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The Mediating Effect of the COVID-19 Pandemic on the Relationship Between Technology and Organizational Performance: Evidence from Ghana Banking Industry

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Abstract

This study aimed to investigate the mediating effect of the COVID-19 pandemic on the relationship between technology and organizational performance, using evidence from the Ghana banking industry. The study adopted a correlation and mediation research design, with 232 respondents conveniently sampled from eight indigenous Ghanaian Banks. The data were analyzed using correlation, regression, and mediation techniques. The results show that technology serves as a catalyst for improving organizational performance and alleviating the negative effects of COVID-19 on organizational performance. The findings also revealed that the COVID-19 pandemic highly mediates technology and organizational performance with a significant positive relationship between technology and COVID-19 pandemic; technology and organizational performance. Additionally, there is a significant positive high relationship between COVID-19 pandemic and organizational performance, with technology and COVID-19 pandemic predicting organizational performance. The COVID-19 pandemic moderately mediates organizational performance. Banks in Ghana need to secure technological solutions to remain competitive in this era of stiff competition and disasters to ensure customer satisfaction, optimize costs, remain profitable, and, above all, increase shareholder wealth.

Keywords: COVID-19 pandemic, technology, organizational performance, Ghana, banking industry

Introduction

Information and communication technology (ICT) has significantly changed how the financial industry operates by facilitating complete information and data distribution, minimizing information asymmetries, and accelerating the global spread of financial innovations (Marszk & Lechman, 2021). The recent COVID-19 health emergency, which swept the globe and had previously unheard of repercussions, underscores the importance of ICT in addressing the problems posed by coronavirus disease and adapting to limits or constraints imposed by lockdown measures. According to assessments by analysts at the International Monetary Fund (IMF), the pandemic had a 3.2% negative impact on Global Gross Domestic Product (GDP) in 2020. GDP declined by 4.6%, the highest in advanced economies (AE), 2.1% in emerging markets (EM), and 2% in emerging and developing economies (EDE) (IMF, 2021). Similarly, according to a forecast by the World Bank in April 2020, the African continent's economy could contract by as much as 5.1% as a result of slower output growth among the region's major trading partners, a decline in commodity prices, a decline in tourism, and lower levels of foreign direct investment and remittances, with an estimated 23% decline in private remittance receipts in sub-Saharan Africa (World Bank, 2020).

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Today's banking sector, like most industries, has been severely affected by the coronavirus pandemic. Moreover, in dealing with the extraordinary increase in demand for digital financial services, handling cybersecurity and regulatory challenges, and managing high deferral rates among clients, some banks are obligated to adopt new and digitalized working modes and move their employees to remote arrangements.

Financial institutions have the human resources to perform various banking tasks, particularly during the COVID-19 global health emergency when social distancing was required. Technological advancements have made community services more accessible; therefore, the banking industry must understand the significance of utilizing this new scientific, digital, or innovative solution (Gasparin et al., 2020). Banks and organizations have reduced operating costs and efforts to provide customized goods and value-added services by utilizing economies of scale and scope resulting from standardized IT-supported procedures (Stulz, 2019). The advancement of science and innovation has also helped banks boost their overall productivity by enhancing the standards and diversity of financial services (Le & Pham, 2022). Scott et al. (2017) noted that using information technology helps organizations increase sales and lower long-term operating costs, increasing the return on investments for banks. Some processes and transactions include payments, confirmations, financial reporting, and pre-trade, trade, and post-trade activities. The availability of information technologies in general, and particularly the world wide web as a delivery channel, has had an impact on the range of financial services delivered by banks, how banks provide those services, and the resulting financial performance of those banks by altering the nature of the relationships between banks and their ICT capabilities (DeYoung et al., 2017). In another study, Le and Ngo (2020) revealed that IT-based means of delivering goods and services (such as bank cards, ATMs, and point of sale (POS) terminals) increase bank profitability. Therefore, it is essential to continue promoting these channels to deliver banking goods and services.

