ANALYTICAL REVIEW OF E-COMMERCE BUSINESS MODELS

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ABSTRACT: E-commerce has continued to evolve since its introduction. E-commerce operates through various platforms and its impact cuts across every aspect of business operations. Business owners/managers seeking to adopt e-commerce platforms for their business transactions need to be abreast of appropriate e-commerce business models that fit into their business operations. The applicability of e-commerce business models was reviewed. The study highlighted the e-commerce business models that exist and the transaction flow within each business model. E-commerce transactions and their applicability to business, customers and society were reviewed. The review revealed that e-commerce has changed the way of delivering products as consumers can transact 24 hours a day, from almost any location. It was concluded that the prospect of e-commerce is very high in emerging economies like Nigeria although its adoption is still at the basic stage. It is recommended that business owners/managers should procure quality devices and gadgets that will enhance efficiency in e-commerce transactions while users of e-commerce platforms are to take necessary precautions when using the platforms.

KEYWORDS: E-commerce, Business Models, Transactions, Customers
INTRODUCTION

In the recent past, internet technology has developed so rapidly that it conveniently facilitates the adoption of e-commerce platforms to carry out commercial transactions between participants from various parts of the world. Anup (1997) noted that the internet has certainly changed the way businesses are being conducted. With the paradigm shift in the mode of operation occasioned by the advent of the internet, global corporations now operate as though the world were a single economy. E-commerce fosters direct access to distant markets and promotes the globalisation of commercial activities. Globalisation was succinctly defined by Davies and Egbuchu (2019) as an all-inclusive expression for the emergence of civilization having a swift impact on people across the world. This has positively influenced 21st-century business transactions. E-commerce operates using communications technology to transact business within the online space such as electronic funds transfer, online transaction processing, automatic inventory management systems, online marketing and automated data collection systems. E-commerce refers to digitally enabled business transactions within an electronic environment using internet technology (Joseph, 2012; Award, 2012). Although there has witnessed rapid growth in the use of e-commerce by more advanced economies (Adam et al., 1999) the same cannot be said of emerging economies like Nigeria. E-commerce, therefore, comes with lots of opportunities for developing countries to gain a stronger foothold in the multilateral trading system. E-Commerce addresses new business concepts thereby impacting different areas of business processes. Its impacts are apparent on management information systems in terms of analysis, design and implementation of e-business systems within an organization. Other business areas to which e-commerce is applicable include; online recruiting, online banking, online transaction processing online advertising, and direct marketing. The adoption of e-commerce business platforms is not without legal and ethical issues.

Nigeria being a fast-emerging world economic centre (Adalikwu, 2012), provides an ideal context for analysing the e-commerce business model. In the Nigerian situation, the growth of e-commerce platforms may not be at par with the current growth of internet technology hence, the quest to examine the various business models within the context of developing countries like Nigeria. Transactions via e-commerce are not transacted among parties physically as it involves the use of online channels (Lee & Turban, 2001; Flavian & Guinaliu, 2006). E-commerce transactions are processed through the internet network for transferring data, websites as transaction interfaces, and credit cards for making payments. These media are prone to vulnerabilities since they can be used by fraud perpetrators to undertake cybercrimes. It has been established that e-commerce transactions will continue to be on the rise if buyers have an assurance of the channels used in the transaction processing since trust is crucial in every transaction (Pittayachawan, Singh & Corbitt, 2008). Given the advancement of e-commerce today, the significance of this study is to highlight the importance of e-commerce as applicable to developing countries like Nigeria. It will also afford us the opportunity of understanding the broad concepts of e-commerce business models.

Overview of E-commerce Evolution

Electronic commerce was introduced over 40 years and it has continued to grow with new technologies, and innovations evident by thousands of businesses entering the online market each year. The convenience, safety, and user experience of e-commerce have improved exponentially since its inception in 1969. John R. Goltz and Jeffrey Wilkins introduced the
first e-commerce in 1969 through a dial-up connection while Michael Aldrich invented electronic shopping through the use of the transaction-processing computer in 1979. Thomson Holidays installed the first business-to-business online shopping system in 1981 and in 1982, Boston Computer Exchange and France Télécom launched e-commerce and online ordering platforms. Interestingly, the first business-to-customer online shopping system was introduced in 1984. Moreover, in May 1989 internet-based system for e-commerce called Compumarket was introduced where sellers could post items for sale and buyers could search the database and make purchases using a credit card. Charles M. Stack invented an online bookstore in 1992. In 1994, a web browser tool for use in the windows platform was introduced by Netscape Navigator. Amazon and e-bay were launched in 1995. In 1998, an e-commerce payment system was launched by PayPal as a tool to make money transfers. Alibaba Group was established in China in 1999. An online advertising tool named Google AdWords was launched by Google for retailers to utilize the pay-per-click (PPC) in 2000. Etsy was launched in 2005 to enable small and medium-scale retailers to sell goods online. Google Wallet was launched in 2011 as the first digital payment option that allowed transactions to take place online; Apple Pay was introduced in the year 2014 as a form of mobile payment for online transactions; Jet.com was launched in 2014 as an online shopping portal. Instagram shopping was launched in 2017 as a global e-commerce platform. The present condition of e-commerce looks extremely positive as more and more people are going online with their e-commerce stores, via various social media and online shopping platforms and it is expected to be at its zenith in the coming years.

