Research Article

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COVID-19 Pandemic! Its Impact On Online Business Service Quality And Performance

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1. Abstract

COVID-19 has revolutionized global trade and purchasing habits. As online sales and businesses recover, interest in performance improvement is also growing. Thus, the study examines how COVID-19 influences online businesses in the UK and Ghana, focusing on service quality and performance. The study additionally explored how empathy, responsiveness, reliability, and safety assurance impact online businesses. Using the partial least squares structural equation modeling (PLS-SEM) method, data were collected from a sample of 212 online business employees in the United Kingdom and 204 online business employees in Ghana. The results of the entire sample show that COVID-19 has a significant and positive influence on the quality of online business services. However, the overall sample shows that COVID-19 has no significant impact on the performance of online businesses, and this was also true for Ghana. In contrast, COVID-19 had a significant impact on the performance of an online business in the United Kingdom. Additionally, empathy, responsiveness, and reliability had a significant impact on performance. In the context of Ghana, safety assurance had a significant impact on online business performance, whereas, in the context of the United Kingdom, it had no significant impact.

2. Keywords:
Service Quality, Online Business Performance, COVID-19, Responsiveness, Empathy, Reliability, Safety Assurance

3. Introduction

The COVID-19 coronavirus disease has gradually changed how people trade and buy goods all over the world. This is because people who used to do business in person are now using e-commerce, which allows them to do business online. Because of this, as the number of online customers grew, most online businesses had to change their infrastructure, security, and services. Most European online businesses did not have much trouble with this because they have strong infrastructure and were able to get past some of the initial problems that come with running an online business. However, this was not the case for most online businesses in West Africa, as were already battling with a high cost of internet connectivity, and most of the online businesses they happen to just start their businesses before COVID-19 started (Aborode et al., 2020; Anyanwu & Salami, 2021). Compared to most online businesses, which operate exclusively online, this was very unique.

As the COVID-19 epidemic began to affect international markets, it became evident that it would test the resilience and performance of rapidly expanding internet businesses around the world, particularly in Europe and Africa. According to Klein and Todesco (2021), the majority of companies choose to conduct business online and modify their methods within eight weeks. Several countries around the world put restrictions on COVID-19, so the customers of most online businesses could not go to their stores, and the UK and Ghana were not an exception. It must be acknowledged that as compared to the UK most Ghanaians love to physically go to shop to buy what they want rather than buying online (Antwi, 2021). However, upon the presence of COVID-19, the Ghana Statistical Service in collaboration with UNDP and the World Bank to understand the effects of COVID-19 on the private sector (Howusu, 2022; Lai & Widmar, 2021) found that more than a tenth of businesses began or increased their use of the internet for business purposes.

In the United Kingdom, the first wave of the pandemic forced the closure of stores selling non-essential goods, which benefited online retailers

(Office for National Statistics, 2020). In its report on retail sales for October 2020, the Office of National Statistics (ONS) said that online sales went up more than usual during the pandemic. Additionally, online sales accounted for 28.5% of total sales in October, compared to 20.1% of total sales in February (Office for National Statistics, 2020). However, following a decline following the June reopening of stores in the United Kingdom, internet sales and businesses are expanding. As online sales and businesses resume their growth, there is a growing interest in how to enhance their performance. Nevertheless, because overall service quality has been shown to have a significant impact on performance, online businesses providing services online must pay close attention to it to be profitable and sustainable (Abd-Elrahman & Kamal, 2022). Thus, this study argues that for this to materialize, online businesses must focus on the quality of services they provide to their customers. As a result, the purpose of this study is to examine the influence that COVID-19 has had on online businesses, taking into account the increasing number of online businesses that have emerged as a result of the presence of COVID-19, with a particular emphasis on the general level of service quality and performance of such businesses.

A study carried out by Zou et al. (2020) evaluated businesses to understand how the pandemic affected them. They agreed that more study outside of China is needed to fully understand the impact of COVID-19 on other political, social, and cultural systems. They added that to get more specific recommendations for various industries in different locations, a cross-sector analysis is also necessary. Additionally, Engidaw (2022) argued that there is a need for more research on the effects of COVID-19 on business performance before and after. Hence, the current study examines the influence COVID-19 has on online businesses taking into account their online service quality and performance from the perspective of the UK and Ghana. The study is significant in three ways. First, the study's findings will aid the management of online businesses in uncovering the impact COVID-19 has on their online service quality and performance. The study will assist policymakers in evaluating the impact of COVID-19 on online businesses and developing policy guidelines to assist online businesses in such a deterministic time. Finally, it will assist academicians in better comprehending online service quality attributes in the era of COVID-19 from both the UK and Ghana perspectives.

The remaining part of the study is structured as follows: The literature review, hypotheses, and proposed model are discussed in Section 2. As part of the research methodology, Section 3 details the procedure by which the model was validated. Section 4 presents the data Analysis and Results, and Section 5 presents the discussion and conclusion.

2. Literature Review and Hypotheses Development

2.1. COVID-19 and Online Businesses

The World Health Organization describes COVID-19 as "an infectious disease caused by a newly discovered coronavirus" (WHO, 2021). In addition, the World Health Organization (WHO) asserts that confined spaces with poor ventilation, where people who might be infected frequently gather, increase the risk of virus transmission. It appears that under these conditions, the virus may spread through respiratory droplets or aerosols more readily. Therefore, the World Health Organization (WHO) recommends avoiding close contact situations, crowded areas, and large crowds. If being in a congested or indoor environment is unavoidable, it is imperative to take precautions such as wearing a mask and practicing excellent hygiene. Before the vaccination campaign could be implemented, authorities from around the globe issued strict regulations to prevent infections in 2020 and well into 2021 (Loembé & Nkengasong, 2021). It is essential to note that these regulations have equally affected online businesses.