The COVID-19 global health emergency has increased the dissemination of online banking and digital payments. This development has reduced the reliance on traditional brick-and-mortar financial institutions and cash-based transactions, making it increasingly vital for researchers to understand the relationship between ICT and bank performance. However, an opportunity to learn still exists concerning the precise form of this relationship, the variables and dynamic elements that affect it, and the moderating and mediating factors that may impact its intensity and direction (Aldasoro et al., 2020).

Although Ghana's economy and banks have growth potential, some barriers exist. The country has faced significant economic and historical financial challenges, with the government experiencing record budget deficits and failing public services (Amewu et al., 2020). Ghana's banking sector in March 2020 consisted of 23 commercial banks, 28 private banks, financial firms, four banks with only representative offices, and one more bank. Given the low deposit growth and factors affecting performance, this sector has become unstable and illiquid, increasing banks' reliance on the Central Bank of Ghana (BOG) and refinancing (Bank of Ghana, 2019). In addition, the pandemic has reportedly shaken many financial markets, and Ghana has not been exempted (KPMG, 2020). As a result, the share prices of five out of the eight listed banks recorded a decline, with three falling by 10% or more in April 2021. The most impacted bank in April 2021 was a transnational entity such as Ecobank Ghana (EGH), which had a 20% decline from GHS 8.10 on December 31, 2019, to GHS 6.50 on April 21, 2020 (KPMG, 2020).

The coronavirus disease pandemic has worsened matters. Ineffective government policies and rising protectionist trends have sapped the resilience of the economy for years. The Bank of Ghana (2021) reported a steep decline in profit growth experienced by the banking sector in Ghana, which was caused by a higher operating expenditure associated with maintaining the COVID safety standard and higher loan provisions. Given these economic challenges, Ghana's banking industry has a dire outlook. These financial institutions may receive some immediate relief from regulatory forbearance measures, still beyond 2022, and long-term credit stress is likely to result from coronavirus-related consequences on Ghana's economy (Musah et al., 2020), with the central government also feeling the effect of factors affecting the overall Ghanaian economy. According to Alnaa et al. (2020), although Ghanaian banks recapitalized, the exercise negatively affected local banks' performance. Based on the study by Appiahene et al. (2019), Information Technology resources had a substantial impact on banks' overall performance, as many of them (78.8%) were effective across the board despite having subpar efficiency in deposits and investments. With the advent of new technology resources and the effects of the COVID-19 pandemic, this study investigated the mediating effect of the COVID-19 pandemic on the relationship between technology and organizational performance in Ghanaian banks. Consequently, this study aimed to answer the following questions:

1. Is there a significant relationship between technology and the COVID-19 pandemic?
2. Is there a significant relationship between technology and organizational performance?
3. Is there a significant relationship between the COVID-19 pandemic and organizational performance?
4. Which of the following predicts organizational performance: a) Technology; b) COVID-19 pandemic?
5. Does the COVID-19 pandemic mediate the relationship between technology and organizational performance?

The null hypotheses of this study are as follows:

1. There is no significant relationship between technology and COVID-19.
2. There is no significant relationship between technology and organizational performance.
3. There is no significant relationship between the COVID-19 pandemic and organizational performance.
4. None of the following predicts organizational performance: a) Technology; b) COVID-19 pandemic.
5. The COVID-19 pandemic does not mediate the relationship between technology and organizational performance.

Review of Related Literature

The role of technology as an agent of growth in Ghana's banking sector cannot be overemphasized. Ghanaians have high expectations of gains, flexibility, and improvement in customer ratings if we embrace technology in the Mobile Financial Services space (Sarpong & Agbeko, 2020). Technology presents opportunities and threats to Ghana's banking industry. Whereas the latter has a negative mediated relationship with perceived online identity theft, the former positively and significantly predicts "fear of financial loss," "fear of reputational damage," and "security and privacy concern" (Jibril et al., 2020). Technological innovations are pivotal for improving the performance of people and organizations (Obeng & Boachie, 2018). However, technological solutions and their applications face some challenges. Regardless of the numerous benefits of technological solutions, they make people more susceptible to scams such as credit card fraud, phishing, and spamming, while guaranteeing financial security is a key obstacle to electronic banking (Aboagye & Anong, 2020). One essential technological resource banks use in their operations is network infrastructure and network connectivity. Ofosu-Ampong (2021) intimated that from an end-user point of view, COVID-19-era technology limitations and Internet instability made effective financial transactions impossible.

