

The Impact of Pandemics on External Audit Practices

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ABSTRACT

Manuscript type: Research paper

Research aims: This paper investigates the extent and determinants of pandemics such as COVID-19 on external auditing practices in the United Arab Emirates (UAE) emerging market.

Design/Methodology/Approach: An explanatory study was conducted using the deductive research approach. This paper uses the multiple regression analysis model (OLS) to analyse the survey questionnaire posted to several accountants and auditors. This paper utilizes the foundations of the Contingency Theory to support the study hypotheses.

Research findings: The findings shows that there is neutral relationship between the COVID-19 pandemic and the external auditing practices in the UAE emerging market. More specifically, respondents show moderate perceptions on the negative impact of COVID-19 on auditing performance, functions and skills. The most important determinants of auditing practices risk include firm size, respondents' job rank, education and gender.

Theoretical contribution/Originality: This paper adds to existing literature the impact of the COVID-19 pandemic on external auditing performance, functions and skills in an emerging market such as the UAE. In addition, it highlights most important determinants of the relationship between the COVID-19 pandemic and the auditing practices.

Practitioner/Policy implication: This paper improves auditing performance by focusing on appropriate policies to improve audit evidence for the required standards during pandemics.

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Research limitations/Implications: The study is limited to a single emerging market. Future studies can increase the sample size and conduct triangulation research methodology to enrich the research findings.

Keywords: Audit performance, Audit functions, Audit skills, COVID-19, Emerging markets

JEL Classification: M40, M41, M48

1. Introduction

The relationship between the external audit profession and organizations' performance has attracted much attention during the past decades. The quality of external audit profession has enabled many organizations to detect material misstatements (Lenz et al., 2015), reduce investment risk and hence increase shareholders' confidence (Gerged et al., 2020). However, the COVID-19 pandemic has led to the disruption of many businesses, including the profession of external auditing due to several reasons including distance working (Albitar et al., 2020), insufficient benchmarking (Castka et al., 2020), extensive professional scepticism (Rasso, 2013), and judgment skills concerns (Dohrer and Mayes, 2020). It became difficult for some auditors to perform his/her work in the workplace or go to the place subject to auditing or travel from one city to another due to the restrictions imposed by each country. In addition, there is uncertainty on how external auditors will be planning, executing, and reporting, and endure attention to their public interests and ethical responsibilities during this pandemic.

Some previous empirical studies found that the COVID-19 pandemic has negative impact on quality and access to resources for audit purposes (Albitar et al., 2020; Levy and Brown, 2020). Furthermore, Fernandes and Delliu (2020) argue that there is an increased need to develop measures to curb the COVID-19 and improve performance in the private sector. This study main problem stems from the need to understand how the audit profession adapts with this new pandemic situation. Therefore, the main purpose of this paper is to investigate the impact the COVID-19 pandemic on external auditing practices in the United Arab Emirates emerging market. This paper answers the following questions: (1) What is the impact of the COVID-19 pandemic on external audit performance? (2) What is the impact of the COVID-19 pandemic on external audit functions? (3) What is the impact of the COVID-19 pandemic on external audit skills? (4) What are the determinants of the external audit practices during the COVID-19 pandemic?

The main contribution of this paper is to provide a detailed picture on how external auditors have been affected by the COVID-19 pandemic in an emerging market such as the UAE. Unlike some western countries whereby external audit profession is supervised by the professional accounting bodies, the external audit profession is controlled centrally by the government Ministry of Economy in the UAE. Licensed auditors must fulfill the external audit state requirements and safeguard the organizations from penalties and threat of fines. In addition, the paper provides an overview on the most important factors which determines the auditing profession practices. Furthermore, it expands the impact of the COVID-19 pandemic to several audit practices such as auditing performance, functions, and skills. The results in this paper show a neutral relationship between the COVID-19 pandemic and auditing performance, functions and skills. Firm size, respondents' job rank, education and gender represent the most vital determinants of external auditing practices during the COVID-19 pandemic. The rest of this paper is as follows: the second section shows previous literature. The third section covers the research procedures and methodologies of data collection and analysis, including sampling. The fourth section presents the results and discussion. While the final section shows the conclusion.

