

# Assessing the use of e-business strategies by SMEs in Ghana during the Covid-19 pandemic

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## Abstract

**Purpose:** The main purpose of this quantitative research was to assess various e-business strategies implored by small and medium enterprises (SMEs) in Ghana during the Covid-19 pandemic.

**Research methodology:** It made use of a descriptive design. Data was collected with the use of a structured questionnaire, analysed with excel and presented in tables and figures.

**Results:** The study revealed that small business owners have knowledge of e-business models with the most popular e-business model used being the Business to Consumer (B2C) model, while the least used model was the Business to Government (B2G) model. While imploring the use of e-business models and strategies, SMEs were faced with the challenge of very limited knowledge on the use of e-business strategies.

**Limitations:** The study was limited to businesses in the Tema Metropolitan Assembly of Ghana.

**Contribution:** Most of the SMEs were established in the traditional setting of business operations therefore there was little or no plan for integrating the internet in their operations. However, the pandemic has shifted their attention to adopting some virtual traction to their businesses for the benefit it offers such as continuous sales and more visibility. Further research on how each of the various concepts was used by SMEs is highly recommended.

**Keywords:** *E-Business, Strategies, SME, Covid-19, Pandemic*

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## 1. Introduction

Electronic Business (E-Business) is the conduct of business processes on the internet ([Pratt, 2019](#)). Businesses and Corporations in recent times have relentlessly rethought their business processes to include the use of the internet, most especially its availability, reach and dynamic features ([Pratt, 2019](#)). As corporations understand the importance of using e-business strategies to drive revenue and satisfy customers, so do small businesses owners need to understand the role that e-business can play to grow their businesses and reach a global audience. However, most small business owners do not have the opportunity to learn about e-business or incorporate it into their business processes. A small business is defined by the number of employees it has, not to mention the different categories with different numbers of employees. Small and Medium Enterprises (SMEs) play an important role in the development of the Ghanaian economy ([Abor & Biekpe, 2006](#)). They constitute a large part of the informal sector in Ghana, employing more people than the formal sector ([Mullineux, 1997](#)).

Small businesses are usually managed by a sole proprietor or a partnership agreement. Typically, owners are also not interested in growth if they can make a daily wage ([Bans-Akutey, 2020](#)). In most cases, financing of these businesses is either through bootstrapping or with little or no capital at all.

Given this, growth and expansion are of little or no interest to owners. We can further classify small businesses into two categories: Urban and Rural Enterprises. The former can be divided into organized and unorganized ([Kayanula & Quartey, 2000](#)). The organized businesses have employees with a registered office, while the latter is mostly made up of artisans who usually work in open spaces or temporary wooden structures or at home with little or no salaried employees. Rural enterprises are normally made up of family members, women artisans etc. The major sectors which make up this class of businesses include fabrics, soap and detergents, textile and leather, clothes and tailoring, blacksmiths, beverages, food processing, agro-processing, bakeries, wooden furniture, electronic assembly ([Kayanula and Quartey 2000](#)). As such, the study will help these rural businesses employ and use technology that can help drive growth and efficiency in their processes.

It is essential to note that small businesses are keen on using technology to expand their businesses; therefore, finding an approach or means that enable them to put their business out there on the internet is a necessity for them. Ghana is mostly an informal economy, with SMEs making a more significant percentage of the economy. However, the lack of initiatives and support to help these small businesses is a problem not only for the government but also for the company and its owners. Businesses that collapse due to lack of capital or patronage become a significant issue which leads to job losses, lack of local patronage and the lack of motivation for local artisans to continue in their craft.

The onset of the pandemic has thrown several businesses into disarray as well as rendered so many individuals unemployed. Covid-19 has proven to have shown how and why businesses, especially small businesses, should rethink how their businesses use the internet to survive and increase revenue. E-Business can be a useful tool that can be adapted to increase revenue. Large companies have endeavored to make their businesses have an online presence. As customers' tastes and preferences change over time, so must companies adapt to keep up with these changing trends to remain relevant in their space. Just as large companies have embraced this, so must small businesses reconsider this trend to ultimately survive. Although urban small companies may have some aspects of their businesses online, rural businesses do not have any online presence. This may likely be due to a lack of understanding or knowledge about the internet and how it can benefit them.

Ultimately, there is a need for small businesses to incorporate the use of the internet for their ventures. The onset of covid 19 caused a lot of firms to collapse due to the various restrictions that were imposed. In Ghana, considering the fact that many businesses were closed and employees lost their jobs, only companies that had an online presence were able to sail through the uncertainty smoothly. Small businesses such as bakeries, clothing and textiles etc., that were not online lost their sources of revenue. This is to prove that, without an in-person interaction with customers, such businesses have no source of income. As the world has shifted to be mostly online, so does it make it critically important for SMEs to hop onto this new phenomenon. There is a need to assess how e-business strategies were used by small businesses during the pandemic.

The purpose of this study was to assess the use of e-business strategies by small businesses during the pandemic. The specific objectives are as follows:

1. To identify the various e-business methods used by SMEs in Ghanaian urban areas during the Covid-19 pandemic.
2. To determine challenges faced by SMEs in Ghanaian urban areas while adopting the use of e-business during the pandemic.
3. To explore strategies that can mitigate challenges faced by SMEs in Ghanaian urban areas while adopting the use of e-business during the pandemic.

## 2. Literature review

E-business, as defined by [Hamed \(2019\)](#), uses the internet and related applications to transform traditional business finance models and designs for the benefit of all retailers and customers. In detail, the author also describes e-business as the transformation of inefficient information systems into more efficient ones by creating multiple internets, computer and communication technologies that can be integrated into the organization's operations. Resources such as staff, money and time, building

materials and so on can be redirected to further value-added activities to bring more revenue and profit to customers and suppliers. [Essel \(2006\)](#) also defined e-business as the process of buying and selling or exchanging information through computer and internet networks. E-business involves not only the purchase and sale of goods and services but also the most important aspects such as working with business partners, customer service, and conducting online organizational operations. E-business is also concerned with any part of a business transaction in which the parties involved interact electronically rather than in physical exchange or direct contact ([Andam, 2003](#)).