Banking has been less stressful because of the availability of internet banking, with most banks in the nation now accepting online transactions. Nevertheless, Internet banking, supported by sophisticated technology, comes at a considerable expense for bank operations. This significant investment in technology did not exclude UniBank, which in 2015 spent roughly GHS 2 million on system upgrades (Benson, 2019). Information security vulnerabilities, risks, and exposures are another major concern for end users of banking services, who frequently take their time to embrace new banking services due to security concerns and are reluctant to embrace the digital transformation and strategy banks present in the wake of the COVID-19 global health crisis (Ofosu-Ampong, 2021). According to the KPMG (2020), every element of contemporary life has been impacted by the COVID-19 pandemic's unparalleled difficulties.

Consequently, the economic ramifications of global health emergencies will affect various accounting and financial reporting issues. Banks are facing some of the most challenging accounting issues. Financial institutions have suffered from the adverse effects of the pandemic due to a lack of effective corporate governance and inappropriate transaction documentation. By contrast, the effects of the central government's lockdown directive compounded the situation (Peprah, 2021). The COVID-19 global health crisis presents multiple risks and challenges for the Ghanaian banking sector. This public health crisis heightens the risk of economic contraction, negative impact on fees and trading incomes, operational constraints of keeping employees safe and meeting customer expectations, potentially high credit losses, and their impact on overall asset quality, capital, and liquidity (KPMG, 2020). The monetary policy response to the coronavirus crisis between March and September 2020 included a significant cut in the policy rate, from 16.0 to 14.5%, on March 18, 2020, to signal risks in the economic outlook arising from the likely negative impact of the pandemic on exports, imports, taxes, and foreign exchange receipts (Bank of Ghana, 2020a). The policy rate is the central bank's primary tool for signaling monetary policy and anchoring short-term market interest rates and expectations to maintain price stability and promote economic growth and development (Bank of Ghana, 2020b). In light of the global health crisis presented by COVID-19, the Monetary Policy Committee implemented a package of macro-financial measures, including a reduction in the primary reserve requirement from 10% to 8% to provide banks with more liquidity to support lending to critical sectors of the economy and a reduction in the Capital Conservation Buffer (CCB) from 3.0% to 1.5% to provide banks with more financial space to support economic activity (Bank of Ghana, 2020a). In the early stages of the outbreak in Ghana, the government imposed a lockdown in two regions, executed in specified cities with specific instructions (Dickson & Yao 2020). The banking sector in Ghana registered growth in total assets after the banking sector cleanup; however, the COVID-19 pandemic presented a decline in economic activities, leading to losses, challenges, and poor performance of some financial institutions in Ghana (Doku & Kudolo, 2021).

While the COVID-19 global health crisis appears to have a detrimental impact on the banking industry, it may make banks more competitive by speeding trends toward digitalization and new financial service providers. A study conducted by Machasio (2020) revealed that, in comparison to traditional banking techniques, mobile money services like M-Pesa, MTN Mobile Money in Ghana, or Zambia's Zoona could accelerate the pace of financial inclusion with digitization having the potential to increase a firm's access to markets, financing, and production. According to Ofosu-Ampong (2021), many of the interviewed managers said that COVID-19 had a detrimental effect on their banks' operations; however, the effect has given users a way to use their online services, which have been underpatronized since its inception (Internet banking and mobile banking). The COVID-19 global health crisis also presented an opportunity for employees to work from home. Farooq and Sultana (2021) established that working from home increased productivity among female employees, given that it simplified the demands of their daily routines. When compared to transactions in the same month of the previous year, other proxy data on economic activity, such as mobile money transactions, increased significantly in both number (31.4%) and value (44.4%) at the end of March 2020, possibly because of a significant shift toward remote cashless transactions (Bank of Ghana, 2020c).