E-commerce Developments and Practices in Nigeria

E-commerce has been growing in Nigeria over the last couple of years (Ojo, 2016). This position can be attested to by the several online shopping sites springing up offering business services to millions of internet users within and abroad. Omar (2015) noted that the global growth rate of e-commerce is 16.8% and Africa's e-commerce space is growing at a rate of 25.8%. Emmanuel (2013), however, observed that e-commerce is still at the basic stage in Nigeria, but with an overwhelming impact on business transactions in the country. The Nigerian Bureau of Statistics reported that ICT-enabled online businesses contribute about 8.4% of Nigeria’s GDP and recorded a 16.4% growth in 2014, and the industry boasts of over 300,000 online orders daily (Emmanuel, 2013). Many factors have contributed to the growth of e-commerce in Nigeria. These factors include rapid growth in the number of internet users; availability of broadband technology, use of smartphones, use of social media, provision of e-government services allowing for online transactions, and growth in the number of e-commerce firms.

Although, most educated Nigerians have recognised the usefulness of e-commerce, yet, many are reluctant to engage in online transactions without recommendations from relatives and friends, or receiving positive comments from other users through product reviews or discussion forums. While businesses in Nigeria are reported to have online access with opportunities for e-commerce activities, customers in the country however access business websites only to source information but make purchases the traditional way (Ayo, Adewoye, & Oni 2011). The fast-growing e-commerce industry could stimulate the growth of an economy, adding to diversification in the medium to long term. Considering the population of Nigeria, it is expected that the number of people involved in e-commerce activity would have greatly increased but that seems not to be the case as many Nigerians still treat the issue of e-commerce with much scepticism. While counting the gains of e-commerce to the Nigerian economy, it is
important that its weaknesses are measured also, as the challenges of e-commerce are yet to be combated. Many users still doubt the security of their accounts while making payments through an e-payment site, the genuineness of the business etc.

**E-commerce Business Models**

The scope of electronic commerce is wide and includes all electronically mediated transactions between an organisation and a third party. It is not restricted solely to the actual buying and selling of products but includes pre-sale and post-sale activities. E-commerce is the fastest-growing form of commerce compared to physical business processes. Rapid wireless internet connections and smartphones form key technological foundations for e-commerce business model development. In addition, new business models are driven by internet technology uses of interactive marketing and online social media.

E-commerce has different technology dimensions compared to traditional businesses. The market is able to extend its traditional hours, as online stores never close while promoting interactivity, which allows online merchants to engage consumers in ways similar to face-to-face experiences, but on a more massive global scale. It saves customers time when making purchases. The companies don’t need physical branches to sell their products. Merchants interact with consumers through e-mails, live chats or newsletters. Various models have been developed as ways of explaining the flow of transactions in e-commerce arrangements.

**Business-to-Business (B2B) Model**

Business-to-Business (B2B) e-commerce encompasses all electronic transactions of goods or services conducted between companies. Producers and traditional commerce wholesalers typically operate with this type of electronic commerce.

![Fig. 1 Business-to-Business model](source: adapted from tutorialspoint.com)
Figure 1 illustrates the B2B model where the wholesaler, manufacturer and retailer are the main parties. The manufacturer has a website through which wholesalers can purchase products. When a wholesaler places an order on the website, the information regarding the order will be received by the manufacturer. After processing the order, the manufacturer will send the products to the wholesaler. When received, the wholesaler can sell these products to the retailers.

**Business-to-Consumer (B2C) Model**

The B2C model involves transactions between business organizations and consumers. It applies to any business organisation that sells its products or services to consumers over the Internet. These sites display product information on an online catalogue and store them in a database. The B2C model also includes services such as online banking, travel services, and health information. This model is, however, more prone to security threats because individual consumers provide their credit card and personal information on the sites of business organisations. This model is shown below:

![Fig. 2 Business-to-Consumer model](source: adapted from tutorialspoint.com)

In this model, customers can view the products from the websites of the organisations, and order their choices. These orders are then received, processed, and the products are thereafter delivered to the consumers e.g. Amazon, Konga, Jumia, etc.