Prior to E-business, automation required client-supported solutions that only worked with the help of dedicated lines and modems. E-business differs from these older versions in a very important way: here, the user does not have to be provided with a kind of software on a desktop or laptop; all the user needs is a browser that is usually available to access web information.

In many cases, e-commerce and e-business are used interchangeably; however, there is a big difference between them. In both cases, the "e" represents electronic networks that describe the use of internet technology to improve business performance. [Karmaker \(nd\)](#), in comparison of the two, explains e-commerce as online trading while e-business involves conducting online business. Ecommerce is restricted to cash sales, while e-business entails much more. [Hamed \(2019\)](#) said the term e-business encompasses all sorts of interactions between companies or individuals and their customers via the internet. He also pointed out that marketing is done through the internet, as well as hiring people, selling products and services, using the internet in market research and promoting goods and services. To distinguish clearly between the two ideas, e-commerce is a subset of e-business. E-business, however, is a broad term ([Hamed, 2019](#)); because there is more to business than just selling products and services online. E-business is also not limited to advertising, procurement, customer education and supplier etc. E-business is the use of information and communication technology in all sectors and business functions. E-commerce, on the other hand, involves the exchange of products and services between businesses, groups and individuals, which is one of the most important activities of any business ([Kutz, 2016](#)). Online marketing is a part of e-commerce that brings together customers and educates them online about products and services, thus keeping them ([Hamed, 2019](#)).

E-Business models can involve businesses, consumers or government. Business to Business (B2B) is defined as a partnership between a company and other firms, consisting of suppliers, distributors, agencies and customers ([Fauska et al., 2003](#)). B2B Markets involve the purchase and sale of goods and services by businesses that will be used to develop, create, and deliver products or services to other businesses. Business to the buyer (B2C) business consists of a variety of things such as catalogs, order planning and execution, cost and pricing estimates, order completion and delivery, product storage, phase management, ordering, and credit card operations between a business and its customers ([Kumar & Raheja, 2012](#)). Buyer to Buyer or Consumer to Consumer (C2C) is a business model that helps trade between private individuals. Here, customers can trade, especially online. C2C websites such as ebay.com, Craigslist, Jiji.com, Tonaton have attracted a lot of people and are very popular. C2C models offer an online transaction platform for individual buyers and sellers; therefore, buyers and sellers can buy their products online ([Dehua et al., 2008](#)).

E-business over the years has become a topic that has caught the attention of entrepreneurs when setting up a new business. In B2B, IT systems play a major role in marketing while B2C relationships are built due to mixed e-business efforts. The development and use of e-business strategies vary from complicated processes ([Hackbart and Kettinger 2000](#)) to fairly easy processes ([Brache and Webb 2000](#)). Every company that wants to succeed in the future is pursuing some kind of e-business strategy implementation. As a result, before a company can decide to operate and maintain an e-business platform, it must first determine if it is capable of managing it. Various studies need to be carried out to assess the strength of the company. Many factors such as efficiency, vision, environmental flexibility, and security should all be evaluated before implementing business strategies ([Rogers et al., 2002](#)).

Social Media is a tool that is widely used by all companies, regardless of size. Companies now use social Media for advertising themselves and their products ([Saravanakuma & SuganthaLakshmi, 2012](#)). Major brands use social media to convey their strong presence and friendly customer relationships. Social networking sites such as Facebook, Instagram, Twitter and WhatsApp are being used by small businesses to increase their reach, grow their customers, and improve sales. Social Media is best used as a source of revenue - with a strong focus on building relationships and providing important information, rather than on hard sales ([Contributor, 2020](#)).

Businesses that incorporate the E-business marketing strategy can drive web traffic to their sites by advertising on high-quality websites where advertising agencies drive web traffic to their sites to charge advertising revenue ([Lo & Sedhain, 2006](#)). [Quinton and Khan \(2009\)](#) argue that one way to help improve web traffic is to improve search engine rankings, search engines for channel users and monetization of websites. This creates significant opportunities for SMEs to improve their online marketing performance.

One of the most important qualities in a business is to create value. This means that if a company is unwilling to provide the product or service that a consumer is willing to pay for, the company will eventually collapse ([Junghagen & Linderoth, 2002](#)). Virtues are also important in an organization's commitment to excellence and well-being because they influence critical aspects such as profitability, productivity, innovation, quality, customer retention and employee loyalty. Good qualities can also improve the ability to combat organizational stress and increase organizational ability to respond to unexpected situations and challenges ([Chatterjee et al., 2015](#)). Good qualities also influence relevant skills that organizations need to succeed in volatile environments.

With ever-changing trends in technology development, especially in the field of information technology, companies often try to improve the performance of their business through online markets instead of traditional businesses ([Sheung, 2014](#)). According to [Amit and Zott \(2001\)](#), value creation can be factored into online markets. Efficiency is the first category of price drivers. Low transaction costs and market efficiency are new forms of market transactions ([Sheung, 2014](#)). Delivery times, resources from suppliers and partners or finished goods to customers are all affected by the efficiency. In addition to the efficiency, lowering the price list for most international business activities enables the organization to benefit from a productive economy or remove mediators from delivery channels ([Sheung, 2014](#)). [Christensen & Methlie \(2003\)](#) added that the possibilities for new forms of communication and relationships are created through the use of electronic devices. Customer retention thus plays an important role for price drivers. Retailers and buyers are therefore allowed to play new roles, collect and store information about each other. While it can be difficult to build customer relationships online, they still offer opportunities to build relationships. A few examples of relationship-building include personalized websites, customized products based on stored profiles, active customer support at all stages of product life, brand building and trust ([Christensen & Methlie, 2003](#)). According to [\(Hitt et al., 2001\)](#), innovation is a crucial part of a company's strategy; it allows the company to provide indicators or sector emergence. These innovations can include the creation of new products and services, promotional strategies, new production processes and new transactional exchange processes.