2. Literature review

2.1 *Auditing Environment in the UAE*

The local auditing environment in the UAE is challenging due to the existence of multi-regulatory schemes including federal laws, and local regulations in each Emirate. The Ministry of Economy plays the main role in overseeing audit firms in the UAE (except financial free zones) in accordance with several codified regulations including the Federal Law No. 12 (2014) on audit profession law, Ministerial Resolution No. 403 (2015) on International Standards of the Auditing Profession, commercial companies Federal Law No. 2 (2015) which requires all companies to use IFRS Standards and other International Accounting Standard Board (IASB) pronouncements, commercial companies Federal Law No. 32 (2021) which mandates compulsory financial accounting auditing for all companies operating in the country, Ministerial Resolution No. 111 (2022) on virtual assets and related services and Federal Decree No. 41 (2023) on auditing and accounting profession. In addition, there are three independent audit oversight authorities in the financial free zones

including Dubai Financial Services Authority (DFSA), Abu Dhabi Accountability Authority (ADAA), and Security and Commodities Authority (SCA). Forty-five free trade zone operates in the UAE which offers various incentives for businesses. Free zone companies enjoy full foreign ownership, full exemption from corporate and income taxes and customs duty, independent laws and regulations and full repatriation of capital and profits (Ministry of Economy, 2024). As a result, auditing practices focus on more compliance with special accounting and auditing requirements and maintaining the international accounting standards than tax planning.

The Emirates Association for Accountants and Auditors (EAAA) was initially established by Federal Decree No. 227 (1997), which is a non-profit voluntary professional accountancy organization in the UAE. The Ministry of Economy requires all licensed auditors to register in the EAAA to practice the profession. The EAAA is responsible for offering continuing professional development programs, enforcing member compliance with relevant accounting, auditing, and ethical standards; and undertaking any other activities that support high professional standards and quality (International Federation of Accountants, 2024). The local business environment is characterized by a large and diverse expat-based population. Auditors need to acquire sensitive competency skills to handle different cultural, customs, and traditions backgrounds during audit engagements. Moreover, the audit environment in the UAE is characterized by high professional competition which may influence audit fees, audit quality, and employees' turnover. Finally, there exists a newly developed taxation system including excise tax (2017), value added tax (2018) and corporate tax (2023) which increase the audit engagement accountability.

2.2 *Contingency Theory*

The fundamental ideas of the Contingency theory (Fiedler, 1978) revolve around the concept of contingencies which argue that several internal and external factors affect the optimal approach to managing an organization at any particular time (Castka et al., 2021). In other words, managers optimum course of action is always context-specific (Nkundabanyanga, 2022), and there is no ideal way to organize a business (Carungu et al., 2021). The main predictions of this theory states that there is no universally applicable standard for accounting procedures that can be used across all industries and situations (Castka et al., 2021). It shows that the optimal strategy to make

decisions is arbitrary and instead depends on the specific context in which the individual or group is operating (Nkundabanyanga, 2022). The Contingency theory is characterized by its dynamic quality and context-dependency that allow managers to alter their policies depending on the circumstances (Nkundabanyanga, 2022). It provides an opportunity for managers to improve their leadership and decisiveness quality by possessing technical expertise and teamwork skills (Carungu et al., 2021). The flexibility afforded by a contingency strategy allows workers to develop professionally and contribute their ideas to the company (Castka et al., 2021). In addition, it supports organization to apply information decision systems and design the organizational structure (ibid).