The long-term effects of the COVID-19 pandemic on online enterprises are not yet readily discernible. On the other hand, the pandemic had negative short-term consequences (Akkermans et al., 2020). Both developed and developing nations experience a decrease in GDP. The latter, however, experienced a greater decline (Maliszewska et al., 2020). In addition, measurements of insecurities and social alienation have altered consumer behaviour and significantly decreased consumer expenditure (Akter et al., 2021). This confirmed that COVID-19 influenced the global business environment. As the COVID-19 virus spreads from person to person, customers are drawn to online purchasing, and it is anticipated that traditional retail will be severely disrupted. Despite a decline in overall consumer expenditure, online purchases increased, and it was anticipated that this pattern of customer behavior would continue (Briggs et al., 2021). However, Donthu and Gustafsson (2020) acknowledge that it is uncertain that this shift will cease once the pandemic has ended.

The OECD asserts that because physical interactions are being minimized to prevent transmission, demand has shifted from traditional brick-and-mortar stores to shopping online (Ahsan & Rahman, 2022). The COVID-19 pandemic has accelerated the expansion of e-commerce in terms of new businesses, new customers, such as the elderly, and new product categories, such as consumables. Customers can now access a vast selection of products from the comfort of their own homes, allowing businesses to continue functioning despite their limitations. In many countries, the focus of e-commerce has shifted from luxury goods to everyday goods, which are more relevant to the majority of people. Due to factors such as the possibility of new pandemic outbreaks and the convenience of new purchasing options, some changes in the e-commerce landscape are likely to have a lasting effect (Nanda et al., 2021; Gupta & Mukherjee, 2022).

The impacts of the coronavirus (Covid-19) on Malaysia's online retail industry were examined in a study by Hasanat et al. (2020). They acknowledged that COVID poses a significant threat to several e-commerce businesses, as at least fifty percent of their retail products are sourced from China. They concluded that the majority of online businesses will be impacted because the majority of products originate in China and the majority of industries have been halted. This further shows that the organization's productivity and profitability will be significantly impacted. According to a follow-up study by Zou et al. (2020), the

COVID-19 pandemic has had an impact on every aspect of society and the global economy. Their study concluded that in Guangdong, although the risks COVID-19 present are significant; companies have not conducted a significant quantity of manufacturing or operations. It is crucial to implement regulations that drastically reduce the production costs of businesses, enabling them to emerge from their current difficult period and resume normal operations.

Indeed, the pandemic had been a global catastrophe, and technology was the only reason small businesses were able to survive. Information systems can have an immediate impact on the ability of businesses to maintain their livelihoods during a pandemic (Mandviwalla & Flanagan, 2021). Moreover, Engidaw (2022) acknowledges that businesses of all sizes, including the smallest ones, face challenges. As a result of the novel coronavirus epidemic, many global businesses have been devastated, making it more difficult for them to survive due to decreased revenue, lost employees, slowed-down lives, and insufficient marketing efforts. Circumstances make it difficult for them to maintain composure and keep their business viable. Despite this, small business owners need to continue promoting their companies, be forthright with their employees about their financial situation, and reduce expenditures (Shafi et al., 2020). Additionally, businesses should consider alternative methods of product delivery to recover from the current economic crisis. Thus, there is a need for future research on the impact of COVID-19 on the performance of businesses, as well as a comparison study of crises both before and after COVID-19 and management techniques for these types of pandemics and the problems they present in times of crisis. Therefore, the significance of the current study is to close the gap in comparative research on the impact of COVID-19 on the performance and service quality of online businesses in the United Kingdom and Ghana.

2.2. Online Service Quality and its Determinants

Service quality has been extensively studied, and it plays a significant role in the success of online businesses. According to Roy et al. (2019), service quality is the comparative function linking consumer expectations with the delivered service. Additionally, Famiyeh et al. (2018) acknowledge that service quality is the underlying capability of an organization or industry to meet the intended consumer expectations. The process of measuring the quality of service is an essential element of quality enhancement. They play a significant role in determining whether or not customers are satisfied with a product or service because they generate feedback regarding service supply and whether or not customer requirements have been met.

Numerous studies show that many variables define and influence service quality (Li et al., 2021; Demir et al., 2021). These characteristics include but are not limited to, reliability, communication, courtesy, responsiveness, tangibility, credibility, comprehension, security, and expertise (Pakurár et al., 2019). Additional research has elucidated the complex relationships between security, respect, credibility, and communication (Selelo & Lekobane, 2017; Anwar, 2017). These relationships resulted in the growth of expansive attributes known as assurance and empathy. As a result, responsiveness, tangibility, assurance, reliability, and empathy were established as determining factors. These five important factors formed the basis of the SERVQUAL model, a measurement instrument used to evaluate service quality. Empathy, responsiveness, reliability, and safety assurance were used to assess the quality of online service for this study.

2.3. Hypotheses Development

2.3.1. COVID-19 and Performance

The COVID-19 pandemic annihilated sales and left a trail of uncertainty in its aftermath. The inability of suppliers and customers to communicate has distorted sales and business operations. Kim (2020) acknowledges that managers frequently adopt a wait-and-see stance regarding COVID-19's effect on sales. Because it is frequently uncertain whether or how many consumers will return after a pandemic has passed. After COVID-19, it is evident that managers may respond to the digital transformation of the market to recover or even increase sales. In addition, mandatory lockdowns resulted in the greatest sales losses, and categorizing business types based on whether they were deemed essential or non-essential and whether they had a moderate or high level of person-to-person contact shows a correlation between sales losses and COVID-19 cases per capita (Fairlie & Fossen, 2021). However, Muhammad et al. (2022) concluded that the pandemic was a blessing for entrepreneurs in the clothing and cosmetics industries but a curse for those peddling dairy products.

COVID-19 influences customer loyalty. Due to COVID-19, most customers switched brands (Valaskova et al., 2021). COVID-19 seemed to have halted the globe, yet people needed goods. People started switching brands and retailers at this point. They switched to shopping online. They bought what was offered and free-shipped instead of their favorite brands. Necessity was one of the main factors contributing to the decline in customer loyalty (Casteran et al., 2019). Customers switched brands or retailers for convenience (Singh, 2019). This is because clients expect a hassle-free experience. They desire fast, easy product delivery in-store or online. Many customers stopped purchasing at their favorite retailers during the pandemic because they did not have a buy online, pick up in-store option, or online presence (Truong & Truong, 2022).

