

The Emergence of the e-Business Based New Economy

-Focusing on the Place of e-Commerce in Business Development-

ティオフィラス・アサモア

I . Introduction

In recent years, e-Business seems to have become a common word in almost all areas of life and research. It can be said that e-business has not only been a trend but also one of the main means of conducting business with the start of the internet era or the digital age. As a result, traditional businesses have been incorporating e-business into existing ways of doing business and new forms of businesses which are e-business based have surfaced in almost all industries. All forms of business cannot operate without making some form of reference to e-business. The resulting effect is the emergence of a new economic set-up which has been termed in some fields as the online, internet or digital economy.

The supply sector of the economy which is based on the production of goods and services heavily relies on e-business. In addition, large portions of the demand side almost rely on online and internet to meet its wants and needs. The exponential growth of the use of elements of this digital age as well as related aspects of the internet (including extranet and intranet) has been ahead of research in this era. Furthermore, it has been very difficult to delineate the field of research of e-business. The first task of this paper is to review the overall growth of e-business as an area of studies and research. The second task is to look at how e-commerce has been developing within e-business. The third task is to identify the elements which will influence the growth of e-commerce within the current economy system.

II . The New Economy

The current economy of the 2000s is generally referred to as an economic system based on digital computing technologies. This new economic set up is also known as the Digital Economy, the Internet Economy, the Web Economy or the New Economy. In this paper this economic system will be referred to as the New Economy.

The term digital economy was systematically conceptualized by Don Tapscott in 1995 in his book “The Digital Economy: Promise and Peril in the Age of Networked Intelligence” to describe the

new economic order. The book basically outlines the ways the internet is, and was going to change the conduct of business. Even after all these years, the way internet and IT (including ICT) will be changing the business environment is still believed to be at the beginning of an evolutionary curve.

Kosha Gada's article mentioned in the reference of this paper shows that half of the global population has gone online, a third of the population is somehow on social media network, about 53% are using mobile connected devices. These figures cut across age, race, geographical and national borders. The culmination of this expanding connectivity of customers and consumers is the core of the digital economy. The digital economy has five basic attributes or characteristics.

Firstly, the digital economy is digitized and tracked. Even analog objects are as much as possible transmitted in digital signals that can be measured, tracked and analyzed for decision making. Consequently, assets of management can be better allocated in the conduct of business. The second major attribute of the digital economy is connectivity. Assets, customers, consumers, supplies, workers and other stakeholders are effectively connected by all forms of communication to make information-driven decisions. This improves effectiveness, efficiency and visibility across enterprises, groups and individuals. Connectivity to a large extent reduces uncertainty, failures and also improves the integrity of assets of management.

Related to the second aspect of digital economy is the third attribute which is sharing. One of the main forces of the digital economy is sharing. Sharing the assets, especially information leads to effective communication. The production sector acquires what is needed and considerably reduces inefficient use of resources. This leads to lower cost in other areas like procurements, inventories and payments. It also increases collaboration in the use of resources, the effective use of third parties as well as effective flow to customers and consumers.

The fourth attribute of the digital economy is to personalize to the customer and consumer. The customer or consumer personalization implies that customers and consumers receive personalized items including products, services as well as ideas (experiences) to meet their needs and wants. The fifth attribute of the digital economy is direct interactions between parties of a transaction. The digital economy makes it possible to eliminate or minimize the required level of middlemen and intermediaries in the chain of transaction and delivery of such transactions. This leads to creating a more direct relationship between the parties to a transaction. The elimination of unnecessary channels lowers friction and barriers of transaction processes. This creates value to the relationship of the parties to the transaction and also allows the easy follow of intelligence, tracking, monitoring, managing, reporting and resolving issues which may arise in the lifecycle of the transaction.