Some scholars mobilized the Contingency theory to investigate how a humanitarian disaster like COVID-19 pandemic shapes the working approach of accountants (Carungu et al., 2021). The theory can comprehend how the COVID-19 pandemic contingent factors modify the organizational structure, behavioural accounting features, and organizational efficacy of accountants' approach to work (Shallal, 2021). For instance, remote working strategy and new or alternative data collection methods to generate financial reports may create logistical difficulties for the audit engagement and access to necessary resources (ibid). Other scholars focused on accountants' expertise transformations in significant ways as a result of the COVID-19 outbreak (Castka, et al., 2021). Some of these transformations may only have temporary repercussions, while others affect how professionals approach their work (Nkundabanyanga, 2022). The COVID-19 pandemic has vital effects on the accounting profession such as difficulties to reveal specific details about their client's businesses on non-financial and immaterial goodwill property information, cash flow difficulties, collateral loss disclosures, and continuity-related information (Albitar et al., 2022; Fernandes and Delli, 2020). Some solutions may rely on new digital technology for novel problem-solving and organizational structure (Carungu et al., 2021). Organizations should take the required steps to strengthen risk management to avoid similar mishandling circumstances in the future (Albitar et al., 2022). The measures taken by leadership to ensure the safety of their personnel must be communicated clearly and frequently as expert accountants are a company's most excellent resource (Carungu et al., 2021; Shallal, 2021). When firms experience disruption it needs to make changes across the board to ensure its survival (Shallal, 2021). Thus, the Contingency theory supports the purpose of this paper to investigate the contingent

impact of the COVID-19 pandemic on the audit practices. However, the Contingency theory suffer from some drawbacks. For example, it provides no clear view of all elements involved in decision making (ibid). Managers are unable to acquire and analyse all relevant data about their surroundings due to limitations in their time, resources, and expertise (Fernandes and Delli, 2020). In addition, the nature of the Contingency method is primarily reactive, lacks sufficient literature, and inadequate explanations which assert that “a managerial action relies on the context.” (Nkundabanyanga, 2022)

To overcome the problems associated with the Contingency theory, some scholars use alternative theories such as the complexity theory to shed light on the process by which order might arise from chaos (Barac et al., 2021). Companies are seen not just as complicated, static entities but as a complex set of self-organizing components comprised of personnel, business units, resources, and stakeholders (Nkundabanyanga, 2022). The Complexity theory predictions explain how new organizational structures and business models take shape (O Connor et al., 2022). A complicated system like a global corporation has a lot of order (Barac et al., 2021). Managers are accustomed to tackling challenging situations that require an acceptable level of precision to complete the task (O Connor et al., 2022). Complex issues are dissected into their component elements (Bauer et al., 2022), and when a problem arises at any level of a management structure, it is assigned to the appropriate expert (Crane and Matten, 2020). During the COVID-19 pandemic auditing businesses may need to adopt new methods of operation. The quick transition to remote and flexible working by audit firms and the companies they audit compounds the difficulty of updating the audit to keep up with the dynamic nature of modern business (Hylan and Rosenberg, 2020). However, new ways of working will provide significant benefits while also creating obstacles that need to be addressed in order to be successful (Crane and Matten, 2020). Audit firms will need a wider range of capabilities as digital technology and data analysis become more integral to the audit process and, by extension, to companies’ business models (Hylan and Rosenberg, 2020).

Scholars categorize organizational shifts into two categories: transactional and transformative. A transactional leadership relies heavily on procedures and control and implements a structured organisational structure (Crane and Matten, 2020). While the goal of transformational leadership is to persuade others to follow someone, and it takes a lot of collaboration, coordination, and openness to new

ideas (ibid). The transformations that occur during a pandemic can be profound. If the emphasis on transactional changes, modifications to transforming issues are more structural and encompass the whole enterprise (ibid). Hylan and Rosenberg (2020) state that accountants increasingly work remotely and rely on electronic tools to complete their tasks such as video conferencing. Crane and Matten (2020) argue that many organizations are forced to hire the assistance of externally accredited accountants in order to prepare for and cope with damage testing, which necessitates the use of external accounting or accounting outsourcing. Thus, in this paper the complexity theory will be useful to analyse the auditing practices during COVID19 pandemic.