Loyalty is an economic necessity ([Sheung, 2014](#)); customers can focus on specific products and services and shop more often when they trust the product and the company. [Reichheld and Schefter \(2000\)](#) stated that loyalty is a competitive advantage because some companies will find a way to use the power of the web to create a significant number of customers, build profitable relationships to the disadvantage of slow-moving competitors. The e-business model will not be well designed unless it is built on integrity. Promoting and maintaining trust between customers and companies is the first step in building loyalty. Trust makes an immense contribution to the success of e-business ([Fahey et al., 2001](#)). People can often rely on a company based on past experience and third-party recommendations ([Sheung, 2014](#)). There are content tools available that allow for easy navigation and the attractive appearance of the website. Real-time data can be added to web design, such as available sizes and database functions. One of the most important factors in gaining customer trust lies in the services that are delivered after the sale. In e-business, customers are more likely to be separated from their

vendors and at the same time be able to access the reseller website day and night. E-business relies on information systems to simplify after-sales services such as the return of goods. Customers may lose trust in companies if something goes wrong with this feature.

### **SMEs**

A number of studies have tried to come up with a more effective definition of what kind of businesses can be called SMEs ([Kayanula & Quartey, 2000](#); [Pervin & Sakar, 2021](#)). Definitions of SMEs are based on various processes such as the number of employees, annual profit margin and number of planned assets ([Fuseini, 2015](#)).

The European Union considers Micro, Small and Medium-sized Enterprises (MSME) to be one with a workforce of up to 250 and an income of more than 50 million euros or a total balance of more than 43 million euros. Specifically, small businesses are those firms that employ less than ten employees and have a value or balance of not more than two million euros; small businesses employ less than 50 employees and have a profit or balance of not more than € 10 million; and medium-sized businesses with less than 250 employees and a profit of € 50 million or a balance sheet of not more than € 43 million ([Fuseini, 2015](#)). Similarly, the World Bank classifies a business as an MSME when it meets two of the following criteria, namely staff value, asset size, or annual sales as follows: small businesses employ up to 10 employees, with full assets and annual sales of up to \$ 10,000; small businesses employ up to 50 employees with total assets and annual sales of up to \$ 3 million; and medium-sized businesses employ up to 300 employees, with total assets and annual sales of up to \$ 15 million.

In Ghana, the National Board for Small Scale Industries (NBSSI) defines small businesses or SMEs as businesses that employ less than 29 employees, with investments in plant and equipment (outside land and construction) not exceeding \$ 100,000. Ghana Statistical Service (GSS) at their 1987 Ghana Consensus looks at firms that employ between 5 and 29 employees and have fixed assets not exceeding \$ 100,000 as a minimum, and those who work between 30 and 99 those in the middle class. According to [Aryeetey et al. \(1994\)](#), based on a field survey of 133 businesses, classify SMEs into four distinct groups (i) micro-businesses of less than six people; (ii) very small businesses - employees between 6 and 9; (iii) small businesses - between 10 and 29 employees (iv) medium-sized businesses between 30-140 employees. In conclusion, the number of employees and the number of planned assets are the two most common methods used to describe SMEs in Ghana. However, the number of workers used to describe SMEs in developed countries differs from the definition used in developing countries.

In Ghana, SMEs are often formed at various business ventures such as supply and retail stores, restaurants and food retailers, hairdressers, clothing and sewing shops, carpentry and furniture stores and small producers, packaging such as fruit drinks, sachet water etc. ([Kayanula and Quartey, 2000](#)). SMEs, over the years, have been instrumental in economic development in many developing countries, particularly Ghana ([Hayford, 2012](#)). It is an important business model and an important employer that makes a strong contribution to economic growth and GDP in Ghana. SMEs contribute to job creation, especially in developing countries. The Ghanaian government views SMEs as a key player in the transformation of the state leading to an independent development strategy ([Aryeetey et al., 1994](#)). SMEs are, therefore, the most important employers in the country. SMEs work well by ensuring that most job seekers in the country are employed, primarily as a means of innovation and tax returns to the government, hence the name of the means to boost economic growth ([Li et al., 2021](#)). SMEs also use mainly local materials that would have been neglected and had little exchange. They consolidate and use non-performing financial resources, such as family savings ([Hayford, 2012](#)).

### ***Impact of the pandemic on small businesses***

Towards the end of 2019, the world was infected with an infectious virus that blocked human contact and is now officially known as 'Covid-19'. Because of its rapid spread in various parts of the world, it has been labeled a global pandemic by the World Health Organization (WHO). As a result of its spread, nations around the world have developed measures to help curb the spread of the virus. The closure due to Covid-19 has created serious problems for social and economic activities in the country

[\(Bans-Akutey, 2020\)](#). The partial lockdown presented in Greater Accra and Greater Kumasi forced many businesses to close, while those firms that were not affected by the partial lockdown found themselves with fewer customers and orders. The Covid-19 pandemic has had a profound impact on Ghana's economy, forcing many businesses, especially small businesses and firms, to cut costs by reducing working hours, reducing wages and in some cases laying off workers. According to the Ghana Statistical Service (GSS), This is in collaboration with the United Nations Development Program (UNDP) and a World Bank report in August 2020. The results show that about 770,000 workers (25.7% of all workers) have had their salaries reduced, and an estimated 42,000 workers were laid off during the partial closure of the country. The pandemic has led to a reduction in working hours by nearly 700,000 hours.