Organizational Performance

An organization's ability to achieve goals that include a colossal market share, high-quality products, high profit, solid financial results, and survival is referred to as organizational performance (Koontz & O'Donnell, 1993). Analyzing organizational performance involves comparing a company's results to its aims and objectives. In other words, actual outcomes or results, as opposed to expected outcomes, constitute organizational performance. When compared to transactions in the same month of the previous year, other proxy data on economic activity, such as mobile money transactions, increased significantly in both number (31.4%) and value (44.4%) at the end of March 2020, possibly because of a significant shift toward remote cashless transactions (Bank of Ghana, 2020c).

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Technology and Organizational Performance

A study conducted in Kenya to determine the effects of information technology innovation on firm performance established the positive effects of technological innovation on business performance. A study conducted by Abusweilem and Abualoush (2019) found a positive relationship between technology tools, such as business intelligence, which includes, but is not limited to, data warehousing, Online Application Processing (OLAP), data mining, and organizational performance. Therefore, government policies should focus on enhancing ICT infrastructure and building ICT resource hubs to promote bank performance in Kenya. According to Bhatiasevi and Naglis (2020), while elucidating the determinants of business intelligence adoption and the performance of organizations, it was established that in terms of organizational performance, the use of business intelligence has a favorable impact on internal processes, learning, and growth. Financial institutions should not overlook the value of their staff when using technological solutions, because manual and electronic banking complement each other. As these are the main barriers to total reliance on electronic media, there is still a need to simplify and secure electronic banking. A study conducted by Khin and Ho (2020) revealed that digital innovation is positively impacted by digital orientation and competence and also serves as a mediator between the effects of these two factors on financial and non-financial performance. However, Hanif et al. (2020) revealed that technology does not significantly affect organizational performance owing to factors such as illiteracy and hesitancy in accepting technology in Pakistan.

COVID-19 Pandemic and Organizational Performance

In a study conducted by Demirgüç-Kunt et al. (2021) in 53 countries to assess the performance of the banking sector during the COVID-19 crisis, it was established that the COVID-19 global health crisis shock had a far more negative effect on banks than it did on corporations or other non-bank financial institutions, indicating that banks were expected to at least partially absorb the shock to the corporate sector, with banks also suffering a more significant reduction in their stock returns. Furthermore, according to Elnahass et al. (2021), there is compelling evidence that the COVID-19 global health crisis has negatively impacted financial performance across a range of performance matrices and financial stability in the global banking system. However, according to Wardhani et al. (2021), financial performance before and after the COVID-19 pandemic experienced no significant difference in measurements related to total asset turnover, return on assets, and return on equity.

Technology and the COVID-19 Pandemic

A study conducted by Mustafa (2021) to determine the impact of mobile banking on financial growth in the Gulf Region demonstrates a significant and positive effect on the uptake of mobile banking solutions, their application in emerging markets, and how mobile banking helps these developing economies in the wake of the COVID-19 global health crisis. A study to determine the effect of the COVID-19 pandemic on the adoption of Internet banking in Islamic Banks and Conventional Banks in Indonesia revealed that perceived usefulness, subjective norms, customer trust, and attitude had a direct and positive impact on customers' intention to adopt internet banking during the COVID-19 pandemic, while perceived ease of use did not have a significant relationship with the intent to adopt internet banking (Sudarsono et al., 2020). According to Sporta et al. (2021), mobile deposits and accounts have no appreciable impact on Kenyan commercial banking institutions' operational effectiveness. Since mobile deposits had a favorable link with commercial banks' operational effectiveness in Kenya, the study suggests that commercial banks spend more in this area. Nduji and Chris (2020) noted that e-commerce facilitates and enhances organizational performance, optimizes costs, and increases productivity in the banking industry.