The digital economy has been transforming the lives of people by providing customers and

consumers a greater convenience choices and value. In addition, the digital economy is constantly changing the society by elevating efficiency and, effectiveness in the operation of the economic systems. This has also increase the substitutes of choices for solving issues and problems of the economic systems. The digital economy has also been having a profound effect on businesses and the way of doing business. It has been transforming approaches to decision making and even the processes of arriving at decisions. Smart decisions are being made by using the effective tools of digitalization. Real-time decision making have also been much easier to undertake.

The impact of digitalization and the internet on the economy is very big. However like in all forms of economic development, the extent and level of impact differs among economies. The BCG and OECD reports mentioned in the reference section on the G-20 have cited a GDP growth rate of 5 to 10 per year in China and India. The growth of digital (internet) economy in developed countries will grow at an annual rate of 8 percent over the next five years. This growth rate is estimated to far outpace every traditional economic sector. The contribution to EU is forecasted to increase by 5.7% and 5.3% in the G-20. In the developing markets it is estimated that the growth of the digital economy will be around 18%. This momentum of growth is also being generated in developing markets in response to the large investment in broadband infrastructure which has led to a large growth in banking, finance and related industries.

The reports indicate that the overall internet (digital) economy of the G-20 was to double between 2010 and 2016. Furthermore, such a growth was projected to result in the employment of 32 million additional persons. The exponential growth is being attributed to two main factors. These are the increasing number of users and the faster more ubiquitous access. The reports projected a rise of users of 1.9 billion in 2010 to 3 billion in 2016. The broadening of access was especially becoming significant through smartphones and other mobile devices as well as the popularity of social media.

III. E-Business and the New Economy

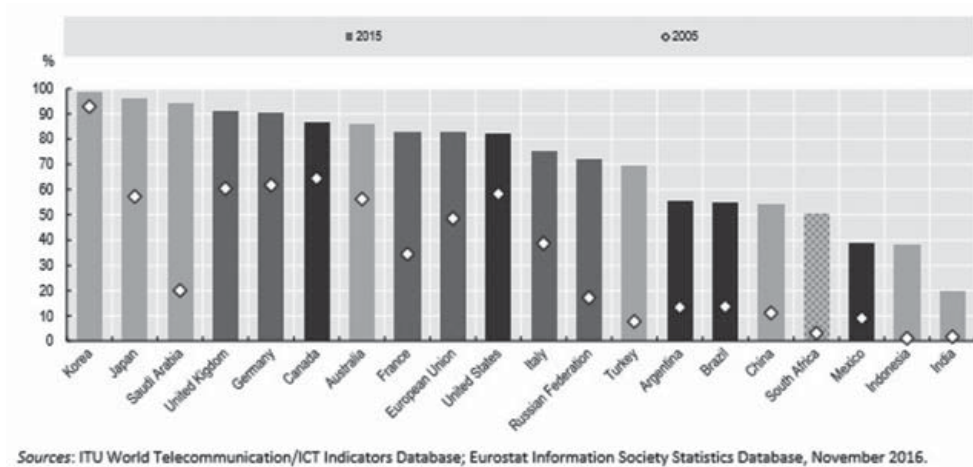
Manuel Castells provides one of the straight-forward explanations or definitions of e-business in his book “The Internet Galaxy: Reflections on the Internet, Business, and Society”. According to Manuel, e-business covers all business activities including operations of management, financing, production, distribution, sales, human resource management, and customer relations management that predominantly takes place or are undertaken on the internet or other networks or digital devices of computer related networks regardless of the nature of connections between virtual and physical dimensions of the enterprise.

This presentation of the meaning of e-business by Manuel examines and evaluates the transformation of the business practice by the company and the relationship between the digital network (including the internet and other related networks) and the internal as well as the

external environment of the firm which in turn impacts the firm operations and the economy as a whole. It is therefore important to assess the digitalization of the economy to facilitate the conduct of e-business. One of the most recent assessments is the report prepared for the joint G20 German Presidency/OECD Conference, Berlin, Germany 12 January, 2017 from which the figures presented in this paper are also adopted.