Also, data from the report shows that at the time of the closure, approximately 244,000 firms began refining their business models to incorporate more digital solutions such as mobile money and internet marketing [\(Gerald et al., 2020; Chinedu et al., 2020\)](#). The social and economic impact of the pandemic as stated by [Ofori-Atta \(2020\)](#) has both direct and indirect trends; Specifically on the effects of manufacturing, trade and investment between Ghana and the rest of the world, especially China, Europe and the United States and indirectly on the slowdown in global economic growth, the disruption of consumer goods and the negative impact on Ghana's economic growth. Due to the severity of Covid-19 in Ghana, especially for small and medium enterprises, the government has announced a package to encourage eligible businesses to benefit from this program.

### ***Challenges faced in the implementation of e-business in Ghana***

The government of Ghana has made efforts over the last decade to build a 'knowledge-based economy' [\(Boateng et al., 2011\)](#). In 2003, a National Information and Communication Technology (ICT) for Accelerated Development policy was introduced to engineer an ICT-led socio-economic development process. Some of the projects that have been set up in this regard supported by several international donors and UN agencies include an e-government portal that was supported by the International Institute for Communication Development (IICD) and an ICT center that provides skills training to link industry and academia supported by the Indian Government and Ghana [\(Boateng et al., 2011\)](#).

E-business and technological advancements are evolving and have modified traditional modes of conducting business and transactions [\(Bans-Akutey, 2019\)](#). However, the low rate of e-business adoption by SMEs in Ghana may be attributed to the lack of web-based transaction technologies and facilities [\(Modzi et al., 2016\)](#). E-business has the potential to increase a firm's productivity by offering feasible and pragmatic solutions for organizations to be able to address the challenges coupled in this dynamic environment. SMEs in Ghana have shown a low adoption rate to e-business usage [\(Modzi et al., 2016; Ankumah & Bans-Akutey, 2021\)](#). The high cost of e-business infrastructure and its implementation has been cited for impeding the adoption of e-business, concerning the buying of ICT equipment, setting up, training employees and consultancy fees, creation and maintenance of websites and other infrastructure [\(Bans-Akutey & Sowah, 2020\)](#). In Ghana and most African countries, SMEs lack the financial resources to acquire these ICT infrastructures, which serve as the backbone of e-business initiatives [\(Modzi et al., 2016\)](#). Security issues and a lack of a regulatory framework is also a challenge when it comes to the adoption of e-business. With most of the financial transactions conducted online, a breach or a hack into the system is a primary concern. Consequently, once there is a security breach, measures to solve or address these issues are also lacking as laws for e-business governance are yet to be addressed, resulting in the delay in e-business adoption, especially in the case of Ghana. The organizational culture may also negatively affect the courses of action that SMEs need to embark on [\(Lim & Teoh, 2021\)](#). The reliance on and social information systems like managers of SMEs relying more on a face-to-face transaction than web-based transactions also inhibit the adoption of e-business [\(Bans-Akutey, 2019\)](#).

Furthermore, the lack of electricity also hinders the adoption of e-business in most developing countries such as Ghana. The establishment of e-business platforms requires high-speed internet, which must be facilitated with a constant power supply. The lack of internet and the slow speed of telecommunications systems have hindered the adoption of e-business. Also, economic and political

instability in some geographical areas of the world prevents SMEs from adopting e-business models in their operations due to limited trading and uncertainties. The lack of macroeconomics and the necessary regulatory policies have deterred many developing countries from moving on to e-business platforms. Research has shown that governments in developing countries are more concerned with ratifying policies associated with poverty alleviation, hunger, education, and humanitarian concerns while developed country leaders are enacting policies to support SMEs and development ([Modzi et al., 2016](#)).

### **3. Research methodology**

Through a quantitative research approach, the study adopted a descriptive research design. Owing to the informal nature of SMEs in the selected area of study, there is no exact number of registered SMEs to account for the population of the study. According to [Mensah \(2004\)](#), there is no available data on the exact number of SMEs in Ghana, but statistics from the Registrar General's Department show that about 90 percent of registered companies are SMEs. This is partly because many of these SMEs are in the informal sector, with many of them unregistered ([Mensah, 2004](#)). Based on this background, an estimated population of about 500 Small and Medium Enterprises or businesses in the Tema and Ashaiman areas of Ghana was targeted. According to Creative Research Systems, a confidence level of 95% and a confidence interval of 12 requires a sample size of 59.

Sixty-two (62) respondents were purposively selected to participate in the study. Purposive sampling was used as a result of the pending restrictions at the time of data collection. A structured questionnaire was used for data collection. Collected data were analysed with the use of excel and presented in tables and figures

### **4. Results and discussion**

Table 1. Number of years SME has been in operation.

Class (Years)	Frequency	Percentage
<b>0 - 5 years</b>	41	66.1%
<b>6 - 10 years</b>	10	12.9%
<b>11 - 15 years</b>	8	4.8%
<b>Over 15 years</b>	3	16.1%
<b>Total</b>	62	100%

Respondents had to specify how long their businesses have been in existence to determine how relatively stable their businesses are. From Table 1, 66.1% of the respondents, that is, 41 respondents were between 0 - 5 years old, 12.9% representing a total number of 10 respondents were between the years of 6 - 10, 4.8% of respondents representing a total number of 8 respondents were between 11 - 15 years whilsts 16.1% representing 3 respondents were over 15 years in business.