Theoretical Framework

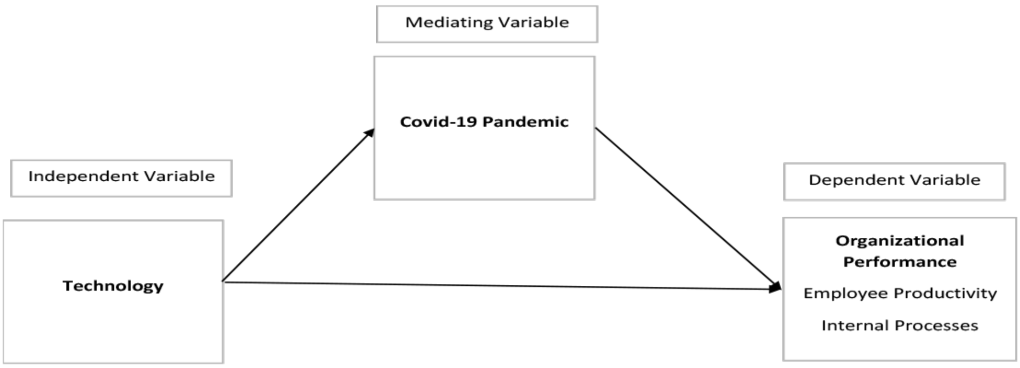
Disaster Theory

The present new coronavirus (COVID-19) pandemic, which began in Wuhan City of Hubei Province of China on December 31, 2019 (Zhu et al., 2020), has highlighted current inadequacies in organizations and economies, with the lack of preparedness to deal with pandemic disasters being a concern for businesses (Khan et al., 2020). By examining small business owners' responses to catastrophes and natural disasters through the lens of resources and social capital, Torres and Marshall (2019) distinguished between resilient organizations that continue to operate and thrive after a disaster and those that shut down. This study is anchored by the disaster theory. Resilience is sometimes referred to as a person's skills or capacities, while others define it as effective in coping with hardship. As many different ways to interpret the same word exist, the resilience theory has come under heavy fire (Fletcher & Sarkar, 2013; Kolar, 2011). During the COVID-19 pandemic, organizations painfully realized the necessity for resilient organizational systems (Caglio et al., 2021). No matter what challenging circumstances resilient firms endure due to unexpected changes in the environment, they can continue to deliver excellent performance and business outcomes (Kantabutra & Ketprapakorn, 2021).

Dynamic Capabilities Theory

Agile and resilient organizations will be able to capitalize on their entrepreneurial mindset and find possibilities in the global upheaval that the COVID pandemic has brought about in the post-COVID world (Zahra, 2020). The usefulness of a firm's dynamic capacity (DC) to integrate resources in recognizing new opportunities further increases in an environment marked by high volatility and unpredictability (Battisti & Deakins, 2017). The role of DCs and resilience are differentiators between the survival and failure of small businesses and entrepreneurs and the speed with which new ventures can learn, determining their growth and survival in the long run (Bergami et al., 2021).

Figure 1
Conceptual Framework



Methodology

This quantitative study utilized a correlational and mediation design to address the research questions. Based on the research questions and paradigm, we used a correlation design to examine the correlates and effects of technology, COVID-19, and organizational performance. We also conducted a mediation analysis to investigate the effect of the COVID-19 pandemic on the relationship between technology and organizational performance.

This study used data from eight indigenous banks in Ghana (80 %) out of a population of ten as of 2021. The researchers prorated the total assets to determine the number of respondents from each bank. Based on this, 300 employees were conveniently sampled to answer self-constructed questionnaires based on the reviewed literature. The retrieval rate was 232 (77%) of the distributed instrument.