**Consumer-to-Consumer (C2C) Model**

In this model, a consumer sells products, goods or services to other consumers using the internet or web technologies. This business model helps individuals to sell their assets or properties such as cars, houses, electronics, etc., online to other customers. These sites include Jiji, OLX, etc. Another consumer may opt to buy the product of the first customer by viewing the post/advertisement on the website. It is shown below:
Consumer-to-Business (C2B) Model

This is a type of model where a consumer or end-user provides a product or service to an organisation. In this business model, individual customers offer to sell products or services to the companies that are prepared to purchase them. This model is shown below:

Fig. 4 Consumer-to-Business model

Source: adapted from tutorialspoint.com
**Business-to-Government (B2G) Model**

The B2G model is a variant of the B2B model used by governments to trade and exchange information with various business organisations. These websites are accredited by the government and provide a medium for businesses to submit application forms to the government. The B2G business network also provides a platform for businesses to bid on government opportunities such as auctions, tenders and application submissions, etc. This is shown below:

![Business to Government Model](image)

*Fig. 5 Business-to-Government model*

*Source: adapted from tutorialspoint.com*

**Government-to-Business (G2B) Model**

Governments use B2G model websites to approach business organisations which support auctions, tenders, and application submission functionalities. For example, if the government plans to build a flyover, they would request tenders from various contractors over the Internet by using the G2B model. This model is shown below:

![Government to Business Model](image)

*Fig. 6 Government-to-Business model*

*Source: adapted from tutorialspoint.com*

**Consumer-to-Government (C2G) Model**

In this model, an individual consumer interacts with the government. For example, a consumer can pay his income tax or home taxes online. The transactions involved in this case are C2G transactions. This is shown below:

![Consumer to Government Model](image)

*Fig. 7 Customer-to-Government model*

*Source: adapted from tutorialspoint.com*
Government-to-Consumer (G2C) Model

In this model, the government transacts with an individual consumer. For example, a government can enforce laws pertaining to tax payments on individual consumers over the Internet by using the G2C model. This is shown below:

![Fig. 8 Government-to-Customer model](Source: adapted from tutorialspoint.com)

Government-to-Government (G2G) Model

This model involves transactions between two governments. For example, if the Indian government wants to buy oil from the Nigerian government, the transactions involved are categorized in the G2G model. This model is shown below:

![Fig. 9 Government-to-Government model](Source: adapted from tutorialspoint.com)

E-commerce Transactions in Relation to Businesses, Consumers and Society

E-commerce transactions have enormous benefits that can be seen to affect business organisations, consumers and society. E-commerce transactions on the internet are conducted virtually, as sellers and buyers do not interact physically. Therefore, payment systems in e-commerce are carried out electronically (Kosiur 1997) which include credit cards, digital wallets, accumulated balances, stored value, digital checking, and electronic billing (Laudon & Laudon, 2010). Credit cards are mostly used by customers in e-commerce transactions protecting information transmitted among users, merchant sites, and processing banks (Cram, 2001; UniBul 2011). A digital wallet is a software that stores credit cards and other information to facilitate completion and payment for goods on the web. Accumulated balance accumulates micropayment purchases as a debit balance that must be paid periodically on credit cards or telephone bills. Stored value enables customers to make instant payments to merchants or individuals based on values stored in a digital account. Digital checking provides electronic cheques with a secure digital signature. Electronic billing supports electronic payments for online and physical store purchases of goods or services after purchases have taken place. The mechanism for undertaking transactions using e-commerce could be different among its categories.
Businesses have become borderless and are no longer physically located in a geographical area. By becoming e-commerce enabled, businesses now have access to people all around the world. In effect, all e-commerce businesses have become virtual multinational corporations. The cost of creating, processing, distributing, storing and retrieving paper-based information has decreased with the development of e-commerce. E-commerce has also significantly changed the way consumers buy goods and services, as the processing allows for products and services to be customised to the consumer’s taste. 24-hour-time constraints have also been eliminated due to the development of e-commerce, and businesses can be contacted by customers or suppliers at any time.