Table 2. Business type

Class	Frequency	Percentage
<b>Sole Proprietor</b>	41	66.1%
<b>Partnership</b>	10	16.1%
<b>Corporation</b>	4	6.5%
<b>Limited Liability Corporation</b>	7	11.3%
<b>Total</b>	62	100%

The table above shows the various business organizations currently available for which business organizations fall. It shows that the Sole Proprietorship business type is the most common, with a 66.1% rating corresponding to a total number of 41 respondents. This is followed by a Partnership

business organization with a percentage of 16.1%, totaling several 10 respondents accompanied by a Limited Liability Corporation with 11.3%. The last business type is Corporation gathering 6.5%.

Table 3. SMEs which had an active website before the pandemic

Response	Frequency	Percentage
Yes	20	32.3%
No	42	67.7%
Total	62	100%

The study shows that a significant number of businesses did not have an active website before the start of the pandemic. Table 3 shows that 67.7% of the respondents did not have an active website before the pandemic. This is not to say that these businesses did not have a website, they did have a website, but they did not actively use it before the pandemic began. 32.3% of the respondents recorded having an active website before the start of the pandemic. Comparing the two responses, the start of the pandemic, even with its negative implications on the economy, was also a drive for businesses to consider reactivating their website to make some revenue during the pandemic. It can also be deduced from the responses that most businesses were comfortable with doing business in the traditional setting.

Table 4. SMEs which presently have an active website

Response	Frequency	Percentage
Yes	42	67.7%
No	20	32.3%
Total	62	100%

Table 4 shows that 67.7% of the businesses presently have an active website, while 32.3% of businesses still did not have an active website after the pandemic. This is the exact opposite of when respondents were asked if they had an active website before the pandemic. From the table, it can be concluded that the pandemic was the driving factor for which businesses made use of the internet. This move was to widen their reach to serve more customers while generating more revenue to still stay in business.

#### ***Social media platforms of SMEs that were active before and after the Covid-19 Restrictions***

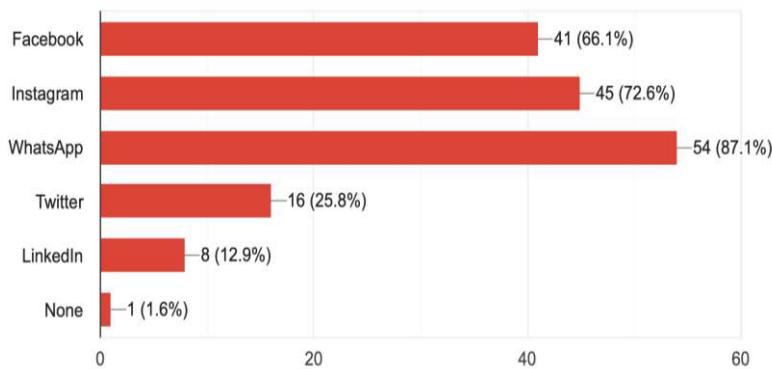


Figure 1. Social Media Platforms of SMEs that were active before the Covid-19 Pandemic

Of the 62 respondents who participated in the survey, 54 respondents recorded using WhatsApp the most before the pandemic, with 87.1%. This is followed by Instagram and Facebook both recording 72.6% and 66.1%, respectively, as the social media sites used most before the pandemic. Twitter and LinkedIn were the least used social media sites.

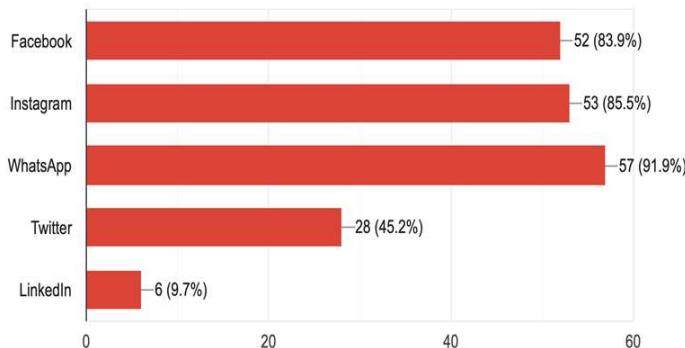


Figure 2 Social Media Platforms of SMEs are currently active

It is observed that social media usage increased significantly during the pandemic. This is because from the previous question asked of which social media sites were used before the pandemic, WhatsApp was the widely used platform, but from the figure shown above, we realize that the other social media sites like Instagram and Facebook have also seen a sharp increase in usage from 72.6% and 66.1% to 85.5% and 83.9% respectively. We also realize that Twitter recorded an increase in usage from 25.8% to 45.5% as well as LinkedIn with a 9.7%.

#### ***Number of employees before and after the Covid-19 restrictions***

How many employees did you have before the pandemic?

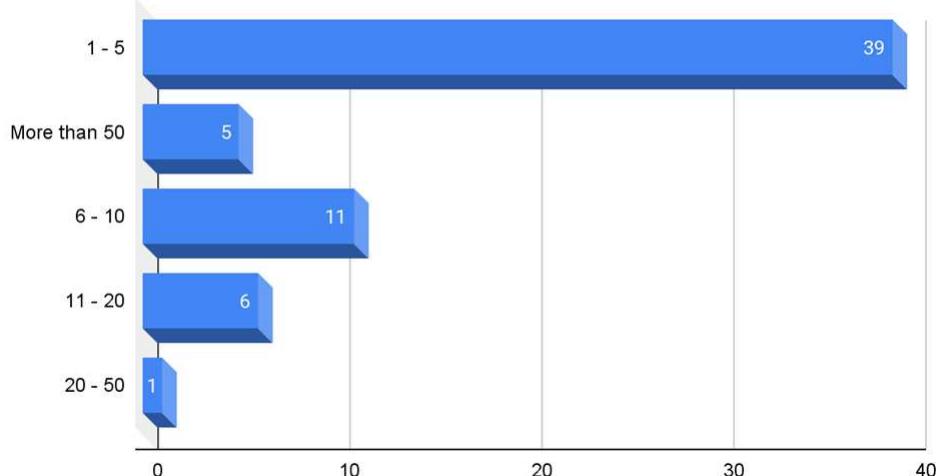


Figure 3. Number of employees before the pandemic

The study shows that 39 of the respondents had employees who had at most five employees, 11 had employees numbering between 6-10, 6 between 11-20, 5 of the respondents had employees more than 50, whiles 1 had employees numbering between 20 and 50. From the data, It is deduced that more of the businesses had employees numbering 1 to 5 before the start of the pandemic.

