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The Study of Information Technology Effect on E-commerce Growth

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Abstract. This paper helps to understand more about E-commerce and what E-commerce has to offer entrepreneur clients. It help to decide whether to expand support for E-commerce in agency, what type of E-commerce support to provide, and how to go about providing that support. This paper outlines the economic impacts upon organizations of offering content on the Web. Currently many companies, whose Internet activities are not their core business, often do not generate sufficient profit from providing this High-technology industries are subject to the same market forces as every other industry.

Keywords: Information Technology, E-commerce, Internet, Web.

1. Introduction

There are tens of millions of small enterprises, including micro-enterprises, in developing countries (DCs). More than 90% of all firms in DCs are micro- and small enterprises (MSEs), and these typically contribute 80-90% of all employment. They are also significant in wealth creation, making up perhaps around a quarter of gross domestic product and often contributing to exports as well [1].

In an increasingly competitive and globalised world, MSEs need to compete more effectively in order to further boost domestic economic activity and contribute toward increasing export earnings. MSEs will also continue to play an important role in increasing employment and incomes and thus contribute to poverty reduction on a sustainable basis [1].

While the Internet is considered a valuable means of communication offering the enticing possibility of interaction (one-to-one communication, e-mail), for many people the Web has turned into a primary information resource (one-to-many communication, broadcasting). Most of the information on the Web is either company (public relations) or product-specific information (marketing) to increase awareness. As with traditional marketing media, such information is offered free of charge. However, many companies who generate information (content) on the Internet, which are not their core business, are investing in new possibilities offered by the medium. They consequently face the challenge to transform these opportunities into adequate and sustainable profit [2, 3].

E-commerce is emerging as a new way of helping business enterprises to compete in the market and thus contributing to economic success. E-commerce can help deliver economic growth, increased business opportunities, enhanced competitiveness and better access to markets. At present, though most small enterprises lack the knowledge of how investment in E-commerce could benefit their businesses and help them develop that competitive edge. This is at a time when the opportunities for small enterprises to adopt E-commerce are growing due to improved access to the technical and communication infrastructure.

2. Related Works

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2.1. Information Technology

Information Technology, or IT, is the study, design, creation, utilization, support, and management of computer-based information systems, especially software applications and computer hardware. IT is not limited solely to computers though. With technologies quickly developing in the fields of cell phones, PDAs and other handheld devices, the field of IT is quickly moving from compartmentalized computer-focused areas to other forms of mobile technology [4, 5, 6].

In today's advanced technological environment, the field of IT is very large; those who work in the field are computer hardware and software designers, computer engineers, and specialists who maintain large computer networks and database systems. IT professionals maintain databases for organizations and make sure that they are up to date and run smoothly. They resolve problems with the computers on their network by installing and maintaining the programs that run on them, monitoring overall system health and resolving problems such as computer viruses so that they do not spread quickly and cause network-wide system crashes.

The figure 1 shows the Internet access speeds (bandwidth) over the last several years. Figure 1 shows the incredibly fast evolution of the Internet from 1995 till the present time All speeds are given in kilobits per second [7].