COVID-19 additionally spiked customer complaints, influencing organizational performance. This is because institutions have closed branches and allowed people to work remotely. Companies must examine whether they can handle rising online traffic as branches close and clients switch to online services (Al-Dmour et al., 2021). This is done alongside a high rate of absenteeism due to illness or employees taking time off to care for their families (Keogh-Brown et al., 2020). These variables, together with remote service delivery challenges, influence customer service. As a result, they are more likely to complain, and unresolved complaints have a gradual impact on performance. Customer preferences and lifestyles have changed due to the pandemic. Most online firms' public image has finally changed. The public image of a company is crucial (Mitra & Jenamani, 2020). This affects consumer spending and company success. COVID-19 influenced brands worldwide (O'Donnell & Begg, 2020). Due to the

pandemic's impact on public image, most online firms have been cautious about how they serve customers online (Batat, 2021). Thus, we propose that:

H1. COVID-19 has a significant influence on online business performance.

2.3.2. COVID-19 and Service Quality

According to the current study, service quality is associated with responsiveness, reliability, empathy, and safety assurance. As a result of the pandemic, the level of individual attention given to customers has decreased significantly (Ozuem et al., 2021). With time, the COVID-19 pandemic is also having a significant impact on the reliability of online businesses, as their ability to provide the promised services reliably and precisely has come under intense scrutiny (Camilleri, 2021; Jou et al., 2022). According to Nayal et al. (2022), the COVID-19 pandemic also had a significant impact on the capacity of organizations to provide timely service of a high standard. The abilities and expertise utilized in the process of providing services to clients during the COVID-19 period have also been heavily criticized. We,
therefore, propose that:

H2. COVID-19 has a significant influence on online service quality: (a) responsiveness (b) reliability (c) empathy (d) safety assurance.

2.3.3. Service Quality and Performance

Ogunyomi and Bruning (2016) characterize performance as an organization's output compared to its intended outcomes. This study measures the performance of an online business focusing on sales growth, public image, customer compliance, and loyalty. Lin (2013) emphasizes that assurance and reliability are key to service quality evaluation. Van Looy and Shafagatova (2016) have also highlighted that business process performance has become a central concern in academics and business as organizations struggle to achieve effective and efficient performance in the COVID-19 era. During the COVID-19 pandemic, service providers go above and beyond to make customers feel valued and special. To have empathy, one must first place themselves in the consumer's shoes to comprehend their needs (Hung, 2017). Employees who are courteous and friendly, understand each client's unique needs, give the client extra attention, and take the time to explain the practices and procedures that will be used in the process of service delivery are all qualities that foster empathy (Suaib et al., 2022). This, when lacking in the services provided by online businesses, can have a significant impact on the customers of these providers and also on the performance of these businesses (Rita et al., 2019), thus we propose that:

H3. Empathy has a positive influence on online business performance.

Customers anticipate reliable service, which means the service is consistently delivered on time, in the same fashion as before, and without difficulties (Teeroovengadum et al., 2016). Therefore, responsibility and quality are associated with reliability (Li & Shang, 2020). This includes the quality of the correspondence, the quality of the customer service, information presentation, and client value (Korfiatis et al., 2019; Akrong et al., 2022), the skills of the staff, the representatives' willingness to listen to customers queries and respond emphatically to their inquiries and grievances (Luo et al., 2019), privacy, the trustworthiness of the staff, a shorter waiting time and faster response time, actual prompts, and the ease of access to probate (Omar et al., 2016). We, therefore, proposed that:

H4. Reliability has a positive influence on online business performance.

It is necessary to reduce the time spent waiting for the contact between the client and the service provider, and service providers must be willing to assist customers and provide prompt service (Rasyid & Alfina, 2017). Appiah and Osei (2019) concluded that keeping consumers waiting, especially when there is no clear justification for doing so, results in waste and negative perceptions of service quality. If a service fails, having the ability to improve it swiftly and proficiently can greatly enhance perceptions of its quality and performance. According to Fragoso and Espinoza (2017), punctuality is crucial for enhancing consumers' perceptions of the quality of the service they receive and a company's performance. In the absence of a prompt and professional response regarding the failure to heed the requests of customers and the offer of alternative activities to meet the client's demands, there is a tendency to have a significant impact on relationships. Hence, providing prompt service, displaying an active readiness to assist customers, and having employees available whenever they are required all contribute to the enhanced performance of businesses (Sugiarto & Octaviana, 2021). Thus we proposed that:

H5. Responsivenes has a positive influence on online business performance.

Customers of online businesses are more likely to feel safe and at ease during the service delivery process when the employee's skills and competencies inspire trust and confidence (Bonfanti et al., 2021; Zygiaris et al., 2022). If a customer is pleased with the level of service they receive from an organization's employees, they are more likely to return for additional business, which influences the organization's performance (Garca-Sánchez et al., 2022). Customers are most reassured by factors that induce empathy, such as expertise, courteousness, a positive attitude, and effective communication (Ban & Ramsaran, 2017). When these factors are present, customers are more likely to feel reassured, and business performance improves. We, therefore, proposed that:

H6. Safety assurance has a positive influence on online business performance.

2.4. Conceptual framework

Figure 2 shows the conceptual framework proposed for this study, which was developed from the SERVQUAL model: tangibility, responsiveness, reliability, assurance, and empathy. This model was utilized because it has been established to be the most reliable way of measuring service quality. The model hypothesized that COVID-19 influences both the overall performance of online businesses and the quality of online services. Additionally, the model proposed that service quality influences a business's performance.

