

# Past, Present and Future of E-Business

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## ABSTRACT

*E-business is not like e-commerce. E-business is more comprehensive than e-commerce. In the near future, it is expected that e-business prevails in the fields of wireless, peer-to-peer networks, streaming media and biometrics technologies. In this paper, we discuss the past and current of e-business, and then research topics of e-business, including new technology and the directions.*

**Keywords:** E-Business Technology, Wireless Communication, Biometrics.

## 1. INTRODUCTION

This paper discusses a concept and trends about e-business. E-business electronically enables communications networks online, which allows business enterprises to trade information and establish business transactions. After commercial dial-up services were introduced, the full fledged e-business economy began in 1992 [1]. The fast growth of technologies has had an impact on the Internet and e-business [2]. E-business leads to revolutionary variation for all enterprise works and relationships. Therefore, it is important to understand e-business and the following technologies in the near future. This paper consists of the followings. First, we introduce the definition of e-business, then explain the difference between e-business and e-commerce. Second, we show e-business at the past and present. Third, we research the future of e-business. Finally, we make the conclusion about e-business to create the better e-business model and compete effectively in the global market.

## 2. DEFINITION OF E-BUSINESS

E-business means electronic business, namely, doing business online. People usually regard the terms, e-business and e-commerce, as the same meaning. However, e-business is more popular term for having a wide presence on the Web [3]. There is a difference between e-commerce and e-business. E-

commerce is buying and selling through digital media and it is an extremely important facet of e-business. On the other hand, e-business includes both front- and back-office applications that form the engine for modern business beyond e-commerce. With the aid of technology, it also redefines old business models to maximize customer value and high profits [4].

The Internet was created only 30 years ago and electronic mail was introduced in 1972. In the mid-eighties, desktop operating systems surfaced and the modern day Internet began to take shape. Tim Berners-Lee developed the first World Wide Web (WWW) software in 1990. In the early '90s, commercial dial-up services were introduced. The real e-business economy began in 1992. By 1993, over 100 countries had an online presence. Within the year, commercial users outnumbered academic users for the first time. By the mid-nineties, e-commerce became attractive to business. After 1997, virtually every major company, organization, government and news services are based on the Web. Vertical companies took the next step and actually started performing business on the Web. Amazon.com demonstrates this. The first wave of e-business is said 'brochureware'. Supply chain issues started to be addressed in the next wave [1].

## 3. CURRENT E-BUSINESS

### 3.1 Types of E-Business

In this section, we discuss four types of e-business. They are classified according to the central body of trade.

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B2B is e-commerce transactions between a business and other business. B2B relationships are classified into buyer-oriented, seller-oriented, the virtual market place. Buyer-oriented place is where the system is for the needs of the buying business. Seller-oriented place is where the system is for the needs of the selling business and a recent innovation in commerce. The virtual market place is where the systems are for the collective needs of groups of buyers and sellers. In B2B communication, success revolves around the collaboration, accumulation, and knowledge-exchange and information transformation between organizations. Partners within a B2B sphere have to make a sincere community of partners. The success of B2B paradigm proves that on-line trading for specific market promotes the sale and distribution of merchandise between partners.

B2C is e-commerce transactions between a business and an individual consumer. This is, in other words, retailing or online shops. Sellers tend to lead the terms of the trade and the consumer tends to make a decision to purchase or not. An example of this is the book retail site Amazon. In B2C communication, success revolves around the quality of the information systems used by the e-business, the availability of the e-business web site, and the quality of its web site. The use of enterprise portal will be more enhanced this communication.

C2B is e-commerce transactions between a consumer and business. This is, in other words, tendering or bargaining. The consumer provides details of their particular needs, and variety of businesses responds with specifications and prices. Expedia demonstrates this. It provides flight ticket prices from differing airlines at different prices and specifications.

C2C is e-commerce transactions between an individual consumer and another consumer. This equates to the private advertisements in a newspaper where individuals are selling to other individuals. Some examples of this are in an online situation, an online auction site, such as eBay.

In essence, B2C communication has a focus on intra-organizational communication just within the business, while B2B has all of that plus a focus on communication with other businesses. Whether an organization is B2B or B2C focused, the success behind communication revolves around how quickly an e-business can identify, acquire, develop, share, utilize and retain enormous quantities of information across physical, geographic and temporal boundaries. An inter-organizational communication infrastructure is just an extension of an intra-organizational infrastructure [5].

### **3.2 Technologies of E-Business**

In this section, we discuss some technologies that are widely needed for e-business. They are wireless technology, peer-to-peer networks and Internet TV technology from streaming media.