Some scholars use the theory of Change to provide more understanding on the influence of recent technologies in the accounting profession, and to serve as a reporting structure (Kaka, 2020). Digital technology is essential for professionals to thrive and remain in business during the current epidemic (Shen et al., 2020). Accountants have a responsibility to add value by addressing both current and future difficulties by utilizing cutting-edge technological approaches to mitigating future problems (Bierstaker et al., 2013). Weiner and Joash, (2020) described that the Theory of Change focuses on the impact of the external factors on the accounting profession. The idea contextualizes on how audits have changed to successfully assess different organizations' financial health during the pandemic (ibid). The theory reflects on structural and financial statements changes that companies have had to readjust to accommodate global economic patterns (Bokšová et al., 2015). Contextually, it will gauge the dynamic that audits have had to change to successfully assess different organizations' financial health during the pandemic period (Bierstaker et al., 2013).

The term "external influences" refers to any outside factors, such as occurrences or circumstances, that may help achieve the desired outcomes (Kaka, 2020). External factors include pandemics, political changes, civil wars, global economic recession, change in government policies, and internal factors such as leadership change (Weiner and Joash, 2020). These factors may come in the form of similar initiatives or broader economic or societal shifts. For example, a change in government economic policies may impact the accounting professional's workload (Kaka, 2020). Notably, it must emerge from a robust participatory process in which all relevant parties contribute to the model's definition and refinement (Secinaro et al., 2021). Stakeholders will feel more invested in the outcome, boosting the

project's chances of success and making those responsible for it more accountable (ibid). Ardiny (2020) argued that the uncertainty caused by the COVID-19 pandemic will have a significant impact on financial statements including the book value, which will therefore necessitate accounting treatments and special disclosures. Thus, accountants and analysts need to be familiar with the theory of change management in order to implement major transformative initiatives (Bierstaker et al., 2013). Likewise, organizations need an analytically sound and responsible strategy to account for the most pressing developments (Secinaro et al., 2021).

Overall, this paper mainly uses the Contingency theory to investigate how the COVID-19 contingent variables affect the auditing practices. It predicts that no one accounting method can be used in every possible setting (Amir, 2020). Some aspects of an organization's accounting system depend on external factors (Weiner and Joash, 2020), and various components of an accounting system should correlate with unique conditions (Fernandes and Dellui, 2020). Shocks also cause some contingent phases to start, producing reactive and adaptive contingent unpredicted consequences in the workplace (Shen et al., 2020; Secinaro et al., 2021). The framework of this paper comprises several elements including contingent factors, organizational design, accounting system type, and organizational effectiveness.

2.3 *Empirical Studies*

The COVID-19 pandemic has left extensive social macro and micro-economic consequences worldwide. Major international organizations have had to close business, governments reduce access to critical service to its citizens, and local and international economic players are running into significant debts and losses (Harausova, 2015). The pandemic's primary responsibility is a global lockdown in major cities across all the countries (Albitar et al. 2020). The lockdown, meaning lack of any feasible economic activities, has led to major economic erosion and lack of access to critical services and income flows (Hayakawa and Mukunoki, 2021). While so many organizations have been firing employees or sending them on compulsory leave without payment, some organizations have resorted to salary renegotiation to cushion their employees from the bites of the pandemic (Aquino, 2020).

The COVID-19 pandemic may have vital consequences on audit performance. Previous studies show that audit performance is the