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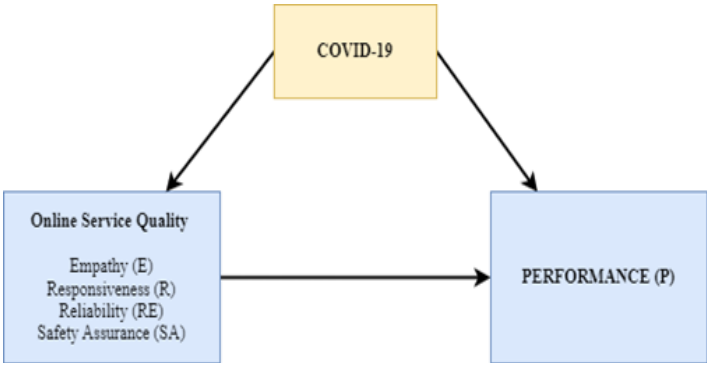

Figure 2: Proposed model

3. Research Methodology

The study is quantitative and adopts a case study approach due to the sizeable amount of data it can generate and the simplicity with which the participants in the current study could understand its conclusions (Heale & Twycross, 2018). The study took into account the drawbacks of the case study approach, such as the inability to extrapolate the findings to other cases and the potential for bias due to the data processing by a single person. As a result, data collection by survey questionnaire and observation was used in triangulation to bridge this gap. The study was carried out in Ghana and the United Kingdom (UK). Respondents consisted exclusively of employees responsible for providing services to these companies clients. The Ghanaian business sells apparel and home furnishings, whereas the UK Company focuses on skin care. The Ghanaian company will be called Company Y, and the UK Company will be called Company X for the purposes of the study.

3.1. Measures

The online survey questionnaire contained modified versions of earlier research instruments. The questionnaire items were evaluated to ensure the instruments' reliability and to inform the researchers of the existence of data relevant to the study's focus. The employees of both companies (X and Y) were given access to nine (9) sample questionnaires. Following this, the responses were meticulously examined to determine whether or not they provided the necessary information to assist in answering the primary research question and whether or not additional potential answers should be added to the options provided for each question. This resulted in the elimination of unclear or difficult-to-answer questions. Prior to completion, multiple revisions were made to the questionnaire. The online survey could be finished in less than fifteen minutes.

Using six (6) constructs, the study objectives were accomplished. Four of the constructs—responsiveness, reliability, empathy, and safety assurance—were used to measure online service quality (Teeroovengadum et al., 2016; Omar et al., 2016; Selelo & Lekobane, 2017; Anwar, 2017; Rasyid & Alfina, 2017; Ban & Ramsaran, 2017; Hung, 2017; Nguyen et al., 2018; Pakurár et al., 2019). The remaining constructs are performance (Lin, 2013; Ogunyomi & Bruning, 2016; Van Looy & Shafagatova, 2016) and COVID-19 (Hasanat et al., 2020; Zou et al., 2020; Mandviwalla & Flanagan, 2021; Akter et al., 2021; Engidaw, 2022). Strongly agree (5), agree (4), neutral (3), disagree (2), and strongly disagree (1) comprised the Likert scale. The study utilized three items to evaluate responsiveness, reliability, empathy, and safety assurance. With statements such as "Employees promptly respond to customers' requests during the COVID-19 period," "This retailer keeps customers informed about when services (e.g., adjusted store hours) will be performed during the COVID-19 period," "This retailer gave customers individual attention during the COVID-19 period," and "During the COVID-19 period, employees are knowledgeable to answer customers' questions at this retailer." Based on prior research, we assigned four items to the COVID-19 construct, including statements such as "Covid-19 has influenced the performance of our retail company" and "From our observations, it was clear that customers were concerned about online shopping during the COVID-19 period." On a five-point Likert scale, performance was measured as follows: much better (5), better (4), neutral (3), worse (2), and much worse (1), with sales, public image, and complaints from consumers serving as examples.

3.2. Data Collection

We used observation and questionnaires to collect data for the study because we anticipated that a multifaceted approach would be essential to collecting high-quality data. Direct observation assisted in acquiring a better understanding of employee behavior when providing online services to customers, as well as the impact COVID-19 had on these services and the operations of the company. This strategy was chosen because it allowed the study to document employee behavior and processes without solely relying on the online survey (Ciesielska et al., 2018). The participants effectively represented the company's online customer service personnel. Hence, the observation was less likely to be biased, and it took twenty (20) days to observe companies X and Y, respectively. The results of the observation procedure influenced the final draft of the questionnaire.

Using the technique of convenience sampling, data was collected from company employees. Before approaching employees, department administrators and HR were consulted for permission. These managers assisted the researchers in disseminating the link to the online questionnaire to the employees and informing them that participation was voluntary and the results would be kept confidential. Company X (UK) contacted 400 employees with a link to an online survey; 220 responses were obtained, but only 212 were completed, resulting in a 53% response rate. 204 out of 300 Company Y (Ghana) employees responded to the online questionnaire in full, for a 68% response rate.

The data from the UK consisted of 118 male (55.7%) and 94 female (44.3%) respondents, with the majority of the respondents between the ages of 26-35 years (56.1%). In addition, the majority of respondents, 156 (73.6%), were pursuing a bachelor's degree; 14 (6.6%) respondents were also enrolled in vocational training; 20 (9.4%) held a master's degree; 3 (1.4%) were in an apprenticeship; and 19 (9%) had a high school diploma. The data from Ghana consists of 133 (65%) male respondents and 71 (35%) female respondents, with the majority of respondents being

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between the ages of 36-45 (61.7%) and 26-35 (8.3%). 153 (75%) of the respondents held a bachelor's degree, 30 (14.7%) of the respondents also held a master's degree, and 21 (10.3%) had vocational training qualifications.

3.4. Data Analysis

Using structural equation modeling with partial least squares (PLS), the data for the study were analyzed. When independent variables are correlated as opposed to orthogonal, PLS makes more accurate and consistent predictions (Leguina, 2015). Thus, the PLS was used to examine the relationship between COVID-19, performance, and online service quality (responsiveness, reliability, empathy, and safety assurance). This is achieved in two steps: first, a measurement model is constructed, followed by the development of a structural model (Hair et al., 2020). In addition, a PLSpredict evaluation of the variables and a multi-group analysis were also conducted.

