Theoretical study on the Strategic Challenges and Future of E-Commerce

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ABSTRACT

This paper explains the meaning and definition of E-commerce and the Strategic Challenges of Electronic Commerce as to Future of Electronic Commerce. From maximum possible sources, an attempt has been made to explain the Strategic Challenges of Electronic Commerce and Future of Electronic Commerce.

Meaning and Definitions of Electronic Commerce

A popular site www.uow.edu.au[1], explains e-commerce as literally "doing business electronically" and when the term was first coined it was seen as buying and selling on electronic networks . The traditional view of doing business online includes purchasing products via online services and the Internet as well as electronic data interchange (EDI), in which one company's computer queries and transmit purchase orders to another company's computer(Sultan, Hassan, & Noor, 2016).

Electronic Commerce today includes (Sultan, Noor, & Nasirun, 2018):

- the buying and selling of information as well as products and services.

- the use of telecommunications networks to link organizations and/or individuals.

- sharing business information and maintaining business relationships.

- intra-company, inter-company, and company-to-consumer processes.

- doing business without paper.

- engagement in a wide range of activities up and down the value-added chain both within and outside the organization..

- all computerized inter-company and intra-company functions (such as marketing, finance, selling, and negotiation)

- the use of electronic mail, EDI, file transfer, fax, video conferencing, workflow, or interaction with a remote computer.

According to Cisco System Ink[2], the term e-commerce encompasses any commercial transaction conducted electronically. Simply viewing a web site is not e-commerce, but purchasing a product over the Internet is e-commerce so is exchanging vital information with a supplier or business partner. Electronic commerce can occur over means other than the Internet (Lip-Sam & Hock-Eam, 2011).

E-Commerce as Online Selling. The site www.niacc.cc.ia.us[3] narrowly defined, e-commerce means doing business online or selling and buying products and services through Web storefronts. Products being traded may be physical products such as used cars or services (e.g. arranging trips, online medical consultation, and remote education). Increasingly, they include digital products such as news, audio and video, database, software and all types of knowledge-based products. It appears then electronic commerce is similar to catalog shopping or home shopping on cable TV (Scupola, 2009).

E-Commerce as a Market. E-commerce is not limited to buying and selling products online. For example, a neighborhood store can open a Web store and find the world in its doorstep. But, along with customers, it will also find its suppliers, accountants, payment services, government agencies and competitors online. This online or digital partners demand changes in the way we do business from production to consumption, and they will affect companies who might think they are not part of electronic commerce. Along with online selling, electronic commerce will lead to significant changes in the way products are customized, distributed and exchanged and the way consumers search and bargain for products and services and consume them (Sultan & Noor, 2017).

The Strategic Challenges of Electronic Commerce

According to the site www.enix.co.uk[4] the rise of the Internet (electronic commerce), since the advent of the World Wide Web has provided an easy to use communication channel for businesses to contact current and potential customers. The emergence of the Internet as a general communication channel has also given rise to the possibility of widespread electronic commerce. Even though there is still much debate relating to electronic payment for commercial activities, this is clearly an area of growth. These technologies include (Stockdale & Standing, 2006):

Organizational support systems, such as workflow and groupware making   businesses more efficient.

Customer contact databases - helping capture information about customers and
          facilitate new methods of marketing

                    Electronic payment systems for goods and services - these are emerging, although
                    the majority of payments are still based on relatively expensive traditional cheque
                    clearance.

Collectively and individually, these areas will contribute to major changes in the way a company conducts its business. Enix have coined the term Workware to describe the combination of these technologies.

The emergence of Electronic Commerce will be underpinned by three key components.
A. Marketing (Customer Satisfaction)
B. Organization (Process Support)
C. Banking (Payment Systems)

A. Marketing (Customer Satisfaction)
Champy, Buday and Nohria[5], argue that the rise of electronic commerce and the changing consumer processes brought about through electronic communities are likely to lead to a new wave of reengineering, mergers and acquisitions. Moreover, organizations may expand into new business areas, taking on roles unforeseen prior to the rise of the Web. For example: a magazine publisher, Condé Naste, has moved into the travel business; Bill Gates is now an electronic real estate agent; and a recruitment advertising agency, Bernard Hodes, has now become an electronic recruitment company (Sultan et al., 2018).

The emergence of electronic commerce will significantly impact what we currently call 'marketing'. Clearly, the appearance of electronic communities Armstrong and Hagel[6] implies that marketing professionals must expand their horizons, as the advent of this technology will threaten existing channels of business. Those involved in marketing need to understand the full range of products and services required by the electronic community. They must learn to take advantage of the technology that allows customers to move seamlessly from information gathering to completion of a transaction, interacting with the various providers of products and services as necessary. Armstrong and Hagel propose four types of non-exclusive electronic communities, those: interested in transactions; sharing common interests; indulging in fantasy games; and with a shared life experience. The business opportunity is for those who support and interact with these communities, building customer loyalty on an ongoing basis. By satisfying the requirements of relational marketing and transactions, companies may gain important insights into their customers' nature and needs. For example, a baby products company could entice customers to order items from an associated on-line catalogue by providing bulletin boards for new parents (Turban, King, Lee, & Viehland, 2008).