The followings are key enabling wireless technologies. Short Messaging Service (SMS) enables a cost-effective, efficient and discreet messaging platform to manage out of the office

workforce [6]. Bluetooth is a short-range radio technology. It is complementary to other wireless technologies. Bluetooth at the start of its designing primarily requires low power needs, low costs, small footprint (size), speech and data transmission capabilities and world-wide capacity (standardization) [7]. Wireless Application Protocol (WAP) and i-mode are two technologies that allow for Internet access over the portable phone infrastructure. With somewhat bigger screens, WAP phones provide low-to-medium speed Internet access as well as portable phone service. Instead of HTML, WAP phones use a WAP Markup Language (WML) that has been optimized for small screens and low-speed access [8]. General Packet Radio Service (GPRS) is a mobile network technology where data is sent and received much more efficiently than on current mobile networks. Therefore, it delivers significant improvements for users sending small or large volumes of data. 3G, which is third generation of mobile communications technology, is similar to GPRS, but provided at higher speed. 3G enables to increase bandwidth in fixed applications [6].

There are four components used in peer-to-peer networks. First, a client modem, either a PC card or vehicle-mounted modem, connects to a mobile data terminal or laptop. Second, wireless routers act as the network's permanent hopping points and can be attached to light poles, traffic lights or other structures. Third, access points bridge the wired and wireless systems. Finally, network related software runs the system. The peer-to-peer technology enables each user's machine to act as a router, allowing the network to cover great distances [9].

Internet television uses streaming media to broadcast digital television content on the Internet. There are some advantages for Internet television. Internet television has its much more expansive reach than the regular television, which is in most cases restricted to a geographical area. It has also the capability to offer potentially infinite channels to the viewer. Internet television has several forms. Some traditional networks offer the followings. They broadcast an additional footage to a television program on the Internet television, premium movies on video on demand basis and innovative programs with interactive and multimedia component [10]. A channel that only exists on the Internet television offers specialized programs with a narrow scale of viewers [11]. Some networks also offer the same material on Internet television as they do on traditional television by charging a subscription fee by the viewer. Commercial networks have a library of movie clips the viewers can access on demand [10].

## **4. FUTURE OF E-BUSINESS**

In this chapter, we discuss the future technologies of e-business. It is expected in the fields of wireless, peer-to-peer networks, streaming media and biometrics technologies.

With the growing popularity of wireless network systems, especially in the home, the array of devices that use wireless technology have been increased dramatically. Wireless keyboards and mice have become a must-have in crowded

home offices. These essential computing accessories have become neat, attractive and easy to move. Wireless e-business uses devices including mobile phones, pagers and palm-powered personal computers (PC), pocket PCs as well as desktop computers, printers and projectors. Wireless technologies minimize desk clutter and reiterate the strong market for technology that allows for simplicity within the home office. The most of these devices are Bluetooth enabled, which means users can synchronize, connect, share and listen without wires. Wireless devices have begun to expand to other areas of the home. Some examples of this are microwave ovens, washer-dryers and fridges. These are designed with Bluetooth capabilities. These devices enable to live in a home automation system [12].

P2P networks are that individual computers have access to information made available on other individual computers. The number of computers that can be accessed at any one time can be in the millions if certain applications, such as Kazaa, are chosen. Therefore, the amount of information that is available is substantially greater than any single server could possibly provide. Moreover, because the data being transferred is coming from several sources at the same time if something happens to one computer other computers on that network are not affected. If a central server crashes, anyone connected would lose his or her downloading data. Pioneering software companies have come to realize the potential that P2P technology has outside of a multimedia file sharing capacity in recent years. And they have begun to foster the development of P2P applications that support business-to-business, marketing and even e-learning activities [13].

The one-way data transmitting technique is developing into a multidimensional delivery system that gives audiences not only convenience but also high-quality audio and video and a new level of interaction [14]. Television and computer will merge forever. We will see the combo version television very soon on the market. DVD's and CD's will be overwhelmed by streaming movies and songs. People will be able to download a High Def movie on their set-top box, laptop, portable PVR, phones and cars. The ability to transmit live video over xG networks or Ultra-hi-def-Fi IP networks will be at speeds of 100 MBps or higher. Video-over-IP (VOIP) or some mix of video, text and GPS location will rule the world. Video collaboration will change the way enterprise, small businesses, government and individuals communicate and work. Since now we will be able to virtually be there from anywhere, telecommuting will have a whole new meaning. People will be equipped with their own media servers for their household appliance. We will have video or virtual answering machines to take our messages, which enable to know who and why they are calling us. We should be able to have our personalized video pages on our TV's, laptops or phones, with news, movies, live feeds, vlogs and video messages [15].

Biometrics indicates the automatic identification of a person based on his or her physiological characteristics. Biometrics technology is much superior to current methods involving passwords and personal identification numbers (PINs)

technically. The person to be identified is required to be physically present at the point of identification and identification based on biometric techniques obviates the need to remember a password or carry a token. Since the increased use of computers as vehicles of information technology, it is necessary to restrict access to sensitive or personal data. By replacing PINs, biometrics technology can prevent unauthorized access to fraudulent use of ATMs, cellular phones, smart cards, desktop PCs, workstations, and computer networks [16].

## 5. CONCLUSION

This paper discussed the concept of e-business through understanding of the difference between e-commerce and e-business. It also discussed the various types of e-business. It is certain that e-business is the utilization of information and communication technologies to support all the activities of business. E-business must concern itself with the development of both organizational strategy and informatics strategy.

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