4. Data Analysis and Results

4.1. Measurement model

The constructs were measured by reliability, convergent validity, and discriminant validity. The item loadings for both the whole sample and the country-specific sample were >0.5, indicating a high level of reliability. For both the overall sample and the country-specific sample, all of the composite reliability (CR) and Cronbach's alpha (α) values were >0.7, as shown in Table 2. The AVE values were higher than 0.5 for both the entire sample and the country-specific sample. The construct variables and indicators used in the study are valid and reliable for testing structural models, according to the findings of the reliability and convergent validity tests. In Table 1, the discriminant validity is reported. The degree to which a construct truly differs from other constructs is determined by empirical criteria. We employed the standardized root mean square residual (SRMR) and root mean square residual covariance (rms Theta) for both the whole sample and the country-specific sample to evaluate the model's fitness (Hair et al., 2020). For Ghana, the UK, and the entire sample, the SRMR was 0.065, 0.070, and 0.068, while the rms Theta was 0.127, 0.128, and 0.126. The results show a good fit for the model.

Table 1: HTMT ratio

			Ghana			
	C	E	P	RE	R	SA
C						
E	0.511					
P	0.463	0.711				
RE	0.810	0.723	0.706			
R	0.576	0.788	0.656	0.820		
SA	0.661	0.556	0.609	0.734	0.671	
			UK			
	C	E	P	RE	R	SA
C						
E	0.485					
P	0.580	0.850				
RE	0.589	0.749	0.794			
R	0.513	0.650	0.795	0.804		
SA	0.674	0.635	0.586	0.685	0.561	

Note. E: Empathy, R: Responsiveness, RE: Reliability, SA: Safety Assurance, C: COVID-19, P: Performance.

Table 2: Reliability and convergent validity.

			Ghana					**UK**			**Complete**		
Construct	Items	Load-ings[a]	Alpha[d]	CR[c]	AVE[b]	Load-ings[a]	Alpha[d]	CR[c]	AVE[b]	Load-ings[a]	Alpha[d]	CR[c]	AVE[b]
Empathy (E)	E1	0.854	0.720	0.723	0.633	0.813	0.722	0.723	0.643	0.832	0.721	0.843	0.642
	E2	0.751				0.790				0.792			
	E2	0.796				0.798				0.796			
Responsi ve-ness (R)	R1	0.871	0.781	0.798	0.694	0.729	0.711	0.714	0.634	0.933	0.743	0.883	0.660
	R2	0.843				0.822				0.799			
	R3	0.784				0.784				0.816			
Reliability (RE)	RE1	0.766	0.769	0767	0.600	0.817	0.772	0.783	0.604	0.788	0.767	0.819	0.602

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	RE2	0.754				0.711				0.732			
	RE3	0.807				0.808				0.805			
Safety Assurance (SA)	SA1	0.846	0.743	0.779	0.581	0.800	0.785	0.791	0.611	0.829	0.776	0.815	0.596
	SA2	0.716				0.771				0.739			
	SA3	0.776				0.779				0.743			
COVID-19 (C)	C1	0.848	0.763	0.769	0.585	0.702	0.706	0.708	0.530	0.757	0.736	0.834	0.557
	C2	0.759				0.769				0.760			
	C3	0.762				0.739				0.769			
	C4	0.727				0.722				0.724			
Performance (P)	P1	0.802	0.788	0.793	0.614	0.719	0.762	0.761	0.584	0.750	0.770	0.853	0.592
	P2	0.794				0.802				0.800			
	P3	0.791				0.750				0.752			
	P4	0.788				0.793				0.776			

Note. E: Empathy, R: Responsiveness, RE: Reliability, SA: Safety Assurance, C: COVID-19, P: Performance

a. All Item loadings > 0.5 indicate indicator reliability
b. All Average Variance Extracted (AVE) >0.5 as indicates Convergent Reliability
c. All Composite reliability (CR)>0.7 indicates internal Consistency
d. All Cronbach's alpha>0.7 indicates indicator Reliability

4.2. Structural model

In measuring the structural model proposed for the study, we considered the significance of the path coefficient (hypotheses), the level of the R^2 values, and the predictive relevance Q^2. Bootstrapping and the PLS algorithm were used to assess the quality of the structural model. The significance of the path within the structural model was determined using 5000 subsamples for this study. The results from Table 3 show that all the hypotheses were not totally supported in each country-specific sample or complete sample.

Table 3: Hypothesis test outcome.

		Ghana						**UK**						**Complete**			
Hypothesis	Path	Std. beta	Std. errors	t-values	p-values	Results		Std. beta	Std. errors	t-values	p-values	Results		Std. beta	Std. errors	t-values	p-values	Results
H1	C → P	-0.092	0.100	0.930	0.176	NS		0.129	0.076	1.686	0.046	S		0.044	0.061	0.723	0.235	NS
H2	C → RE	0.582	0.068	8.579	0.000	S		0.425	0.080	5.172	0.000	S		0.501	0.056	8.932	0.000	S
H3	C → R	0.444	0.068	6.510	0.000	S		0.376	0.076	4.813	0.000	S		0.406	0.050	8.000	0.000	S
H4	C → E	0.391	0.065	5.969	0.000	S		0.360	0.084	4.245	0.000	S		0.372	0.052	7.081	0.000	S

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H5	C → SA	0.687	0.056	12.348	0.000	S		0.490	0.081	5.946	0.000	S		0.584	0.053	10.982	0.000	S
H6	E → P	0.274	0.105	2.596	0.005	S		0.369	0.077	4.751	0.000	S		0.319	0.064	4.981	0.000	S
H7	RE → P	0.232	0.095	2.427	0.008	S		0.162	0.088	1.933	0.027	S		0.189	0.064	2.949	0.002	S
H8	R → P	0.174	0.095	1.779	0.038	S		0.271	0.074	3.669	0.000	S		0.227	0.057	4.004	0.000	S
H9	S A → P	0.202	0.095	2.163	0.015	S		0.022	0.065	0.223	0.412	NS		0.087	0.053	1.606	0.054	NS
	R^2	**Q^2**						**R^2**	**Q^2**					**R^2**	**Q^2**			
C		0.000							0.000						0.000			
E	0.145	0.092						0.122	0.073					0.135	0.084			
P	0.402	0.238						0.539	0.297					0.465	0.268			
RE	0.337	0.188						0.169	0.095					0.247	0.145			
R	0.191	0.133						0.131	0.079					0.16	0.104			
SA	0.470	0.257						0.229	0.133					0.338	0.193			

Note. *Relationships are significant at $P < 0.05$, S: Support, NS: Not supported, E: Empathy, R: Responsiveness, RE: Reliability, SA: Safety Assurance, C: COVID-19, P: Performance.