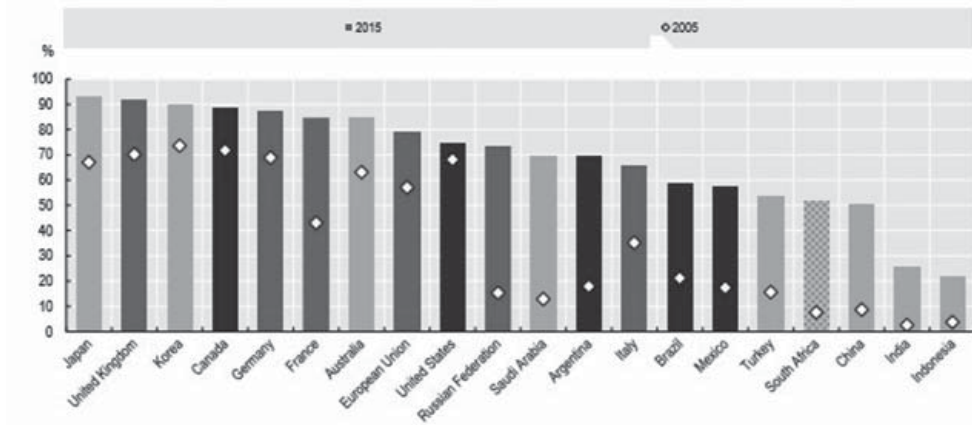
This definition by Manuel shows that the ability to carry e-business means that individuals and businesses need reliable and widespread access to digital networks and services. Access to the internet has greatly improved for the past few years and that has influenced the adaptation of e-business as an integral component of business practice. Access by both businesses and individuals is almost universal in Korea, Japan and Saudi Arabia (see Figure 1) and generally very high in most of the G20 economies.

Figure 1. Households with internet access at home
As a Percentage of total households



There is also variation in internet usage across the G20 economies by individuals (consumers) but Japan ranks the highest with 93% record. However, generally many of the G20 economies show very high usage of the internet including the United Kingdom, Korea and Canada. The difference in internet usage may be related to broadband penetration and other digital infrastructure (see Figure 2).

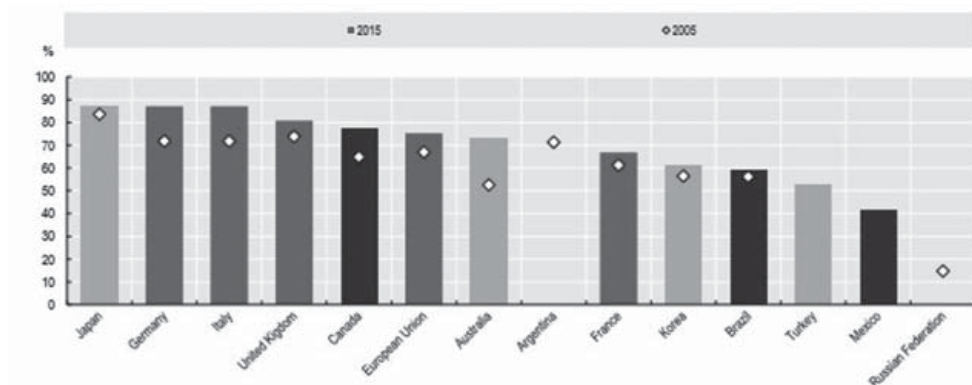
Figure 2. Individuals using the internet
As a Percentage of total individuals



Note: Please note that the number of total individuals may vary across countries depending on age intervals.
Sources: ITU World Telecommunication/ICT Indicators Database; Eurostat Information Society Statistics Database, November 2016.

Although individuals or consumers usage are very important to e-business but, usage by businesses normally outweigh individuals. The report shows that this phenomenon has opened new opportunities on domestic, regional and global markets for consumers and businesses to interact to the development of e-business. The report indicates that advantage is being taken of these opportunities making the internet and the web presence essential in the New Economy. In concrete terms, it is shown that more than half of all firms have internet presence in most of the G20 economies. It is important to note that the presence of companies on the internet has increased in all industries in the past decade (see Figure 3).