output per unit of effort (dedicated capacity) which is determined by the inherent complexity of the business unit audited, audit task and auditor characteristics (Alissa et al., 2014). Uncertainty arising from the pandemic has increased the challenge of obtaining adequate audit evidence on management judgments and estimates (Abba Ahmed, 2020; Christopher, 2020). Auditors and preparers are affected by restrictions on travel as well as the requirements to stay at home, and there are technical and practical issues while trying to access information (*ibid*). Likewise, Levy and Brown (2020) show that the pandemic led to demobilization due to social distancing, hence limiting access to resources for audit purposes. For example, uncertainty has resulted in unpredictability in the institutions' future earnings and other auditing aspects such as debt management, obligatory recurrent expenditures, and other inputs necessary for traditional auditing processes (Castka, Searcy and Fischer, 2020), difficulty in restructuring the organizations' financial statements and asset values (Komissarov, 2012). Albitar et al. (2020) theoretically argue that the COVID-19 pandemic has a negative impact audit quality in several ways such as decline in audit fees, challenges in the going concern assessment, increase audit effort, less reliability on audit evidence, personnel losses due to illness, and salary reductions of audit personnel. They argue that there exists a huge risk that the health crisis would degenerate something worse and that the impact of COVID-19 would pose a huge challenge for the auditors and their clients since the global financial crises. Moreover, the uncertainty of the future economic environment further challenges the auditors to track companies' financial trends (Sammur, 2012) which may need to obtain information in different ways (Levy and Brown, 2020). Therefore, based on previous empirical studies which highlight the difficulties to reach an independent assessment on whether firms are performing economically during pandemics, deterioration in audit quality and the existence of several uncertain internal and external contingency factors affecting decision making processes and operational strategies such as travel restriction which may require extra efforts to complete audit engagements, the following research hypotheses: The first hypothesis (H1) states that "*there is a negative relationship between the COVID-19 pandemic and external audit performance.*"

There are some concerns on audit functions during the COVID-19 pandemic. Previous studies show that audit functions establish the main role and responsibilities that the auditor must carry out in fulfilling the mission (Mironeasa & Codină, 2013). These functions

include providing information for decision-making, sets the performance benchmark of the audited business, and communicates both management and stakeholders' expectations (*ibid*). For example, uncertainty during the pandemic has resulted in an insufficient benchmark of audit reasonableness among the management using estimated judgments of the company's financial statements (Castka, Searcy and Fischer, 2020). In contrast, Johnsson & Persson (2021) empirical evidence show no significant impact of COVID-19 pandemic on audit quality auditor independence despite the change in audit-client communication during the pandemic in Sweden. The time-delay in preparing financial statements and inventories valuation were also major issues. In some circumstances, companies have had to delay financial statement development to give room for adjusting trends in the economic parameters locally and globally (Al-Qudah, 2019). With the auditing period's fixed nature as either monthly, quarterly, or annually, such companies have had to observe mixed financial signals without the auditors' contribution (Cruz et al. 2020). The lack of auditor reports in delayed companies affects the relational trends that auditors have used traditionally to gauge industry performance since most of these companies have an industry response to the pandemic (Santis et al., 2016). The lack of sufficient audit space during the pandemic significantly affects the financial statements' inventory considerations and historical nature (Cruz et al. 2020). Lastly, the roll-forwards on inventories among majority companies in response to government measures such as cessation of movements, lockdowns, and international flight limitations have had unforeseen limitations on majority multinational companies' value and asset accuracy warehouse overseas offices and production plants (Xu et al., 2011). Overall, the previous empirical evidence on insufficient benchmarking, reporting time delays during pandemics, and the subsequent need to apply non-conventional organizational structures and business models according to the Complexity theory, support the second hypothesis (H2) which states that "*there is a negative relationship between the COVID-19 pandemic and external audit functions.*"

Other scholars focus on the importance of external auditors' competency skills. Auditors need some skills such as cognitive skills and social skills (Ham et al., 2022). The cognitive skills relate to human intellect and judgment, which include the ability to think critically, reason, and solve problems (*ibid*). While social skills include the ability to communicate, listen, and work well with others (*ibid*). The non-conventional models of organizational

operations affect the informational competitiveness and efficiency of interpretation (Sherif, 2020). One of the challenges is utilizing unfamiliar technologies to transfer and synchronize information from companies to financial statement preparers and auditors (Ishmael, 2012). The use of new technologies to run such complex financial systems and cast data collation significantly affects the auditors' efficiency and interpretive competence (Baskan and Derrick, 2020, p.21). The auditors dependence on remote working during pandemics, may result in the extensive use of professional scepticism principles to cover the glaring gaps in financial statements from various companies (Rasso, 2013). Professional scepticism as a predictive auditing tool is only employed by auditors during extreme economic downturn cases as exemplified by the pandemic or during extreme recessions (Appelbaum, Budnik and Vasarhelyi, 2020). However, there are significant auditing concerns on the account estimations based on aspects of financial impairments and fair value challenges in an organization contributed by macro-economic factors such as pandemics and civil wars (Dohrer and Mayes, 2020). Auditors in this COVID-19 period have had to over-emphasize the use of professional scepticism to judge the going concern value of most companies to establish the companies nearest relative level of financial position where future valuations are employed using market-driven factors such as interests (Gu et al., 2018). For example, auditors have had to use the fall-back mechanism of assessing the trending values of assets across the market to develop estimated features of certain assets in the company (Faradiba et al., 2020). This cross-market assessment bears significant risks and valuation challenges since; other factors additionally contribute to the value of such assets in the market (Barnoussi, Howieson and van Beest, 2020).