The COVID-19 Empathy was found to be significant in the sample from Ghana (β = 0.391, t = 5.969, p = 0.000), UK (β = 0.360, t = 4.245, p = 0.000), and the overall sample (β = 0.372, t = 7.081, p = 0.000). For H1, COVID-19 Performance was not significant in the sample from Ghana (β = -0.092, t = 0.930, p = 0.176) and the overall sample (β = 0.044, t = 0.723, p = 0.235) but that of UK (β = 0.129, t = 1.686, p = 0.046) was significant. The influence of COVID-19 Reliability was also significant in the sample from Ghana (β = 0.582, t = 8.579, p = 0.000), UK (β = 0.425, t = 5.172, p = 0.000) and the overall sample (β = 0.501, t = 0.932, p = 0.000). The same was for the influence of COVID-19 Responsiveness, as the sample from Ghana (β = 0.444, t = 6.510, p = 0.000), UK (β = 0.376, t = 4.813, p = 0.000) and the overall sample (β = 0.406, t = 8.000, p = 0.000) proved to be significant. H5 was also significant as COVID-19 had a significant influence on Safety Assurance from both the sample from Ghana (β = 0.687, t = 12.348, p = 0.000), UK (β = 0.490, t = 5.946, p = 0.000), and overall sample (β = 0.584, t = 10.982, p = 0.000).

Also, Empathy (Ghana (β = 0.274, t = 2.596, p = 0.005), UK (β = 0.369, t = 4.751, p = 0.000), and overall sample (β = 0.319, t = 4.981, p = 0.000)), Responsiveness (Ghana (β = 0.174, t = 1.779, p = 0.038), UK (β = 0.271, t = 3.669, p = 0.000), and overall sample (β = 0.227, t = 4.004, p = 0.000) and Reliability (Ghana (β = 0.232, t = 2.427, p = 0.008), UK (β = 0.162, t = 1.933, p = 0.000), and overall sample (β = 0.189, t = 2.949, p = 0.002)) also had a significant influence on performance. Hence H6-H8 was accepted for each country-specific sample and the overall sample. However, while H9 was found significant in the sample from Ghana (β = 0.202, t = 2.163, p = 0.015) it was not significant in the sample from the UK (β = 0.022, t = 0.223, p = 0.412) and the overall sample (β = 0.087, t = 1.606, p = 0.054).

In assessing the model's explanatory power, the R^2 values ranged between 0.122- 0.539 across the samples from Ghana, UK, and the complete sample in the study. According to Hair et al. (2021), the R^2 values can be described as substantial (0.75), moderate (0.50), or weak (0.25). The predictive relevance was also assessed using the Q^2 values and they ranged from 0.000-0.297. For the study the Q^2 values rating as proposed by Hair et al. (2021) were adopted with 0.02 representing small predictive relevance, 0.15 being medium, and 0.35 being large).

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4.3. PLSpredict Analysis

The study also examined the out-of-sample predictive power of the proposed model. The PLSpredict model is utilized with 10 folds and one repetition to mimic how the PLS model would eventually be used to predict a new observation, rather than utilizing the average across multiple models (Shmueli et al., 2016). The value of the PLS-SEM root-mean-squared- error (RMSE) should be lower than the LM (linear regression model) RMSE to indicate high predictive power. The predictive power is high when PLS<LM for all the items; it is termed medium when PLS<LM for most items, and predictive power is low when PLS<LM for a minority of the items. Thus, Table 4 shows that empathy and safety assurance have a medium predictive relevance effect in the model for Ghana, the UK, and the complete sample. The reliability predictive relevance effects in the model for Ghana and the UK were also medium, but those for the complete sample were low. For responsiveness, the predictive relevance effects in the model for Ghana were high, and the UK and complete samples were medium. Finally, for performance, the predictive relevance effects in the model were medium for Ghana and the complete sample but low in the UK.

Table 4: PLSpredict assessment of variables.

		Ghana				UK				Complete		
Items	Q^2pre-dict	PLS-SEM_RMSE	LM_RMSE	Interpr-etation	Q^2pre-dict	PLS_SEM_RMSE	LM_RMSE	Interpre-tation	Q^2pre-dict	PLS-SEM_RMSE	LM_RMSE	Interpre-tation
E1	0.097	1.067	1.038		0.071	1.116	1.076		0.090	1.085	1.042	
E2	0.052	0.994	1.001	Medium	0.082	1.086	1.106	Medium	0.076	1.036	1.046	Medium
E3	0.107	1.153	1.168		0.041	1.178	1.190		0.078	1.161	1.173	
P1	0.062	1.202	1.181		0.050	1.349	1.342		0.059	1.28	1.260	
P2	0.049	1.213	1.231	Medium	0.069	1.217	1.217	Low	0.062	1.211	1.219	Medium
P3	0.086	1.180	1.204		0.180	1.235	1.240		0.133	1.208	1.218	
P4	0.091	1.408	1.440		0.096	1.243	1.219		0.098	1.325	1.325	
RE1	0.248	1.061	1.016		0.065	1.148	1.101		0.155	1.106	1.056	
RE2	0.190	0.940	0.942	Low	0.067	0.988	0.989	Medium	0.127	0.963	0.959	Low
RE3	0.140	1.146	1.169		0.128	1.156	1.185		0.145	1.14	1.154	
R1	0.119	1.175	1.182		0.068	1.181	1.163		0.098	1.173	1.158	
R2	0.129	0.951	0.960	High	0.091	1.138	1.147	Medium	0.113	1.046	1.046	Medium
R3	0.132	1.082	1.089		0.046	1.268	1.291		0.089	1.173	1.183	
SA1	0.380	1.015	0.991		0.141	1.066	1.051		0.262	1.046	1.014	
SA2	0.200	0.959	0.971	Medium	0.048	1.125	1.134	Medium	0.119	1.044	1.046	Medium
SA3	0.188	1.127	1.127		0.168	1.040	1.064		0.187	1.075	1.084	

Note. E: Empathy, R: Responsiveness, RE: Reliability, SA: Safety Assurance, C: COVID-19, P: Performance.
High: PLS<LM for all the items; medium: PLS<LM for most items; low: PLS<LM for a minority of the items.