The internal validation involved various statistical processes. First, we calculated the Cronbach's alpha to determine the internal consistency and reliability of the survey instrument. We conducted a pilot study with 30 participants. We used George and Mallery's (2003) rule of thumb to assess Cronbach's Alpha values: *"≥ .9 – Excellent, ≥ .8 – Good, ≥ .7 – Acceptable, ≥ .6 – Questionable, ≥.5 – Poor, and ≤ .5 – Unacceptable"* (p. 231). As displayed in Table 1, the Cronbach's alpha for each construct was greater than 0.8, indicating a high reliability of our data collection instrument.

Table 1
Reliability Statistics

Variable	Number of Items	Cronbach Alpha	Verbal Interpretation
Technology	10	0.888	Good
COVID-19	11	0.867	Good
Employee Productivity	10	0.839	Good
Internal Processes	9	0.919	Excellent

Ethical considerations stated by Yin (2003) served as a guide for this study. Permission from Human Resource Managers, the Head of the unit responsible for facilitating research work, or the heads of departments from various banking institutions was sought. Informed consent was obtained, and confidentiality and privacy were ensured before participation in the study.

The questionnaire was used as the main data-collection instrument. Most questions in the questionnaire were designed using the Likert scale strategy, which measures respondents' attitudes by asking the extent to which they agree or disagree with the issues at stake. The questions were closed-ended and structured to reflect the study's major objectives.

Quantitative data analysis was performed using Jamovi software. Research questions one to three were analyzed using a correlation matrix. Question four was analyzed using linear regression, and question five with mediation in Jamovi. A correlation analysis was performed to confirm Baron and Kenny's (1986) rule of thumb.

Results and Discussions

Based on the research questions, the study investigated the mediating effect of the COVID-19 pandemic on the relationship between technology and organizational performance. The findings of this study are presented in tables. The magnitude of the relationship strength is calculated and represented by the Cohen (1988) absolute values, where r=.10 to .29 is small, r=.30 to.49 is moderate, and r=.50 to 1.0 is high.

Correlate of Technology and COVID-19 Pandemic

Research question one investigated the significant relationship between technology and the COVID-19 pandemic. The results from Table 2 indicate a *high positive relationship* between technology and the COVID-19 Pandemic, which is statistically significant (r=.667, p<0.001). This means that, during the COVID-19 pandemic, the use of technology helped overcome the adverse effects of the pandemic, which means that banks highly patronized the use of technology during periods of risk and uncertainty. Thus, if the implications of the COVID-19 pandemic continue to increase, banks will rely heavily on technology to survive the challenging times. Therefore, this study rejects the null hypothesis that there is no significant relationship between Technology and COVID-19.

Table 2
Pearson Bivariate Correlation Matrix

Variable	Technology	COVID-19	Organizational Performance
Technology	-	0.667^{***}	0.602^{***}
COVID-19	0.667^{***}	-	0.753^{***}
Organizational Performance	0.602^{***}	0.753^{***}	-

*** $p < .001$

The findings of this study are supported by Mustafa's (2021) argument that the use of technological tools and resources in the Gulf region has a significant and positive effect on financial growth. Likewise, Sudarsono's (2020) argument that COVID-19 has a direct and positive relationship with the adoption of a technological resource such as internet banking in Indonesia is consistent with the findings of this study. However, a study conducted in Kenya by Sporta et al. (2021) showed that mobile deposits and accounts do not significantly impact Kenyan commercial banks' operational performance. This may be because of the charges and taxes associated with electronic banking services (Ndung'u, 2019).

Correlate Technology and Organizational Performance

The second question investigated the relationship between technology and organizational performance. The results in Table 2 indicate a *highly positive relationship* between technology and organizational performance, which is statistically significant ($r=.602$, $p<0.001$). This means that, during the COVID-19 pandemic, the use of technology helped banks improve their efficiency and effectiveness. Banks that leveraged technology during periods of risk and uncertainty improved their performance. If the use of technology increased during the pandemic, banks would improve their organizational performance during challenging times. Therefore, this study rejects the null hypothesis that there is no significant relationship between technology and organizational performance.