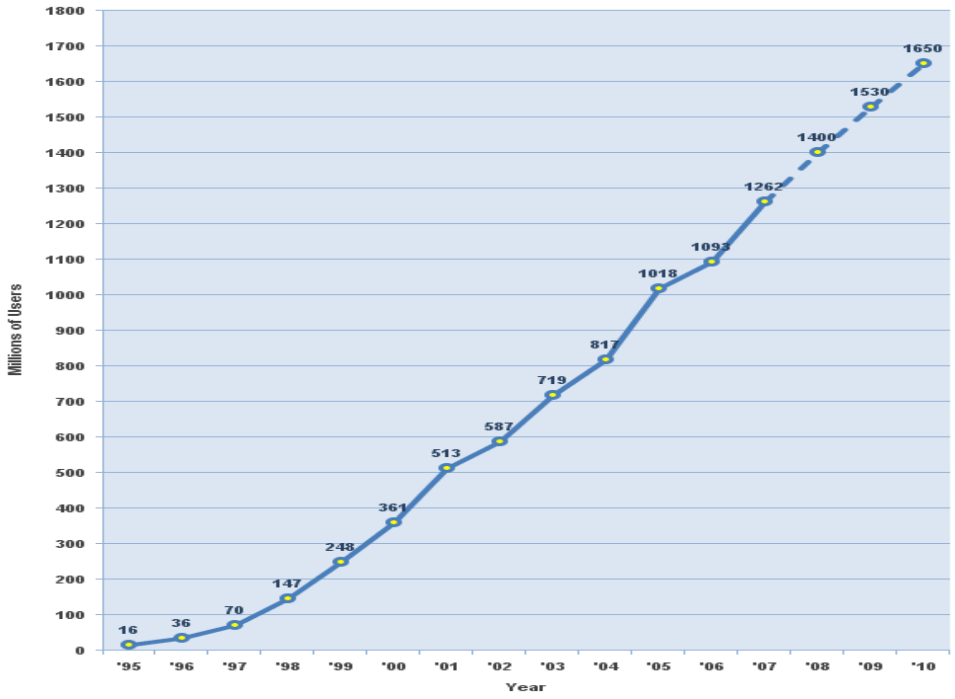

Fig. 1: Internet Users in the World Growth 1995 - 2010.

2.2. E-commerce

E-commerce is the application of current and emerging information and communication technologies (ICTs) to conduct business. These include existing technologies like landline telephone and fax, but the ICTs offering most scope for small businesses are mobile phones, electronic mail and other Internet-based services. However, E-commerce is not just about using new technologies. E-commerce can also help support profitable business relationships and assist you to more effectively manage and run your business enterprise. This will involve creating more effective external interactions with customers, clients, collaborators and suppliers, but it can also mean improving internal business efficiency and even the emergence of new products and services.

E-commerce may involve selling directly from businesses-to-consumers (**B2C E-commerce**). For example, a number of craft producers and tourism enterprises have already found some success dealing directly with customers. E-commerce can also be conducted directly between businesses (**B2B E-commerce**). This is by far the most common type of E-commerce at present. B2B activity includes portals that operate as

electronic marketplaces or as auction sites. Benefits of e-Market places can include reduced costs, better research and quicker transactions for buyers. Rewards for sellers include improved customer service levels and cheaper exposure to customers. There is also business-to-government activity (**B2G E-commerce**) that refers to the growth in supply of goods and services for online government procurement – potentially a large growth area in developing countries [8].

The overall growth of e-business has been dramatic and will continue to be fuelled by business-to-business activity. E-business offers the opportunity for businesses to establish new competitive standards by expanding distribution channels, integrating external and internal processes, and offering a cost-effective method of providing products and services. The Internet provides online businesses with the ability to reach a global audience and to operate with a minimal infrastructure, reducing overhead, and providing greater economies of scale, while providing customers and businesses with a broad selection, increased pricing power, and unparalleled convenience. As shown in the figure 2, we are reaching the inflection point for significant e-business adoption.

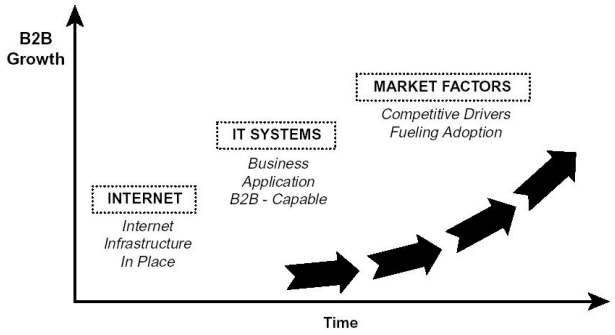

Fig. 2: Internet Users in the World Growth 1995 - 2010.

The Internet technologies and infrastructure are in place to exploit this revolutionary technology; industry competition is driving companies to adapt quickly. The electronics industry will be at the forefront of this activity due to the intense time-to-market and time-to-volume pressures.

3. The New Economy

We need a new economics to understand the new economy of bits. I am skeptical. The old economics—or at least the old principles—work remarkably well. Many of the effects that drive the new information economy were there in the old industrial economy—you just have to know where to look. Effects that were uncommon in the industrial economy—like network effects, switching costs, and the like—are the norm in the information economy. Recent literature that aims to understand the economics of information technology is firmly grounded in the traditional literature. As with technology itself, the innovation comes not in the basic building blocks, the components of economic analysis, but rather the ways in which they are combined.

The Internet will also revolutionize retail and direct marketing. Consumers will be able to shop in their homes for a wide variety of products from manufacturers and retailers all over the world. They will be able to view these products on their computers or televisions, access information about the products, visualize the way the products may fit together (constructing a room of furniture on their screen, for example), and order and pay for their choice, all from their living rooms[9].

Commerce on the Internet could total tens of billions of dollars by the turn of the century. For this potential to be realized fully, governments must adopt a non-regulatory, market-oriented approach to electronic commerce, one that facilitates the emergence of a transparent and predictable legal environment to support global business and commerce. Official decision makers must respect the unique nature of the medium and recognize that widespread competition and increased consumer choice should be the defining features of the new digital marketplace.