### How many employees do you currently have?

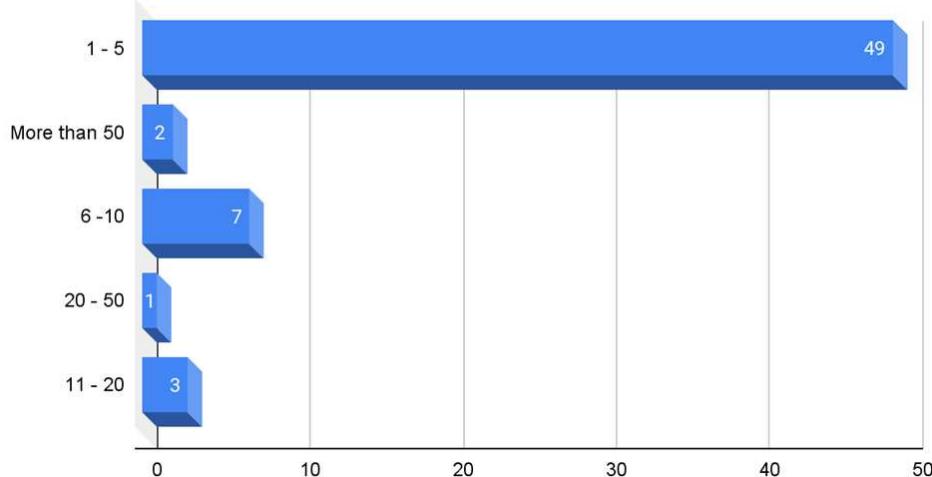


Figure 4. Number of employees after the pandemic

49 respondents had employees numbering between 1 and 5 more than the previously recorded 39 respondents before the pandemic. 7 respondents had employees between 6 and 10 compared to the earlier recorded 11 respondents, 3 respondents had employees in the range of 11-20 whilst 1 respondent had employees ranging from 20-50 and 2 respondents more than 50 employees. From the above data, we can conclude that the pandemic had an impact in employment.

Table 5. Knowledge of e-business models

Response	Frequency	Percentage
Yes	57	91.9%
No	5	8.1%
Total	62	100%

91.9% of respondents chose to have some knowledge of e-business models, while 8.1% of the respondents recorded not having any knowledge of any E-business models. The data shows that a huge majority of business owners have some form of the idea of E-Business models and have used either one of them in their operations.

Table 6. e-business models used

Category	Frequency	Percentage
B2C	48	77.4%
B2B	7	11.3%
C2C	7	11.3%
B2G	0	0
Total	62	100%

77.4% of the respondents made use of the Business to Consumer (B2C) model more often than the other E-Business models. 11.3% used Business to Business (B2B) and Consumer to Consumer (C2C) models, while no business was recorded using the Business to Government model. The study shows that the most popular and widely used e-business model is the B2C, while the least popular and least used model is the Business to Government. Generally, businesses engage in Business Consumer transactions as most of their services and products fall into that category.

From Table 7, 77.4% of respondents made use of E-Marketing during the pandemic. This is closely followed by E-commerce, with a 48.4% usage by businesses during the pandemic. M-commerce, according to table 7 recorded the least number of usages with 4.8% as the least used concept. E-Procurement recorded a 14.5% usage, E-Supply Chain Management 12.9%, and E-Customer Relationship Management with a 24.2% usage. This shows that, on average, E-Marketing is the most widely used E-Business concept, especially during the pandemic.

Table 7. E-business concepts used during the pandemic

Category	Frequency	Percentage
E-Marketing	48	77.4%
E-Procurement	9	14.5%
E-Supply Chain Mgt	8	12.9%
E-Customer Relationship Mgt	15	24.2%
E-Commerce	30	48.4%
M-Commerce	3	4.8%
<b>Total</b>	<b>62</b>	<b>100%</b>

#### *Ease of use of e-business concepts*

How would you rate the ease of use of these concepts?

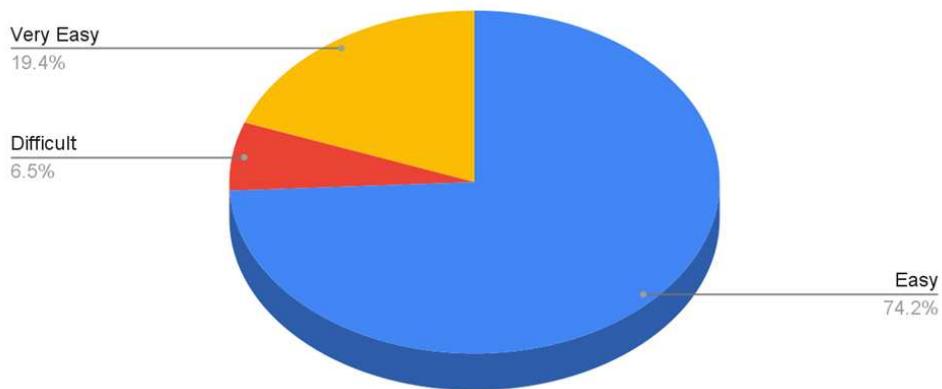


Figure 5. Ease of use of e-business concepts

Respondents were asked to select from the options how easy it was for them to use E-Business concepts listed in table 7. From figure 5, 74.2% of the respondents stated that it was easy for them to use the E-Business concepts, while 6.5% recorded it being difficult. 19.4% stated it was very easy to adopt and use these concepts. This shows that most of the respondents found the concepts easy to use regardless of any challenges.