There are other concerns on accounting and auditing technical judgment during the pandemic. Auditors' judgment was under question in fairly assessing assets market values based on governments' different responses to the pandemic worldwide (Dohrer and Mayes, 2020; Sobieraj and Metelski, 2020). In some instances, different governments provided huge cautionary policies to investors; hence, stabilizing the pandemic's nature and impact on their assets (ibid). In contrast, other governments majored in humanitarian precautions, leaving the economy on the side-lines (Dohrer and Mayes, 2020). Extremely hit countries such as Europe and the USA had a huge fluctuation in asset values; hence, affecting the asset-market value relationship (Alexiou and Tyagi, 2020). This asset valuation impairment significantly affects the auditor's reporting

as it is characterized by complexly related financial issues resulting from the pandemic (Puspitarani and Mapuasari, 2020, p.19). More auditors' complex issues include order cancellation harmonization, store closure values of existing assets redundant assets, decreased revenue vis-à-vis the projections in early audited, and principally disruption of the supply chain with standing orders chain on supply already (Kulinska et al., 2020). The previous empirical evidence on the impact of pandemics on professional scepticism, technical judgement skills, and the theory of Change predications on the influence of recent technologies in the accounting profession, provide support for the third study hypothesis (H₃) which states that "*there is a negative relationship between the COVID-19 pandemic and external audit skills.*"

3. Methodology

3.1 Data collection

A survey instrument was used to collect the data for this paper. Surveys encourage respondents to express their thoughts and feelings, and the resulting data may be quite reliable and informative (Castka et al., 2021). The surveys were distributed using emails to a simple random sample of accountants working in public and private organizations in the UAE market. The sample organizations were selected from the Federal Chamber of Trade and Commerce list of companies active in the UAE during 2022. This paper complements previous empirical studies by highlighting the accountants' opinion on the external audit practices during the COVID-19 pandemic. This is a vital relevant stakeholder feedback which enriches our understanding of external audit practices from a different angle (auditee) during the pandemic. The survey response rate was 42% (171 out of 400), which is considered satisfactory considering comparable studies (Elkelish and Rickards, 2018; Alshehhi et al., 2023). Due to invalid replies, five surveys were removed which result in a final sample size of 166 survey responses. Table 1 shows the characteristics of the survey respondents and organizational structure. Males constitute (56.6%) of the samples size while females are (43.4%). The majority of respondents were accountants (50%), well experienced with more than 10 years of experience (35.5%) and educated with a bachelor's degree (68.7%). The data reveals that the majority of the sample includes large organizations (34.3%) with mixed ownership status (51.8%) which belongs to the private sector (51.2%) and in the service industry (33.7%). Table 2 indicate

no statistically significant differences between early and late survey responses using the two-independent samples t-test, p-values are more than the confidence level of 5%.

