledge management strategy but categorizing what an organization knows and should know about its industry or competitive position is complex (Zack, 1999; Hansen et al, 1999). If it were easy then competitive advantage would be unsustainable. As a first step the organization needs to determine the value of knowledge to its business. In other words it must align its knowledge resources and capabilities to the intellectual resources of its strategy. This should be measured against two dimensions and related to knowledge aggressiveness. The first dimension addresses the extent to which an organization is primarily a creator or user of knowledge and the second addresses whether the primary sources of knowledge are internal or external. These together will provide the strategic framework in which knowledge management strategy needs to be developed. Internal knowledge is obviously especially valuable and should be exploited but as witnessed by insider trading deals, this needs to be conducted in an ethical and legal manner. Further, in today's competitive markets such niche or monopolistic positions are seriously challenged. In the virtual organization exploitation of external knowledge can take place through the value network to create knowledge advantage within a bounded rationality. This can be further extended along the supply chain into unbounded environments to include customers in knowledge exchange. Mechanisms include user groups, joint ventures, beta-testing, web sites, electronic mail, toll-free numbers, customer care centres, customer advisory boards, conferences and even social gatherings.

Combining the knowledge exploitation vs exploration orientation of the organization with its internally vs externally acquired orientation towards knowledge strategy gives a framework for the eBusiness as shown in Figure 7.

Unbounded			Aggressive	eBusiness
External				
Internal	Conservative			
	Exploiter	Explorer	Innovator	

Figure 7. Framework for eKnowledge Strategy (adapted from Zack, 1999)

Exploration and exploitation typically occur in different parts of the organization and are often separated temporally and culturally. Balancing these requires a knowledge culture, transfer and integration capability which is itself strategic and subject to constant reevaluation. The choice of exploitation, exploration or innovation reflects the overall competitive business strategy of the organization. Strategic positioning within this framework reflects the knowledge management strategy in alignment with the business strategy. These two together can radically change the organization and the way it is positioned within the marketplace. The successful virtual organization will be the one who maximizes the value which can be obtained from its strategic interorganizational alliances and moves towards the model of unbounded innovators. In knowledge intensive industries this aggressive strategy has been shown to outperform more conservative ones (Bierly and Chakrabarti, 1996; Zack, 1999).

Knowledge is therefore dependent on individuals so that a rigid distinction between strategy and organization is inappropriate and, indeed, successful knowledge strategies involve almost every aspect of a company's organizational design. This is not

something that can be lightly undertaken but it can be part of a staged growth development, which should be implemented through an iterative and parallel development process rather than linearly.

- Find out where, how and why knowledge matters in the organization
- Continually review your current market alliances, customers, suppliers and competitors
- Set the vision for value creation through knowledge management
- Establish how an integrated view of knowledge management can be developed and maintained
- Understand the implications of knowledge for organizational and network design
- Experiment, prototype and fine tune.
- Adjust the organization's external posture and conduct and build value through innovation
- Continually measure and monitor knowledge

This perpetual strategy process can be described as creative abrasion (Eisenhardt et al, 1997) and is integral to the development of an effective competitive intelligence system which will drive the virtual organization and enable it to embrace dynamic change in the virtual marketplace.

Managing Evolutionary Change

The combined argument therefore is that eMarket has three choices for strategic direction, exploiter, explorer and innovator and these represent the entrepreneurial domain. The engineering and administrative domain are change factors that need to be integrated into the overall strategy and maintained in alignment. The degree to which virtuality can be applied in the organization will relate to the extent to which the change management factors are congruent. When these are not aligned then the organization will find itself dysfunctional in its exploitation of the virtual marketplace and so be unable to derive the maximum value benefits from its strategic position. The framework shown in Figure 8 therefore offers a unified conceptual model to position the eMarket strategy in an organisation and to focus on specific management issues relating to this strategy.

The exploiter strategy will focus on maximizing the effectiveness of business processes along the value chain through ICT, the explorer strategy will extend market reach by strengthening structural alliances and interorganizational partnerships along the supply/demand chain and the innovator will be attempting to integrate all these processes into a virtual value chain and to move into new eMarkets.