Figure 3. Businesses with a web presence
As a Percentage of total businesses



Note: For Argentina and the Russian Federation, no recent data is available.
Sources: Eurostat; OECD; UNCTAD, November 2016.

IV. E-Business and E-Commerce

It has generally been contended that one of the major obstacles which hinder advanced research in the areas related to e-business, e-commerce and e-marketing is the ambiguity in dealing with concepts and definitions. The second reason is that e-business and e-commerce are relatively new areas in the study of business and management which has led to these concepts being used synonymously in a number of researches. The third reason or obstacle is traced to the historical conception and development of e-business and e-commerce.

It can be inferred from the definition and explanation given earlier in this paper concerning the meaning of e-business that it is currently being used as a broad concept that encompass business organizations use of electronic or digital medium including internet, extranet and intranet to carry out all/any specialized or overall business activities. In a nutshell, e-business involves all/any of the processes a business organization employs to conduct activities using electronic and computer enabled networks.

On the other hand, e-commerce has been conceptualized as constituting the exchange and transaction of goods (products), services and information among businesses, groups and individuals by using electronic, digital or other related network. E-commerce focuses on the use of information and communication technology (ICT) in such transactions and exchanges.

a) History of e-Business

The term e-business is supposed to have been coined by the Marketing and Internet Team of IBM in 1996. IBM working with the company's agency Ogilvy & Mather in 1994 started to use the company's information technology solutions and know-how to show that it was the leading company in undertaking business on the internet. The company working with its agency used the term e-business as the concept and slogan for this new area of marketing. The CEO of IBM during this period, Louis V. Gerstner, Jr invested one billion United State dollars to develop this term as a new brand of IBM.

As a result of a worldwide market research conducted by IBM in October 1997, the company started with an eight-page piece in the Wall Street Journal to introduce the concept of e-business. In addition, IBM used this opportunity to present the company as the expert in this field of business. However, IBM decided not to register e-business as a trademark. The reason for not registering e-business as a trademark was that IBM hoped that other companies would use the term and consequently lead to the emergence and development of a new industry. The gamble of IBM reaped great results so in 2000 IBM decided to undertake a \$300 million campaign concerning the e-business infrastructure capabilities of the company. Since 2000, e-business has become a common term and concept in not only business practice but also research in business and management.

b) History of e-Commerce

Although the term e-commerce was not in use in the 1960s leading technologies like Electronic Data Interchange (EDI) and Electronic Funds Transfer (EFT) in the 1960s are seen as the beginning of e-commerce. EDI took over the existing process of mailing and faxing documents with a digital transfer of data from a computer to another computer. It became possible for parties in a trade to transfer orders, invoices and other business related transactions through data format which met the ANSI ASC X12 that had become the predominant standards in North America. It is generally contended that the rail industry by its nature was one of the main industries to first adopt EDI. Other industries coming in made the system favorable in international trade.

E-commerce began to take shape from the late 1970s through to the 1980s. The first major attempt was made by CompuServe which developed a network service by setting up an online electronic mall which led a small number of merchants into the consumer's home through their personal computers. It was possible for the users of this electronic mall to select from lists of products for each virtual store.

As a third party in the transaction, CompuServe charged consumers an annual membership fee and such members of the system were able to take advantage of online discounts. At this stage of the system, consumers were using dial up internet and they were therefore charged per minute to browse. However, means were also found to counter this cost through the use of benefits of using the online services. In this respect, Comp-u-store (as it was called), regularly sent catalogues to users of the system. In this Comp-u-store system, users became aware of the availability of items they wanted and therefore did not have to spend too much money on browsing online.