The desire to establish long-term customer relationships with increasingly sophisticated demands has led companies to seek new ways of acquiring, managing and utilizing customer information Peters and Fletcher[7], Furthermore, advances in information technology have fundamentally altered the channels through which companies and customers maintain their relationships. The capacity to obtain and apply customer information within processes has become a key strategic issue. This often places the company in the position of requiring sensitive personal information from customers. Gummesson[8] views marketing as a set of relationships, networks and interactions and lists 30Rs (relationships) in contrast to McCarthy[9], 4Ps (Product, Price, Place & Promotion).

Gummesson highlights the fact that the electronic relationship is not discussed in the marketing literature even though it is practiced widely by many businesses. He links relationship marketing to the imaginary (similar to a virtual or network) organization. He argues that by increasingly applying IT, more relationships are established. They create a new type of bond to customers and between employees (Zaied, 2012).

The electronic relationship extends beyond the bounds of the organization into the market as seen in the example of airline, hotel and car rental reservation systems. The communities established have a re-enforcing effect. These insights force us to re-examine traditional theories of economics, systems, organizations, marketing, competition and transaction cost analysis. As the boundaries between firms and markets dissolve, a characteristic of relationship marketing and network organizations, a new image of interaction and business is needed (Seyal & Rahman, 2003).

The importance of information exchange in relationship marketing (particularly using an electronic channel) requires a clear understanding and recognition of the potential problems. Privacy is also an issue - what is a private change from one person to another as well as between different cultures. Those who use the Internet are likely to be better educated and less willing to give information, unless they trust the recipient. Companies need to realize that the only reason they hold information on a customer is because they have a relationship with that customer - something which is not transferable. Those using electronic channels to reach customers are likely to target better-educated and more affluent customers. They need, therefore, to ensure that their customer information systems are appropriate. An understanding of the trust building process is also required. Firms need to make a feature of their trustworthiness (a unique selling point!). Trust is best developed through processes. Processes tend to be customer facing - within each customer interaction trust is built-up or eroded. Companies must be absolutely clear about the value and intended use of information. Collecting information because it is technically possible (and one day might be useful) is likely to weaken trust development (Sila & Dobni, 2012).

Hoffman and Novak[10], assert that the Web heralds an evolution in marketing concepts. In order for marketing efforts to succeed in this new medium, a new business paradigm is required in which the marketing function is reconstructed to facilitate electronic commerce in the emerging electronic society underlying the Web (Sarkar, 2009).

The "many to many" communication model of the Web (in fact many instances of many-to-one) turns traditional principles of mass media advertising inside out (a one-to-many model) (Hoffman and Novak, 1994). The application of advertising approaches, which assume a passive, captive consumers are redundant on the Web (Sila, 2013).

Surprisingly, as it is currently evolving, there is little activity aimed at including the consumer in the development of emerging media. In order to adopt a market orientation, firms must understand their customers and engage in consumer research. Potential customers are most effectively engaged through new conversational marketing approaches. Anecdotal evidence

suggests there are two types of customers - 'convenience shoppers' and 'explorers' (those street-smart consumers who are happy to surf the Web looking for the best deal or most appropriate product combination). Furthermore, the sheer size of the Web (trillions of documents and growing exponentially) means finding relevant information is becoming more and more difficult - despite the best efforts of search engines such as Yahoo. Our research suggests that the large proportion of Web users would rather rely on an intermediary (community operator) to sift and select information on their behalf. Web sites not endorsed will require knowledge of the address (URL) and are unlikely to be accessed when similar information, products or services are readily available inside the community. Contributing to the rise of intermediaries are associated issues of privacy, trust and security Schell[12] Whilst there is much discussion on the issues of Internet privacy and security, in the context of normal business activities, many millions of people trust others with their personal financial information. Examples include ordering over the telephone, passing a credit card to an unknown waiter, and even signing direct debit mandates. If an error occurs in these types of transactions we trust the service provider to correct the error. So why is it that we expect the Internet to support a level of trust and security which we do not observe in everyday life? There is no reason why similar trust relationships cannot be established in electronically mediated discussions. If anything, it becomes easier for an individual (or group of individuals) to seek retribution on those that break the rules within an electronic community. Evidence of this can be found in the tendency to attack those that try to advertise on academic discussion groups (mail bombs) and community policing against pornographers in the Netherlands (Sila, 2013).