4.4. Multi-group Analysis

The study also carried out a multi-group analysis to help identify the notable variations between Ghana and the UK in terms of the effects of COVID-19 on empathy, responsiveness, reliability, safety assurance, and performance. Additionally, the impact of empathy, responsiveness, reliability, and safety assurance on performance was also examined. The findings from Table 5 show that the differences between COVID-19 Empathy (p=0.385), and Responsiveness (p=0.233) were not significant but COVID-19 Reliability (p=0.057) was partially significant. That of Empathy (p=0.242), Reliability (p=0.321), and Responsiveness (0.200) P was not significant. However, COVID-19 Performance (p=0.039) and Safety Assurance (p=0.019) were found to be significant and that of Safety Assurance Performance (p=0.048) was also significant. Thus, the differences in path coefficients show that the impact of COVID-19 on empathy, responsiveness, and reliability was not stronger in the UK in comparison to Ghana. However, the difference in the path coefficients between the impacts COVID-19 has on safety assurance and performance was stronger in the UK in comparison to Ghana. Also, the differences in path coefficients when it comes to the service quality variables show that empathy, responsiveness, and reliability impact on performance was not stronger in the UK in comparison to Ghana. But the differences in path

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coefficients between the impact safety assurance has on performance were stronger in the UK in comparison to Ghana.

Table 5: Multi-group analysis

Relationships	Difference (Ghana-UK)	P-value
C → E	0.032	0.385
C →P	-0.221	0.039
C → RE	0.167	0.057
C → R	0.074	0.233
C → SA	0.205	0.019
E → P	-0.092	0.242
RE → P	0.061	0.321
R → P	-0.101	0.200
SA → P	0.192	0.048

Note: *The Differences are significant in the relationships between the two countries ($P < 0.05$).

5. Discussion and conclusion

This study analyses how COVID-19 has affected online businesses in the UK and Ghana, specifically in terms of their online service quality and performance. The quality of the online service was evaluated based on responsiveness, reliability, empathy, and assurance of safety. The findings indicate that COVID-19 has a positive impact on service quality. This aligns with a previous study by Camilleri (2021), which found that COVID-19 has made online businesses more focused on providing reliable and precise services. The results of the overall study indicate that customers of online businesses shopped online more frequently than before the COVID-19 period, but this trend further increased. This supports the report by Briggs et al. (2021) that despite a decline in total consumer spending, online purchases increased, and it was anticipated that this pattern of customer behavior would continue. Furthermore, most of the employees who work for these online companies acknowledged that it was clear from earlier experiences that customers were hesitant to shop at online stores during COVID-19. Based on this, employees of online businesses responded quickly to customer requests, were willing to assist customers, informed customers when services would be conducted, and provided accurate services on the first attempt. This is congruent with Nayal et al. (2022) study, which acknowledges that the pandemic has created unprecedented challenges for organizations throughout the globe and emphasizes the significant effect that COVID-19 had on the ability of online businesses to deliver high-quality services in a timely way. This was largely because the skills and knowledge required to provide services during this period were heavily scrutinized by both researchers and customers alike. As a result, online businesses were forced to adapt quickly and implement new strategies to ensure that they could continue to meet the needs of their clients. Despite these challenges, many organizations have risen to the occasion and demonstrated remarkable resilience in the face of adversity. Moving forward, it will be important for organizations to continue to evolve and adapt as they navigate the ongoing effects of the pandemic and strive to provide exceptional service in an ever-changing landscape.

Due to the impact of COVID-19 on service quality, the majority of online businesses care about accommodating seniors, minorities, and employees with disabilities, according to the results of the overall sample. They also provided individual assistance to their customers. This was in contrast to the findings of the Ozuem et al. (2021) study, which concluded that the pandemic had resulted in a significant decline in the amount of individual attention provided to customers. In addition, the results of the study show that safety-related information is accurate and up-to-date and that employees were able to answer customers' queries during the COVID-19 period.

In addition, the results from the study show that COVID-19 did not influence the performance of online businesses within the overall sample. COVID-19's impact on Ghana's online business performance was the same in this regard. The correlation between sales losses and COVID-19 cases per capita is consistent with the findings of Fairlie and Fossen (2021), which acknowledge that mandatory lockdowns resulted in the greatest sales losses and classify business types based on whether they were deemed essential or non-essential and whether they had a moderate or high level of person-to-person contact. Due to the high level of person-to-person contact in Ghana in the presence of mandatory lockdowns, COVID-19 did not have a significant impact on the public image or sales growth of online businesses, as the majority of customers continued to purchase through traditional channels. Although it did not influence performance, COVID-19 also increased consumer complaints. Nevertheless, COVID-19 had a significant impact on performance in the United Kingdom. According to Muhammad et al. (2022), entrepreneurs in the clothing and cosmetics industries benefited from the pandemic. This explains the impact that COVID-19 had on Company X's performance in the United Kingdom. In addition, the study's findings are consistent with those of O'Donnell and Begg (2020), who concluded that COVID-19 influenced brands worldwide, thus affecting the public image of the majority of online businesses and subsequently influencing consumer spending and company performance.

The overall sample results of the study indicate that service quality has a significant impact on the performance of online businesses from the perspective of their employees. During the COVID-19 period, it emerged that employees of online businesses responded promptly to customer requests and were willing to assist customers. This enhanced the online businesses' public image, and customer complaints were properly addressed, resulting in a significant performance boost. This is consistent with the Rasyid and Alfina (2017) study, which acknowledges that it is necessary to reduce the time spent waiting for the contact between a client

and a service provider and that service providers must be willing to assist customers and provide prompt service, as this influences performance. In addition, Sugiarto and Octaviana (2021) support these findings by explaining that providing prompt service, demonstrating an active willingness to assist customers, and having employees available whenever needed all contribute to the improved performance of businesses.