The English inventor, innovator and entrepreneur Michael Aldrich is credited with the development of the online shopping system. The system was developed by Aldrich in 1979 as a result of his wife complains about shopping. Aldrich hooked a TV set to a transaction processing computer with a telephone line and invented what he called "teleshopping" which meant shopping from a distance. In 1984 through this system then called Videotex, the lady bought a variety of groceries from Tesco using her remote control and the Videotex technology. In 1982, in France had been invented the precursor of the internet known as Minitel.

In 1990 Tim Berners Lee and Robert Cailliau published a proposal to put in place a "Hypertext Project" known as "World Wide Web". In the same year, Lee used a NeXTcomputer to create the first web server and also wrote the first web browser. In 1991 Lee combined the hypertext of the internet which led to him creating URL, HTML and HTTP. The National Science Foundation removed its restriction on the use of the NET for commercial purposes in 1991 and that led to significant growth in the use of the internet and online shopping. In 1995, NSF started charging

fees for the registration of names of domains. 120,000 registered domains grew to more than two million in three years. Later, registration of domain moved into a commercial sector.

In 1994 the internet effectively started to be more accessible than before. Netscape created the Secure Sockets Layer Protocol in 1994. This protocol provided web browsers with an encryption integration. The result was that it became possible for businesses to accept payment through the web. It is contended by some that with the implementation of the SSL Pizza Hut used the system in the same year and sold the first bought product through the internet pizza.

Some college students in the United States are said to have develop a system they called Netmarket. The Netmarket is contended to be the first system to facilitate digital secured payment for retail transactions. The main obstacle of the Netmarket was its accessibility to specific software which could accommodate a small amount of users at that time. The limitations of Netmarket led to others coming into operation with digital secured payment systems.

Dell.com which has contributed a lot to e-commerce launched the company's static page in 1994. By the end of 1997, Dell.com was reported to be the first company to achieve a million dollars e-commerce sales (online sales). Although sales of Alibaba.com is considered to very high, the often mentioned global major champion companies of e-commerce are Amazon and e-Bay. The massive achievement of Amazon which was then considered as on the heels of Netmarket brought in a lot of participants into the arena of e-commerce. E-bay has made it possible for any person to sell something on an e-commerce website. The Paypal which was introduced in 1998 made it possible for customers to make easier payments online. Paypal has developed into a service people have come to use every day. Just before the millennium, Amazon became the first company to launch a mobile internet store in response to the birth of mobile internet in 1999.

The 2000s have been adding a lot to e-commerce. The adWords introduced by Google in 2000 became a major tool of e-commerce for e-tailers. The AdWords of Google is still important with respect to its impact on search results and the manner it allows e-tailers reach out to potential customers. The introduction of iTunes in 2003 by Apple was a big boost to digital products becoming a big business. iTunes which was launched with 200,000 items has changed the means by which songs are bought. This has even led to the invention of music tools like the ipod. The birth of Etsy has been another breakthrough in e-commerce in bringing specialized field and consumers together.

The Amazon e-reader Kindle introduced in 2007 has been another development in e-commerce for reading materials. Kindle has inspired others like Rocket, Gemstar and Sony Librie. Kindle has continued to evolve and has impacted e-commerce of reading/publishing materials. In 2008 a lot of department stores and supermarkets started investing heavily in click and collect service of e-commerce. The saving of time has led to the use of such extra time in the development of

other activities which are also economic related.

One of the major achievements in 2008 and 2009 within e-commerce is the introduction of crowdfunding. Under crowdfunding, businesses, especially start-up and small businesses do not have to solely depend on loans, angel investors, pitch investors (elevator pitch investors) or money from friends/family. Indiegogo (2008) and Kickstarter (2009) are two of the leading crowdfunding platforms which have developed within the realm of e-commerce.

Facebook founded in 2009 has turned to be one of forces in e-commerce. Initially portrayed as social network, Facebook started the trend for purchases through social networks. Businesses have Facebook page on e-commerce store sites. Various forms of engagement in e-commerce have been undertaken by Twitter and Pinterest among other social network platforms. The attempt is to integrate e-commerce with social platforms where most consumers spend time. It has become an important means of cashing on consumers using mobile devices.