Marketers must reconstruct their advertising models for the interactive, consumer-controlled medium. The traditional customer loyalty ladder (Suspect, Prospect, Customer, Client, Partner, Advocate) is still applicable, but now operates in a different fashion. The first three stages are often instantaneous in electronic commerce. The transition from customer to advocate relies on loyalty earned through trust. The instantaneous nature of the Internet makes this more difficult.

B. Organization (Process Support - Communicating Across the Value Chain)

It should be recognized that processes are not confined within one organization - they cross the value chain as demonstrated by the following example. Steinfield, et al[13] describe a large, multinational, electrical appliance and consumer electronics manufacturer that used France Telecom's Teletel system to support EDI-like connections to approximately 10,000 separate retailers and independent service engineers throughout France (accessed through Minitel terminals). The ubiquitous Teletel service and the commercial applications, which emerged to exploit it, provide insights into the development of commerce on a worldwide Internet (Soliman, Janz, & Power, 2005).

The after-sales service subsidiary of this manufacturer provided replacement parts and training to its widely dispersed customer base. The Teletel system permitted electronic transactions, even with the smallest trading partners. Through the use of on-line ordering, coupled with courier service for rapid delivery, the firm was able to eliminate regional parts warehouses and reduce the

average repair time from two weeks to two days. In the past, service engineers waited until they had a sufficient need for parts before driving to a regional warehouse. Once the system was implemented, they used the Teletel based "just-in-time" stocking practice for replacement parts.

Moving to a centralized warehouse reduced the need for replicated inventories and extra personnel around the country, creating substantial savings. Moreover, service engineers were further bound-in following the introduction of a revenue producing, expert system-based, training application. Technicians connected to the expert system, which asked a series of questions designed to diagnose the fault and indicate the repairs needed (Sait, Al-Tawil, & Hussain, 2004).

This "just-in-time" training service meant that technicians no longer required expensive and lengthy in-person training - a difficult task given the short life cycle of new electronics products. Service engineers were charged a fee for connecting to the service, but it clearly helped them to provide a faster service to the end customer whilst also further enforcing their dependence on the supplying firm. The expert system also accumulated data on repair problems and provided valuable feedback to the design and manufacturing divisions of the company. A primary motivation for this service was to dissuade service engineers from obtaining parts and services from other suppliers. The ubiquity of Minitel merely created the environment within which the supplier could manage relationships with a very large set of buyers, without opening their service to other suppliers (Seyal & Rahman, 2003).

C. Banking (Payment Systems)

Commerce on the Internet is already a reality. Whilst there are strategic challenges for all businesses, they are especially ominous for financial services and banking organizations. The inherent communication facilities offered are rapidly being integrated into every day usage Cronin[14], Business transactions carried out over the Internet were estimated at $500 million in 1995 and projected at $1 billion in 1996 (Sila, 2013). This is still significantly less than 1% of retail sales in the US. According to INPUT IT Intelligence Services, interactive retailing via the Web will grow to $165 billion by the year 2000. To date the emphasis has been on the Internet as a vehicle for communications with customers and other companies operating on collaborative ventures (mostly e-mail). As the capabilities of the medium are better understood, an ever-increasing number of organizations are concentrating on capturing business transactions and on-line sales. The Internet Mall lists some 240 companies offering everything from books to flowers to travel Banking Technology[16]. A recent report gave a representative sample of 14 electronic malls offering everything from cars and office equipment to brewery supplies and vitamins. In a separate study Deloitte & Touche Consulting found that 44% of PC owners (that subscribe to an on-line service provider) have made an on-line purchase in the last 12 months. When looking at the buying habits of young people they found that 77% of those consumers under the age of 25 were shopping on-line (Shemi, 2013). However, despite the hype, commerce on the Internet has suffered from the lack of readily available and appropriate payment mechanisms. Today, payment is generally made via credit card but concerns over security have lead many users to rely on fax or telephone for authorization details. Furthermore, knowledge based services are currently inhibited

through lack of clarity over IPR issues and inappropriate payment norms - what is needed is the capability to handle micro-transactions (Sila, 2013).

Says that traditional businesses, such as banking are under several fronts:

Low barriers to entry - challengers are appearing from all directions. Examples include the investment and leasing arms of car manufacturers, large retail organizations, other financial organizations such as building societies and insurance companies as well as totally new players who are 'farming' an existing brand name (e.g. Virgin). None of these examples carry the costs of a dedicated branch-banking network.

Poor management (misunderstanding) of modern financial instruments along with the mishandling of control and empowerment issues. Examples of failure include Herstatt Bank (Germany), Barings Bank, BCCI, Daiwa and various American Savings & Loans organizations.