The findings of this study are supported by Khin and Ho (2020), who sought to establish the impact of leveraging technological resources and their effect on organizational performance, where technology had a positive effect on organizational performance. In addition, Abusweilem and Abualoush (2019) support the findings of this study by confirming a positive relationship between technology tools and organizational performance. More so, the results of a study conducted by Bhatiasevi and Naglis (2020) underscore the significant effect of technology use on organizational performance. The study noted that using technology has a favorable impact on internal processes, learning, and growth.

Correlate COVID-19 Pandemic and Organizational Performance

Question three scrutinized the relationship between the COVID-19 pandemic and organizational performance. As indicated in Table 2, a *positive and significant relationship exists between the COVID-19 pandemic and organizational performance* ($r=.753$, $p<0.001$). This suggests that the COVID-19 pandemic had a direct impact on organizational performance. Thus, the banking industry's performance was affected by the height of the COVID-19 pandemic. Therefore, this study rejects the null hypothesis that there is no significant relationship between the COVID-19 pandemic and organizational performance. Furthermore, Elnahas et al. (2021) conducted a study on global banking stability in the wake of the COVID-19 pandemic, which revealed that the COVID-19 pandemic significantly affected organizational performance globally. In contrast, a study by Wardhani et al. (2021) in Indonesia showed that organizations experienced no significant difference in financial performance before and after COVID-19 concerning their total asset turnover, return on assets, and return on equity. This may be a result of the continuous impressive performance of the Indonesian economy, the reduction in the poverty rate over the years, and Indonesia's transition to a high human development index (Aji & Rosyad., 2020).

Predictors of Organizational Performance

The fourth question examined the predictors of organizational performance on the two dimensions of technology and COVID-19 employed by this study.

Technology

As shown in Table 3, technology accounted for 36.2% of the organizational performance among banks in Ghana during the COVID-19 pandemic, meaning that 36% of organizational performance could be attributed to technology ($r=.602$, $r^2 = .362$, $F= 131$, $p<0.001$). This implies that technology is a significant predictor of the organizational performance of indigenous banks in Ghana. Hence, the null hypothesis, which states that technology does not predict organizational performance, was rejected. This finding affirms the research conducted by Appiahene et al. (2019), which revealed that technology significantly impacted banks' overall performance and predicted their efficiency.

Table 3
Regression Coefficient of Technology on Performance

Predictor	R	R^2	Estimate	SE	t	p	F
Intercept			1.704	0.1522	11	< .001	
Technology	0.602	0.362	0.502	0.0439	11	< .001	131

COVID-19 Pandemic

As shown in Table 4, the results show that statistically, the COVID-19 pandemic significantly predicted organizational performance ($r=.75$, $r^2 = .57$, $F= 302$, $p<0.01$). Thus, COVID-19 accounted for 57% of the explained variability in organizational performance among banks in Ghana during the pandemic. As such, this study rejects the null hypothesis that the COVID-19 pandemic does not predict organizational performance. Also, the results of Assous et al. (2021) are consistent with the findings of a significant regression model of the Saudi Arabian Banking Index, with an adjusted R Square value of 86.9%, owing to the effects of the COVID-19 pandemic on the banking industry.

Table 4
Regression Coefficient of COVID-19 on Performance

Predictor	R	R^2	Estimate	SE	t	p	F
Intercept			1.094	0.135	8.08	< .001	
COVID-19	0.75	0.57	0.673	0.039	17.4	< .001	302