E-commerce has continued to evolve in enhancing the relationship between digital platform and machines in the transaction of goods, services and information through the internet/web stores, mobile site/apps and social networks. In 2013, Xbox 360 facilitated access to the Pizza Hut menu through the console. In 2014 the Dominos app made it possible to order pizza while continuing to play by using the kinect commands. Furthermore to mention a few of e-commerce plugins, script and other systems which have been introduced are the Prestashop, Oscommerce, Opencart, Ecwid, Woocommerce, Shopify and Magento. The Mobilegeddon introduce by Google in 2015 has elevated the responsive and mobile friendly websites of e-commerce. The continued introduction of such changes will continue to enhance not only e-commerce performance but also the growth and development of the new (digital) economy.

Looking at the history of e-business and e-commerce, it is clear that although e-business is a broad field than e-commerce, e-commerce has a long history and has greatly supported the emergency as well as the growth of the new economy.

c) E-Commerce Transactions

As can be inferred from the developments in e-commerce, it is a field of e-business that covers electronically mediated transaction which are directly financial and non-financial in nature. In a nutshell, the basic perspectives for e-commerce presented by Kalakota and Whinston which have been also referred to by scholars including David Chaffey in 2015 are relevant as of this stage of the 2000s.

- The communication perspective covers the exchange of information, goods and services through electronic medium.
- The business process perspective involves the use of ICT in the actual conduct of the business transaction in information, goods and services.

- The service perspective includes all ICT transactions aimed at reducing cost, save time, increase speed and quality in delivery of services before, during and after the e-commerce transaction.
- The online perspective is a straight forward look at the core issues of e-commerce. That is conducting marketing activities online.

In spite of the many changes being used in the classifications of e-commerce which may also be viewed from technology, business or social point of view, e-commerce has basically a selling and buying side. These two sides have been the driving force in the general business or consumer models of e-commerce transactions or markets.

d) Basic Models of e-Commerce Transactions

Various forms of e-commerce transactions have been presented over the years from different perspectives. The list has grown long as attempts are being made to present such forms of transactions from the business, technology and social perspectives. However, the basic elements of e-commerce transactions are organizations and individuals. At a specific stage the same organization or individual may be on the selling side and then be on the buying side.

Firstly, organizations cover a wide range of bodies which may be profit-oriented (businesses) and non-profit oriented (government, institutions etc.). Initially, all organizations were classified as businesses (B). Business to Business (B2B) covers all commercial transactions between or among organizations which used to be called industrial marketing (transaction) in marketing research. They span across various type of organizations which may be regarded as inter-organizational marketing or procurements. At a point, government transactions were singled out since it forms a great part of national transactions (procurements), equally other areas which are semi-government or private institutions that are non-profit oriented have been contributing significantly to e-commerce. As a result, e-commerce transactions of all these organizations have been classified under B2B.

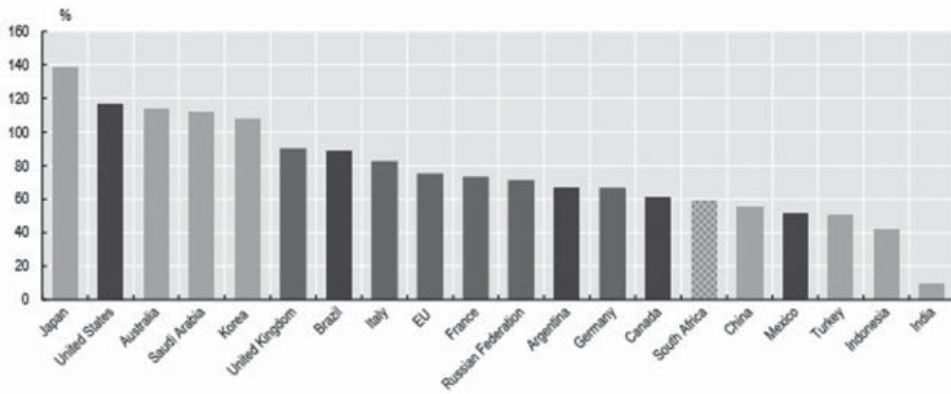
Secondly, major area of e-commerce transaction has been Business to Consumer (B2C). This sector initially was seen as one way under which businesses sold goods, services and information to consumers. However in recent years, many situation of C2B have been identified where consumers approach organizations with an offer. Consumers sell social network items, photos and many other items to businesses or related organizations. These phenomena can all fall under commercial transactions between an organization and a consumer. New e-commerce tools like crowdfunding can energize transactions between organizations and consumers.