Payment systems have traditionally been based on complex supply chains and processes. Modern communications capabilities allow new players to bypass the traditional system Business Week magazine noted, "Banking is essential to a modern economy, Banks are not", (quoted in Financial Times[19]. This statement is supported by a recent report from (Scupola, 2009). BAH claim the Internet poses a very serious threat both to the customer base of the traditional banking oligopoly and to its profits. Their belief is that the Internet promises a revolution in retail banking of monumental proportions. High street banks as we know them may largely disappear.

The unbundling of banking services will enable unfettered promiscuity of custom. Banks will lose their grip on the customer base. This will reverse the present position where customers are made to feel grateful to their bank for the services provided. Instead, the customer's financial profile will become the property of middlemen and software providers, with the result that banks will genuinely have to compete. In short, retail banking will become much more like wholesale banking(Sabah Abdullah, Gholami, & Clegg, 2015).

Other threats exist in the form of new conceptions of electronic money and attempts to overturn the payment methods currently employed – Cyber Cash, Digi Cash, First Virtual and Net Bill. Others are experimenting with smart card technology where the user caries an electronic purse (Mondex).

Telephone banking was the first blow to the UK clearers and they responded by setting up their own telephone banking subsidiaries rather than changing their main operations. Internet banking is the next big challenge. Once the advantages of geographical proximity go, all brand loyalty and value falls away. This will further pressurize traditional marketing and supporting systems that collect information on customers.

Marketing, payment and Organizational Support Systems

Underpinning the activities of companies are their business processes and information support systems. A major development in computerized support systems is the advent of process support

software that allows work to be routed (similar to a paper file) around the business. These products use a variety of methods to integrate with information systems, delivering the context for action to the appropriate user. Generally referred to as workflow software, there is still considerable confusion in the marketplace. The problem is that there are no consistent meanings for the terms used (workflow, process, task, activity, etc.).

There are a considerable number of products available (at the last count some 240) which are described by their vendors as workflow tools. Each product reflects the views on organizational behavior of the developers, with vendors interpreting the term to suit their own needs. Some see workflow as a mechanism for providing better methods to control workers. Others see it as an opportunity to enable organizational learning, allowing workers to exercise their own judgment, responding to the requirements of the case in hand rather than following predefined paths of activity. In reality, most conceptions revolve around the routing of work from one user to another in a predefined fashion.

It is clear that the term workflow is no longer appropriate - 'work' does not necessarily flow that much (Sabah Abdullah et al., 2015), The concept of work 'flowing' is just one aspect of the wider problem of managing information related processes. A new conceptual framework was introduced to support an improved understanding of the issues affecting process support systems. This model is used within Process Product Watch (PPW) Reports(Sila, 2013) which provide detailed evaluations of process support systems. The model presented underpins the organizational support aspects of the electronic commerce definition of Workware.

For most commercial businesses the strategy making process means looking at your own market positioning - evaluating how to overtake others or protect an entrenched position in the value chain. For banks and financial services companies, that means coming to grips with the unfolding saga of electronic payment systems and managing customer relationships. Certainly, all enterprises should evaluate how their strategies for customer engagement transfer to cyberspace(Taylor & Owusu, 2012).

Conclusion: Future of Electronic Commerce

The future of electronic commerce is dependent on fast and reliable on-line access. It[22] is expected that mature versions of Internet commerce applications will depend largely on the use of public key certificates. These will enable secure e-mail communication between most leading-edge organizations, business-to-business electronic trade, and access and payment for Internet consumers. Smart cards will be well established in all industrialized countries for corporate security and secure Internet access. All new personal computers will include smart card readers and support the new computer/smart card interface. Fingerprint and voice recognition technology will be established in high-value, leading-edge applications. Strong cryptography will be widely adopted, supported by the relaxation of export controls on the dispersion of this technology. Increases in processing power will make it possible to use bulk encryption for confidentiality at high speeds over host-to-host links. Leading-edge organizations will have enterprise-wide trust

infrastructures based on public key cryptography and digital certificates and trusted third-party agreements will proliferate.

The range and depth of applications will also continue to expand. By 2005, it is expected that most e-mail traffic will be secure at application and network level; most supply chains will trade electronically; some leading-edge organizations will have been re-engineered into virtual companies; consumer certificates will be in widespread use; smart cards will be in ubiquitous use worldwide for everything from Internet access and electronic commerce to ticketing in theatres and public transport; client personal computers and network computers will be marketed with built-in fingerprint scanners in the mouse or keyboard; and cryptography and the Internet trust model will be accepted facts. A workable framework for global trust infrastructure will begin to emerge, and trusted third-party licensing and data protection laws will have been harmonized internationally. There will be recognized policy standards for issuing or revoking certificates, and international laws on liability.

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