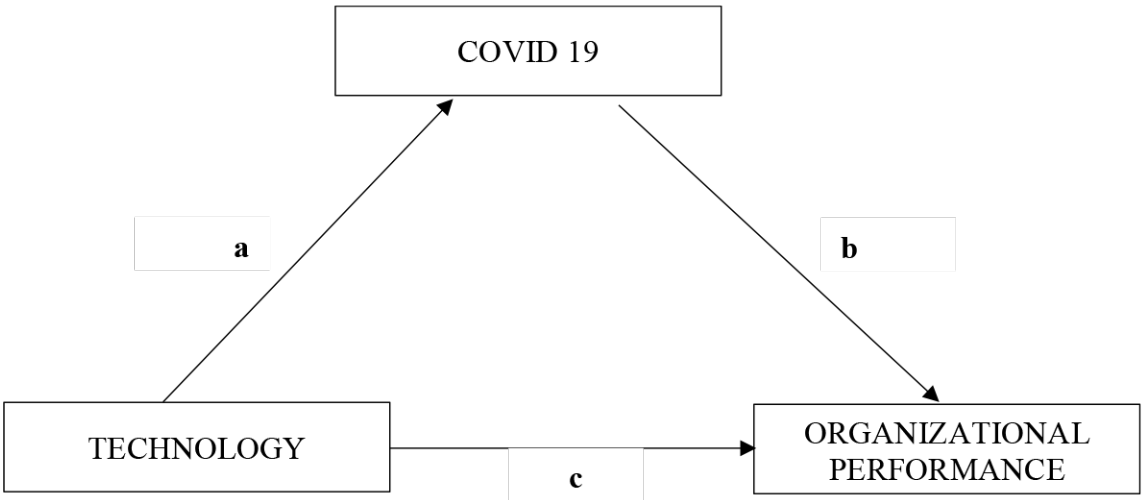
Mediators for Organizational Performance

Mediation seeks to establish a relationship or to highlight why and how an effect occurs. This study investigated the mediating effect of the COVID-19 pandemic on the relationship between technology and organizational performance. This study revealed that the COVID-19 pandemic *partially mediates* technology and organizational performance in Ghana. As shown in Table 5, COVID-19 mediation is 70.3 % of a high impact on the relationship between technology and organizational performance (estimate = 0.353, $p < .001$). This means that the COVID-19 pandemic has indirectly and highly impacted the technology and organizational performance of indigenous banks in Ghana. Therefore, this study rejects the null hypothesis, which states that the COVID-19 pandemic does not mediate the relationship between technology and organizational performance.

Table 5
Mediation Estimates

				95% Confidence Interval				
Effect	**Label**	**Estimate**	**SE**	**Lower**	**Upper**	**Z**	**p**	**% Mediation**
Indirect	a × b	0.353	0.0408	0.2726	0.432	8.64	< .001	70.3
Direct	c	0.149	0.0473	0.0564	0.242	3.15	0.002	29.7
Total	c + a × b	0.502	0.0437	0.4160	0.587	11.48	< .001	100.0

Figure 2
Mediating Effect of COVID-19



A similar study by Yan and Jia (2022) revealed a partial mediating effect of the COVID-19 pandemic on bank performance. This shows the indirect impact of COVID-19 on bank branches and banking operations, consistent with the findings of this study.

Conclusion and Recommendations

The study showed that during the COVID-19 pandemic, the use of technology helped banks overcome the effect of the pandemic, which means that banks highly patronized the use of technology during periods of risk and uncertainty. If the implications of the COVID-19 pandemic increase, banks will rely heavily on technology to survive the challenging times. Additionally, during the COVID-19 pandemic, technology helped banks improve their efficiency and effectiveness, which means that banks that leveraged technology during periods of risk and uncertainty improved their performance. Based on the results of this study, we conclude that technology and the COVID-19 pandemic are predictors of organizational performance. Therefore, when technological resources are adopted and applied efficiently and effectively, revenue may increase owing to value-added services and organizational performance improvement.

More so, the COVID-19 pandemic partially mediates technology and organizational performance in the banking industry in Ghana. We therefore conclude that the COVID-19 pandemic and other disasters in the future could stimulate accelerated technological growth, which will serve as an enabler for organizational performance.

Based on the results, we strongly recommend that banks in Ghana invest heavily in technological solutions to remain competitive in this era of stiff competition and disasters to ensure Customer Satisfaction, optimize costs, remain profitable, and above all, increase shareholder wealth.

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