Reliability was also found to have a significant impact on the performance of online businesses. According to the study's overall sample, during the COVID-19 period, the majority of retailers kept their customers informed about when services would be conducted and provided services correctly the first time, which also helped. According to the findings of the study, this resulted in significant sales growth and enhanced customer loyalty. Teeroovengadum et al. (2016) acknowledged that customers expect reliable service, which implies that the service should be consistently delivered on time, in the same manner as before, and without challenges, as this tends to encourage extra purchases and boost the growth of sales.
Employee empathy in online businesses has a significant influence on performance, according to the overall sample. This was because during the COVID-19 period, online businesses provided individual attention to their customers, and the employers made sure to provide employees with accommodations for seniors, minorities, and people with disabilities. As a result, public image, sales growth, and customer loyalty all improved, increasing performance. Employees who experienced such empathy from their employers were eager to put forth a great deal of effort to boost the business's sales because they felt well-treated. Suaib et al. (2022) state that employees who are courteous and friendly, understand each client's unique needs, give the client extra attention, and take the time to explain the practices and procedures that will be used in the process of service delivery are all more likely to have satisfied clients. The results of the present study are consistent with the conclusion from Hung (2017), which states that to have empathy; one must first put themselves in the consumer's shoes to comprehend their needs.

Regarding safety assurance, the overall sample of the study shows that safety assurance had no significant impact on the performance of online businesses. This was also true of the sample for the business in the United Kingdom. This was because, although online businesses in the United Kingdom informed their employees about safety-related information and urged them to maintain such safety measures during the COVID-19 period, it was nothing new to them. Additionally, during the COVID-19 era, the employees of the UK-based online company were highly knowledgeable when it came to responding to consumer questions, but this did not significantly influence how well their business performed. However, safety assurance had a significant influence on the performance of online businesses in Ghana. This was because the majority of online businesses at the time of the pandemic were either new to selling online or were in the process of preparing to sell online. During the COVID-19 era, businesses needed to have knowledgeable employees who could answer customers' questions and who were also well-versed in safety-related business information, as this had a significant impact on their performance in terms of sales growth, public image, addressing customer complaints, and increasing customer loyalty. Garca-Sánchez et al. (2022) concluded that if a customer is satisfied with the level of service they receive from an organization's employees, they are more likely to return for additional business, which impacts the organization's performance. Moreover, factors that induce empathy, such as expertise, courtesy, a positive attitude, and effective communication, are the most reassuring to consumers (Ban & Ramsaran, 2017).

A multigroup analysis was conducted to determine if the impact of COVID-19 on empathy, responsiveness, reliability, safety assurance, and performance, as well as the influences of empathy, responsiveness, safety assurance, and reliability on performance, vary between the two different countries. The results show that the impact of COVID-19 on empathy, responsiveness, and reliability in the United Kingdom was not stronger than that in Ghana. However, the impact of COVID-19 on safety assurance and performance was significantly greater in the United Kingdom than in Ghana. Also, the impact of empathy, responsiveness, and reliability on performance was not stronger in the United Kingdom than in Ghana. However, the impact of safety assurance on performance has been more significant in the United Kingdom than in Ghana. These results show that employees of online companies in the United Kingdom, as well as their employers, were aware that customers shopped online more frequently than before COVID-19 and were concerned about shopping in online stores during the COVID-19 period and the impact COVID-19 has on the quality of their online service. The online company in the United Kingdom was less concerned with responsiveness, reliability, and empathy than the online business in Ghana. Compared to the Ghanaian context, the UK-based online company was more concerned with sustaining safety-informed information and reliability, as well as a secure check-out procedure for their employees.

5.1. Theoretical Implications

This study provides a thorough comprehension of the influence that COVID-19 had on online businesses in the United Kingdom and Ghana. It adds to the existing literature on the influence that service quality has on the performance of online businesses. This study contributes to the integration of service quality constructs such as empathy, responsiveness, reliability, and safety assurance to measure the performance of online businesses concerning their sales growth, public image, customer complaints, and customer loyalty from a theoretical standpoint. A PLS-SEM for data analysis concluded that all hypothesized relationships were significant except for the influence of COVID-19 on online business in Ghana and the influence of safety assurance on performance in the United Kingdom. Additionally, relevant studies carried out by researchers before the pandemic were only able to examine the pandemic's presence, service quality, and organizational performance in a single region. Thus, this paper contributes to prior research, extends the research phenomenon in the context of a developing economy such as Ghana, and conducts a comparative study between the United Kingdom and Ghana.

5.2. Practical Implications

In the presence of a future pandemic, this study offers practical guidelines to

online businesses regarding the impact of COVID-19 on their performance and the quality of service they provide. Additionally, these businesses understand how much impact service quality has on their performance. Online businesses in Ghana and the United Kingdom may recognize that, in the presence of a pandemic, their employees must respond to customer requests more innovatively and enthusiastically. In times of pandemic, online businesses should train their employees to provide individual assistance and be knowledgeable enough to address customers' questions, as these practices tend to improve performance indicators such as public image, customer loyalty, and sales growth.

5.3. Limitations and Future Research Directions

This study found that online businesses in the United Kingdom did not place a strong emphasis on service quality variables such as empathy, responsiveness, and reliability, whereas the opposite was true in Ghana. This was because, in Ghana, the majority of online businesses operating during the COVID-19 period were either new to the market or intending to join it. As COVID-19 fades away, however, it will be intriguing for future studies to examine these variables in the context of other African countries after employing such methods to sell their products and acquire a wealth of experience and knowledge. This comparison can be made with Asian and European countries. Second, the sample size for this study consisted of 416 participants. To increase generalizability, it is recommended that future research increase the sample size to achieve greater statistical precision and power. In this paper, only a quantitative research methodology was employed. To address the dearth of quantitative approaches, it would be interesting for future researchers to employ qualitative or mixed-method approaches to obtain a more in-depth, comprehensive understanding of the influence of service quality on online business performance and the impact of COVID-19 on service quality and online business performance. Lastly, it is recommended that further studies identify additional significant variables that may help explain the impact of service quality on online business performance.

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