### *Challenges encountered while adopting the use of e-business during the pandemic*

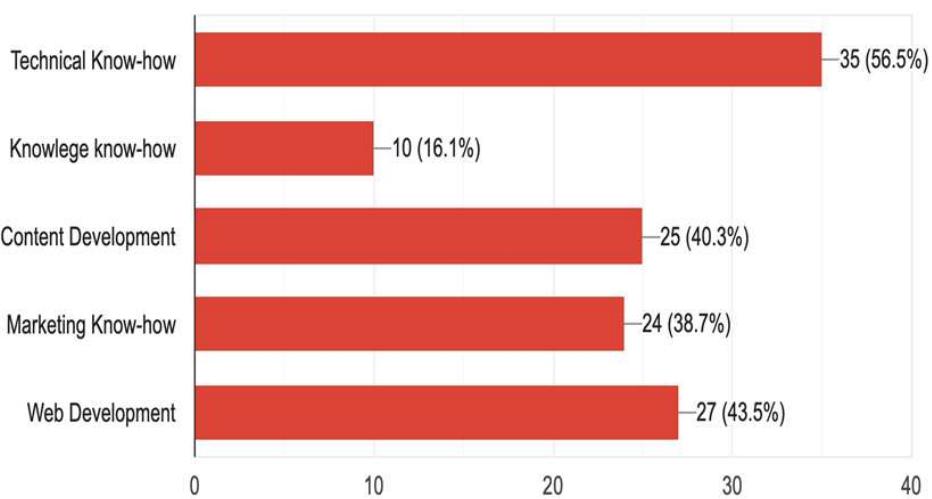


Figure 6. Challenges encountered while adopting the use of e-business during the pandemic

56.5% of the respondents faced technical challenges as an impediment to using E-Business models. 43.5% indicated Web Development as the second major challenge they faced during the implementation of E-Business. This is followed by a 40.3% challenge in Content Development, 38.7% in Knowing the proper marketing strategies and channels to use and 16.1% in knowledge know-how. It is deduced that most of the respondents found the technical aspects of moving their businesses onto an online platform more challenging and more complex, coupled with web development, marketing, content development and knowledge know-how.

From figure 7, 66.1% of the respondents faced financial issues during the pandemic. 48.4% had the lack of access to customers as some of the challenges they faced. Business support during the pandemic was also recorded 43.5%. Also IT infrastructure has a lot of impact with 29% whilst 17.7% recorded a difficulty in accessing the internet. It is concluded that respondents face one or two of the challenges listed above.

As indicated in figure 8, respondents were asked to select some of the efforts they adopted to mitigate the challenges they faced. 58.1% of the respondents selected Training in ICT as the most important factor in mitigating the challenges faced in E-Business adoption. 35.5% of the respondents posited employing a professional with knowledge in IT as a way to solve the challenges with E-Business, 33.9% also think that getting assistance from the government is one of the ways to tackle the challenges in adopting E-Business while 22.6% of the respondents believe outsourcing is important.

Respondents were also asked to identify some of the ways they also adopted to solve the problem in the interim during the pandemic. Some of the respondents mentioned going through YouTube channels to learn ways to use the internet; attending seminars and workshops in order to learn how to address the challenges; having brainstorming sessions with their teams to come up with ideas on how to navigate the new phenomenon; understanding web development courses; exploring other ways to sell their goods and products; engaging in networking activities; meeting and employing a professional with knowledge in IT.