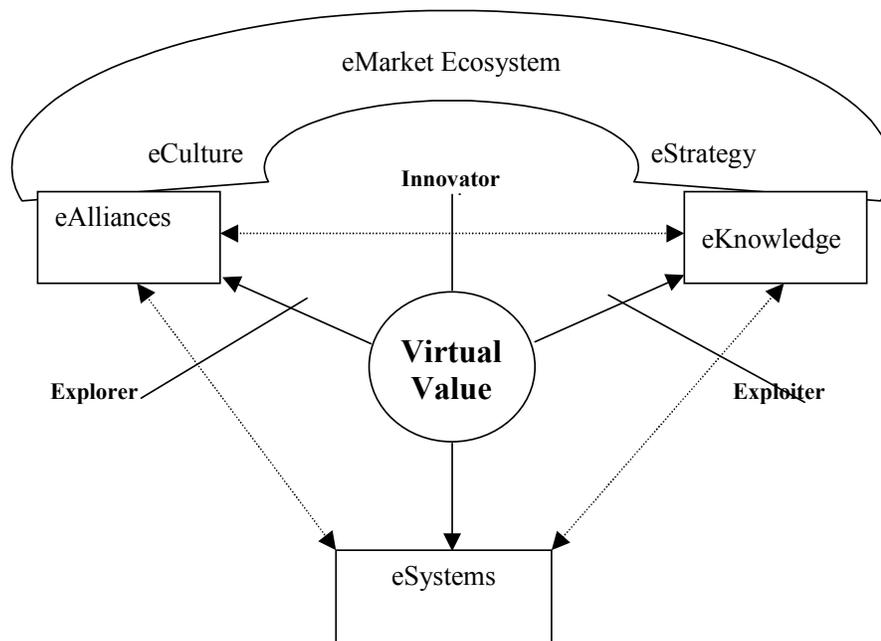


Figure 8. eMarket Unified Management Model

The extension of the unified management model requires an evolutionary approach to overall eStrategy as shown in Figure 9, incorporating the processes and business requirements of customers and suppliers and building a foundation of trust. It is also essential to apply "outside-the-box" thinking to capture information from sources of innovation and create the opportunity to share information in non-competitive situations. The eBusiness that excels will learn from others.

Strategy	Focus	Stage	Web site
Exploiter	Customer service personalization and marketing	Presentation	Static or Mail Order web site – brochureware and advertising, online orders
Exploiter/Explorer	Cost reduction and speed of processing	Communication	Tailored to trading partner- View inventory/orders in hand
Explorer	Efficient pricing and expanded product lines	Interaction	Customer/Supplier order placement/mall/ auction bids
Explorer	Core business concentration	Fulfillment	Links to back-end fulfillment systems
Explorer/Innovator	Expansion of products/services/ business	Collaboration	Dynamic interaction
Innovator	Diffusion of niche markets	Collaboration and Competition	Virtual decision making and Diffused Control

Figure 9. Staged Strategies for eMarkets

The features within Figure 9 represent an articulation of the staged growth of organizations within eMarkets. The emphasis is upon innovation, adaptation and attention to rapidly changing environments. Under these conditions, driven by post-Net facilities and capabilities, organizations need to nurture their knowledge cultures, generate value and facilitate their innovation teams to meet the demands of global competition. Traditional, functional and prescriptive strategy models are clearly redundant in these dynamic circumstances.

Conclusion

The paper has outlined a range of approaches to organizational strategy in the post-Net era. It has considered the nature of eMarkets and has observed how these environments are clearly dynamic, complex and ambiguous. Traditional approaches to strategic analysis is therefore of limited use where attention is necessary to virtual competition and collaboration. The extent of value creation has also been emphasized and the role of eKnowledge as an engine of staged growth developed. A number of empirical examples were demonstrated and a unified management model proposed within an eMarket environment. Further empirical research is required to assess the processes within virtual communities when aligned to the factors identified.

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