Many businesses and consumers are still wary of conducting extensive business over the Internet because of the lack of a predictable legal environment governing transactions. This is particularly true for international commercial activity where concerns about enforcement of contracts, liability, intellectual property protection, privacy, security and other matters have caused businesses and consumers to be cautious.

As use of the Internet expands, many companies and Internet users are concerned that some governments will impose extensive regulations on the Internet and electronic commerce. Potential areas of problematic regulation include taxes and duties, restrictions on the type of information transmitted, control over standards development, licensing requirements and rate regulation of service providers. Indeed, signs of these types of commerce-inhibiting actions already are appearing in many nations. Preempting these harmful actions before they take root is a strong motivation for the strategy outlined in this paper.

Small and medium enterprises (SMEs) have received substantial focus on several international and inter-governmental forums, especially in APEC, in recent years. The contribution of SMEs to national economic development and employment creation is unquestioned. In Singapore, Malaysia and Hong Kong, SMEs operate in almost every industry but few have considered seriously the impact of information technology (IT) and electronic commerce (e-commerce) on the success of SMEs. The Internet economy is a broader concept than e-commerce and e-business. It includes e-commerce and e-business. eMarketer projects an increase in the share of B2B e-commerce in total global e-commerce from 79.2% in 2000 to 87% in 2004 and a consequent decrease in the share of B2C e-commerce from 20.8% in 2000 to only 13% in 2004 (Figure 3). Table 1 shows the projected size of B2B e-commerce by region for the years 2000-2004.

Fig. 3: Share of B2B and B2C E-Commerce in Total Global E-Commerce (2000 and 2004)

Table 1 : The projected size of B2B e-commerce by region for the years 2000-2004

	2000	2001	2002	2003	2004	As a % of worldwide B2B commerce, 2004
North America	159.2	316.8	563.9	964.3	1,600.8	57.7
Asia/Pacific Rim	36.2	68.6	121.2	199.3	300.6	10.8
Europe	26.2	52.4	132.7	334.1	797.3	28.7
Latin America	2.9	7.9	17.4	33.6	58.4	2.1
Africa/middle East	1.7	3.2	5.9	10.6	17.7	0.6
TOTAL	226.2	448.9	841.1	1,541.9	2,774.8	100.0

Before the Internet was utilized for commercial purposes, companies used private networks-such as the EDI or Electronic Data Interchange-to transact business with each other. That was the early form of e-commerce. However, installing and maintaining private networks was very expensive. With the Internet, e-commerce spread rapidly because of the lower costs involved and because the Internet is based on open standards. Figure 4 shows new economy relationships in comparison with old economy.

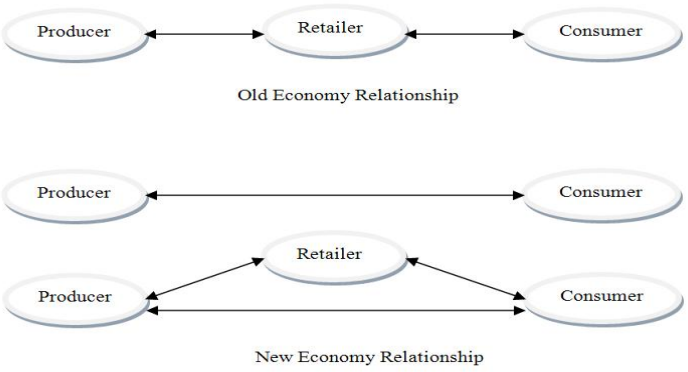

Fig. 4: Old Economy Relationships vs. New Economy Relationships

4. Conclusions

The IT field is evolving and developing every day. New technologies in computers and mobile devices are shaping the way the world communicates with one another, gets work done, and spends free time. There is a growing need for individuals with a love of the field, a curiosity for the future, and a desire to be a force in it. Jobs in the field are on the rise, and employers are on the lookout for fresh talent; those who want to play a part in its future have no limits on their potential or on the potential of their specific field.

The success of electronic commerce will require an effective partnership between the private and public sectors, with the private sector in the lead. Government participation must be coherent and cautious, avoiding the contradictions and confusions that can sometimes arise when different governmental agencies individually assert authority too vigorously and operate without coordination.

The essential problem of the e-commerce is internet/data privacy which is at risk in a high security environment, which is the current case worldwide. Laws and regulations concerning privacy, Internet taxation, reuse of information, access for children and other aspects continue to affect information sharing practices. Most companies that are using e-commerce are feared that transactions executed electronically may not be captured. Companies that leverage the Internet for collaborative product design and distribution also face increased threats from piracy if products and delivery methods are not secure.

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