E-commerce enables consumers to transact 24 hours a day, all year round from almost any location. Customers not only have a whole range of products that they can choose from and customise, but also an international selection of suppliers, and a variety of payment systems to make selections. They can shop around the world and conduct comparisons either by visiting different sites or by visiting a single site where products from different providers can be compared based on different parameters, such as prices, features, availability, etc. Customers also enjoy improved delivery processes ranging from immediate delivery of digitized such as software or audio-visual files by downloading via the internet, to the online tracking of the progress of packages being delivered by mail or courier services. An environment of competition can be created as well, where substantial discounts can be found or value-added, as different retailers vie for customers. It also allows many individual customers to aggregate their orders together into a single order presented to wholesalers or manufacturers and obtain a more competitive price. Through e-commerce, relevant and detailed information is delivered in seconds. It also saves the time it could have taken to travel to the shopping location. The virtual store makes it possible for detailed and unbiased comparisons, expert advice and suggestions from the existing users. Online communities and forums for discussions allow consumers to interact with the members of the e-communities, exchange ideas and share their experiences.

E-commerce enhances the quality of life for people in society, enabling them to work from home. Not only is this more convenient and provides happier and less stressful working environments, but it also potentially reduces environmental pollution as fewer people have to travel to work regularly. It also offers some merchandise to be sold at lower prices, thereby increasing the purchasing power of individuals by enhancing their standard of living and creating a change in lifestyles. E-commerce enables people in developing countries and rural areas to enjoy brands, products and services etc. that are otherwise not available. This includes opportunities to learn professions and earn college degrees or to receive expert advice or information. Also, it facilitates the delivery of public services, such as government entitlements, much quicker and reduces the chances of fraud. Thus, it increases the speed, quality and authenticity of social services, police work, health care and education.
The figure below shows a typical e-commerce transaction procedure:

Fig 2.10 Typical e-commerce transactions

Source: Adopted from ePath China (2010).

Theoretical and empirical reviews applicable to e-commerce

The study considered networking theory which focuses on a wide range of micro to macro structures by identifying links that occur at the large scale, social structural level as well as at the micro-level. Network analysts focus on weak ties which eliminate isolation by integrating individual participants through social networking sites. Social networking sites preserve the culture of maintaining weak ties. Although, such integration could give rise to deviant behaviour, due to the transitive nature of the network, yet, it has dynamic quality with the structure of the system changing by shifting patterns of coalitions and conflict (Rosen, 2011).

The study carried out by Khan (2016) on the benefits and challenges of e-commerce in an emerging economy showed that the e-commerce industry will be a leader with popularity in the electronic business world in the upcoming years. The study noted that e-commerce has strongly impacted the traditional business system in Bangladesh. The study of Nava-Macali (2016) confirmed users’ positive attitudes toward e-commerce since they were convinced of the benefits of e-commerce in terms of its speed, convenience and lower transaction costs. Yaseen et al., (2016) on e-commerce adoption in Jordan revealed barriers such as lack of government support, lack of e-commerce legislation, lack of postal services, lack of payment systems, and the lack of e-commerce awareness but that technology is critical in e-commerce.
The study conducted by Khurana and Mehra (2015) on the opportunities and challenges of e-commerce in India, established numerous e-commerce transactions in India in line with the e-commerce index together with opportunities of tapping into several untapped markets. The study conducted by Adalikwu (2012) on e-commerce solutions for business organizations in Nigeria, identified certain factors as the bane of implementing electronic commerce in Nigeria. The factors are a concern for data security and privacy, difficulty in integrating e-commerce software with the existing system, lack of supporting business law, small size of the market for e-commerce, and lack of skilled manpower. Faloye (2014) carried out a study on the adoption of e-commerce in small-scale enterprises (SSEs) in the South Western part of Nigeria. The study revealed that the majority of the small-scale enterprise (SSEs) owners in the study area were yet to adopt e-commerce while the few that adopted it were at the early stages of e-commerce. Also, the study showed that retail small-scale enterprises’ online sales were virtually zero. This is in contrast with the study conducted by Kareem et al., (2014) on the adoption of electronic commerce among selected supermarkets within the Ibadan metropolis. The study found that e-commerce adoption by supermarkets has a significant impact on the service operations and transaction costs while facilitating new possibilities for distribution of products and international expansion through supply chain management. This means that the adoption of e-commerce will improve profitability levels tremendously.

CONCLUSION AND RECOMMENDATIONS

E-commerce has, therefore, changed the way of delivering the product and consumers can have more choices than they could easily locate otherwise and transactions can be made 24 hours a day, from almost any location. It can be concluded that the prospect of e-commerce is very high in emerging economies like Nigeria. Also, it was confirmed that there is a slow acceptance of e-commerce business platforms as well as a decline in their use due to cybercrimes and other internet-related fraudulent activities. It is recommended that business owners/ managers should procure quality devices and gadgets that will enhance efficiency in e-commerce transactions. Owners of businesses are to adopt e-commerce business models that fit well into their business operations without compromising users’ security.

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