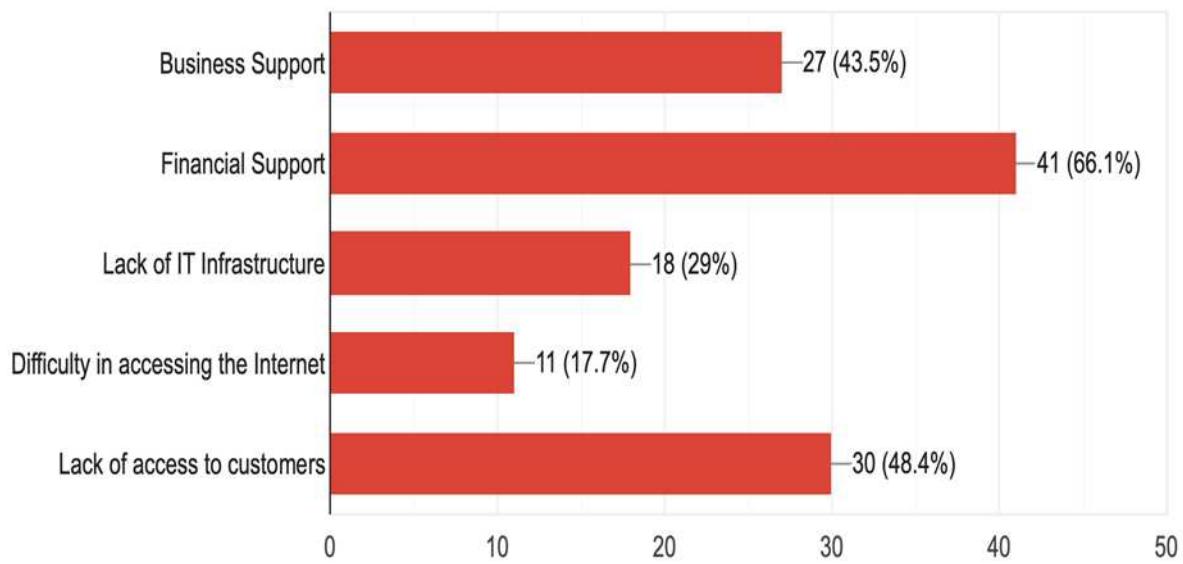


Figure 7 General Challenges faced by SMEs during the pandemic

#### *Efforts put into mitigating challenges*

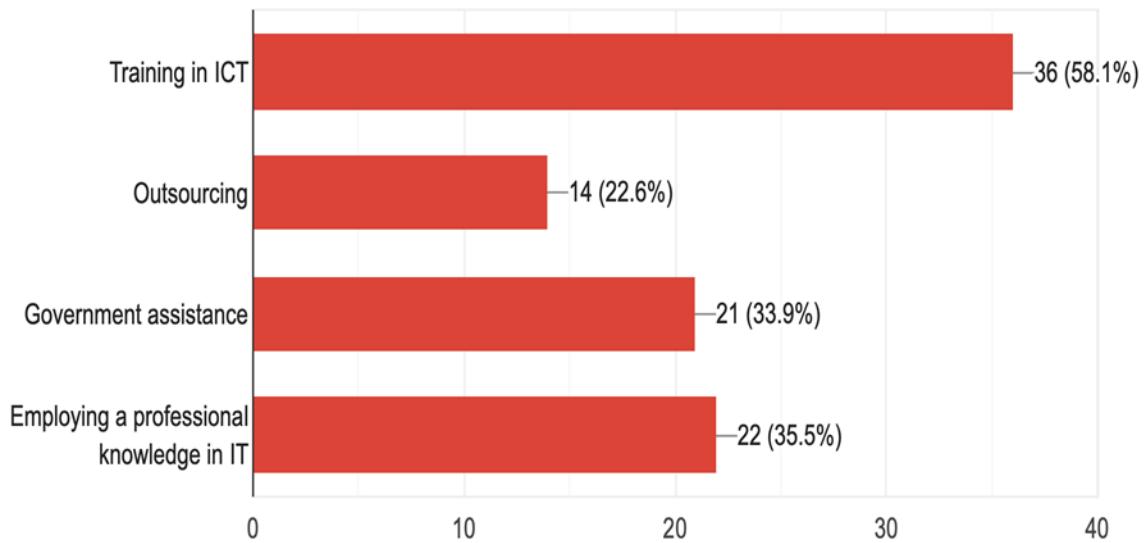


Figure 8. Efforts put into mitigating challenges

#### **Discussion**

Findings indicated that 66.1% of the SMEs were between 0 - 5 years old, 12.9% were between the years of 6 - 10, 4.8% were between 11 - 15 years, whiles 16.1% were over 15 years in business. It can therefore be concluded that most of the SMEs were operational before the break-out of the pandemic, with the majority of these SMEs, 66.1%, being Sole Proprietor Companies. The next types of SMEs were the partnerships, 16.1%; followed by limited liability companies, 11.3%; and the last being Corporation with 6.5%. It is observed that most of these SMEs (67.7%) did not have an active website prior to the pandemic as compared to 32.3% who had an active website. Some SMEs had an existing

website that was not active. We can therefore deduce from these responses that most businesses were comfortable with doing business in the traditional setting. The pandemic's start, even with its negative implications on the economy, served as a driver for businesses to consider reactivating their website so they can make some revenue during the pandemic.

Findings indicate that prior to the pandemic, about 1.6% of SMEs did not have any presence on Social Media; thus Facebook, Instagram, WhatsApp, Twitter and LinkedIn and about 6.4% had never used the internet. However, after the pandemic, all SMEs had some social media presence. Generally, it was observed that social media usage by SMEs had increased after the pandemic. While the onset of the pandemic positively impacted the use of social media, the number of employees of these SMEs was negatively influenced. There was a decrease in the number of SMEs employees after the pandemic as compared to the number of employees prior to the pandemic.

Over 90% of SMEs knew about E-Business models, with the most used model being the Business to Consumer (B2C). However, none of the SMEs had made use of the Business to Government (B2G) model. This is due to the fact that SMEs engage mostly in consumer services and products. Of all the E-Business concepts, E-Marketing was the most used. The majority (74.2%) of SMEs felt using these concepts was easy despite the challenges that came with them. Of all the challenges encountered while adopting the E-Business strategies, technical know-how was the most encountered challenge by SMEs. Generally, however, about 66.1% faced a financial challenge which was much expected due to the pandemic.

In order to mitigate the challenges that were faced, 58.1% implored training in ICT; 35.5% employed professionals with knowledge in ICT; 33.9% requested assistance from the government; and 22.6% outsourced to experts in the field.

## 5. Conclusion

Generally, E-Business is a concept that is known to Small Business owners. Among the models used in E-Business, the most popular model is the Business to Consumer (B2C) model as most business operations fall within this range. During the pandemic, small business owners struggled with getting their businesses going as physical contact was prohibited. Most of these businesses were established in the traditional setting of business operations. Therefore, there was little or no plan for integrating the internet in their operations. However, the pandemic has shifted their attention to adopting or adding some virtual traction to their businesses for the benefit it offers, such as continuous sales and more visibility. Some of the E-Business concepts used by some of these businesses include E-Marketing, E-Commerce, E-Supply Chain Management, and E-Procurement. Some of the challenges faced while using these concepts include Knowledge Know-how, Marketing Know-how, Content Development, Web Development and Technical Know-how. To solve these challenges, business owners believe training in ICT, employing a professional with knowledge in ICT, getting some assistance from the government are some of the ways that can help them overcome these challenges.

## Limitation and study forward

A major limitation of this study was that due to the informal operations of SMEs pertaining to the area under study, the exact population size was unknown. It is therefore recommended that larger sample size in future research. Also, further research on how each of the various concepts was used by SMEs is highly recommended.

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