Thirdly, consumer to Consumer (C2C) is a form of e-commerce that is also known as Peer-to-Peer/Person-to-Person (P2P) and has been increasing with the commercialization of major components of social networks. The viability of this sector which is a major contribution of

e-commerce to business activities has been greatly supported by third parties in the form of auction sites (e-Bay etc.).

The OECD on the Digital Economy (New Economy) singles out e-commerce as the major component of e-business with the strongest global impact on e-business, consequently the New Economy. However obviously, the success of e-commerce depends partly on the willingness of organizations and individual to be engaged in the electronic networks (internet, extranets and intranets), apps, webs and other aspects of the ICT. The current stage shows difference among economies which will continue to affect the place of e-commerce in both developed and developing countries (see figures 4, 5 and 6)

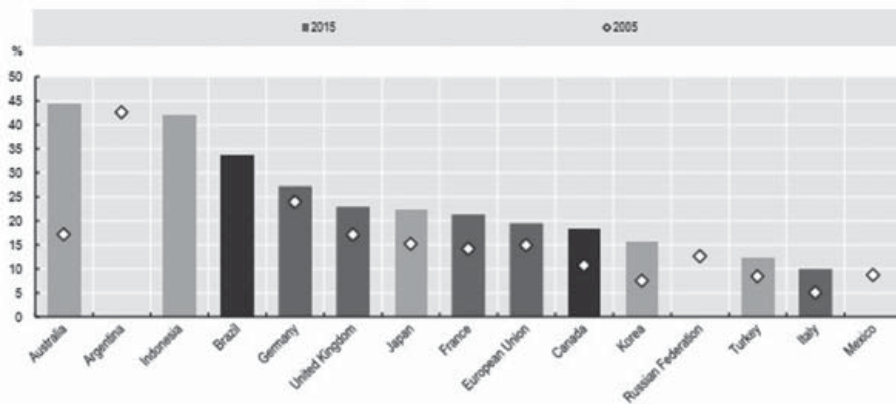
Figure 4. Mobile broadband subscriptions per 100 inhabitants
December 2015



Note: EU data are for July 2015.

Sources: OECD for OECD G20 economies; European Commission (DG CONNECT) for EU; ITU for other G20 economies.

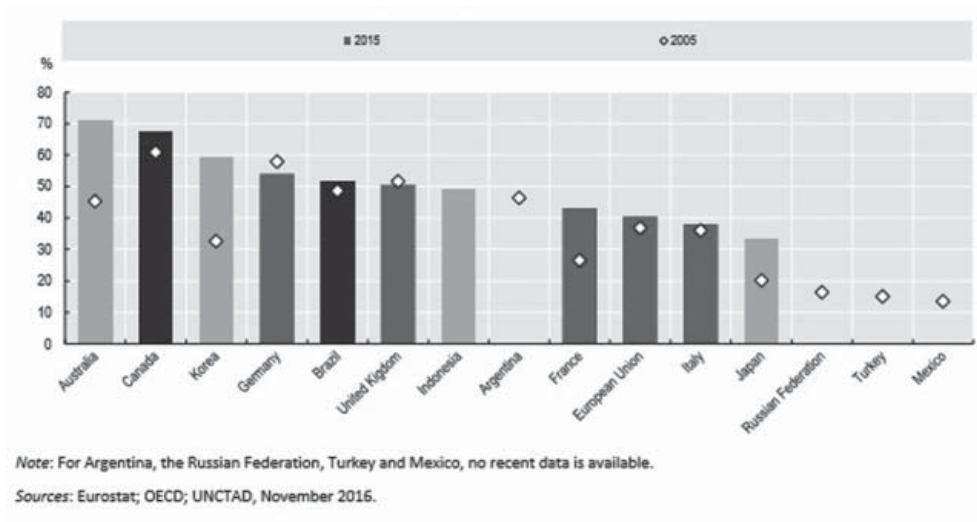
Figure 5. Businesses engaged in sales via e-commerce
As a Percentage of total businesses



Note: For Argentina, the Russian Federation and Mexico, no recent data is available.

Sources: Eurostat; OECD; UNCTAD, November 2016.

**Figure 6. Businesses placing orders over the internet
As a Percentage of total businesses**



V. Future Issues in e-Commerce and Impact on the New Economy

It is difficult to comprehensively present future developments in e-commerce because of the pace of growth and the areas it covers. However by looking at the currently situation from the growth since the late 1980s, the following postulations are of concern for a least the next five year. These conclusions are made based on the presentations made so far in this paper as well as the OECD and G 20 reports.

1) The Accessibility of Digital Technologies and Services to Organizations and Individuals

It is no surprise that difference in national policies, incomes, level of education, age and regional as well as sectoral regulation have always affected the elements of an economic structure (economies). One of the major areas which can be cited in this respect is the sectoral regulations in the telecommunications. Restrictions are common in the form of foreign entry, barriers to competition and regulation transparency. Openness of the internet, cross border data, flow of information and social network will continue to impact e-commerce across national borders.

2) Global Standardization in the Digital World

Currently, there seems to be some sort of open voluntary standards that are based on bottom-up and market-led approaches/forces. It has generally been argued that standards and related guidelines are necessary to maintain levels of security to ensure trust, efficiency in resource allocations, tackle energy, social and organizational challenges.

3) Emergence of IoT and AI

The establishment of IEEE 802.11 which is commonly known as Wi-Fi, has significantly influence wireless communications. The contribution in the past five years has led to market growth, impacted innovation and provide economies in the new society. E-commerce is likely to benefit in the same perspective from making good use of IoT and AI. The ability for e-commerce to be fully implemented and integrated in these areas will be relevant to growth of this sector of e-business and also impact the New Economy.

4) Regulations in the ICT Sector

Fixed-line communications, wireless communications and broadcasting used to be separately regulated services provided over different networks. However currently, these services are being encouraged to operate on general purpose network, including the internet. Basically, ICT have been regulated on country wise basis. There is therefore the need for countries to review existing regulation and the approach to regulate these services on a global basis.

5) Digital Security

Nations attacking major companies, banks and other essential service of rival countries have change the game in digital security. Digital security is changing from technical solutions to re-evaluating strategies and policies to minimize the risk of attack on firms, especially those in the e-commerce, on the digital economies and social activities. Attack on e-commerce is therefore not only a security issue but will also affect economic and social prosperity, related issues in the digital technology, law enforcement (cybercrime) as well as national and international security in the New Economy.

VI. Conclusion

The New Economy continues to grow but one of the main engines which underlie this growth is e-commerce from the perspective of e-business. Historically, e-commerce has been the foundation of developments in e-business and this trend is likely to continue into the next five years.

One of the main reasons for this phenomena is that e-commerce is one of the core element of return on investment in e-business and the New Economy as a whole. Even networks which started as social networking service have been turning more into commercial establishments. Such moves have been taken as part of the present trend of the New Economy or to provide a base for the development of e-business and the New Economy.

Consequently, the current trend under which e-business and e-commerce are being interchangeably being used without making any clear distinction by some writers may continue for some time. In addition, issues in e-commerce will likely be the dominant area for attention in dealing with the concerns of the New Economy.

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