Table 1: Sample Survey Characteristics

Firms' Internal Characteristics:			
Ownership Structure	(%)	Legal status	(%)
100% National	39.8	Shareholding	26.5
Mix	51.8	Partnership	19.3
Foreign	8.4	Joint venture	6.0
Organization type	(%)	LTD	7.8
Government	48.8	Other	40.4
Private	51.2		
Number of Employees	(%)	Business Activi-ty	(%)
Less than 100	30.7	Trading	14.5
100 to 500	21.1	Service	33.7
500 to 1000	13.9	Financial	29.5
More than 1000	34.3	Other	22.3
Respondents' Demographic Characteristics:			
Job Title	(%)	Gender	(%)
Accountant	50.0	Male	56.6
Senior Accountant	18.7	Female	43.4
Financial Manager	13.3	Age	
Other	18.1	Mean years age	
		Work	(%)
Education	(%)	0 to 1 years	15.1
Bachelor degree	68.7	2 to 5 years	30.7
Master degree	26.5	6 to 10 years	18.7
Doctorate	1.2	More than 10 years	35.5
Other	3.6	Nationality	(%)
		Local	44.6
		Non-local	55.4

Table 2: Two-independent samples t-test

	Levene's Test for Equality of Variances		t-test for Equality of Means		
	F	Sig.	t	Df	Sig. (2-tailed)
AV1	.055	.815	-1.26	164	.209
AV2	.000	.998	.057	164	.955
AV3	2.16	.143	-.359	164	.720

Results are for equal variance assumed. AV1= survey responses (Q1 to Q4). AV2= survey responses (Q5 to Q8). AV3= survey responses (Q9 to Q12).

Table 3 outlines the factor analysis and reliability measure of the survey responses. All survey sections have reliable outcomes using Cronbach's alpha statistic above the benchmark of 0.50 (Nunnally, 1978). The findings show that the auditing performance (Q1-Q4) achieved a cumulative explained variance of 75.32% with Cronbach's alpha of 0.88. Likewise, auditing functions and auditing skills obtained cumulative explained variance of 62.81 % and 70.07% and Cronbach's alpha of 0.80 and 0.85, respectively. In addition, the overall findings show reliable outcomes as the cumulative explained variance has a value of 57.24 and Cronbach's alpha of 0.93.

Table 3: Survey Factor Analysis and Reliability Measure

Variables	Factor Analysis Cumulative Explained Variance* (%)	Cronbach's α
Section 1: (Q1 to Q4)		
<i>Auditing Performance</i>	75.321	0.889
Section 2: (Q5 to Q8)		
<i>Auditing functions</i>	62.817	0.801
Section 3: (Q9 to Q12)		
<i>Auditing Skills</i>	70.078	0.857
Overall (Q1 to Q12)	57.249	0.931

*Extraction method: Principal component analysis using Varimax rotation.

3.2 Data analysis

This paper aims to undertake an explanatory study on the implication of the COVID-19 pandemic on external auditing practices. This paper follows the deductive research approach to understand how theoretical prediction can inform how the outward audit profession

works during the COVID-19 pandemic. The primary quantitative data was easy to collect, analyse and provide more insights into the problem. This paper uses the survey method to collect direct data responses from accountants using Microsoft Forms application software. Some scholars argue that collecting data using surveys is an easy process, and they provide accurate and honest responses at a low cost (Saunders and Lewis, 2017). However, there are some drawbacks to using a survey, such as respondents may not provide accurate and honest responses, or they may answer some questions and some not, leading to wrong conclusions (ibid). In this paper, the survey statements were derived from previous literature. This paper employs the multiple regression analysis model (OLS) to evaluate the study hypotheses. A self-administered survey is used consisting of five sections based on previous empirical studies (e.g., Albitar et al., 2020; Castka et al., 2020; Dohrer and Mayes, 2020; Gerged et al., 2020; Lenz et al., 2015; Rasso, 2013) (Appendix 1). The first three sections show the main dependent variables including: audit performance, functions and skills. All dependent variables definitions are explained in section (2.3) above. Auditing performance variable is represented by four questions (Q1 to Q4). Auditing function variable includes four questions (Q5 to Q8). While auditing skills variable contains four questions (Q9 to Q12). The fourth sections show firms' internal characteristics including: organization ownership structure, legal status, type and number of employees. The fifth section shows the respondents' demographic information including: job title, nationality, educational degree, gender, age, total years of experience, and type of business entity. Finally, the study multiple regression analysis (OLS) is in model 1.

$$EAP = a + \beta_1 (FC) + \beta_2 (RC) + \varepsilon \quad (1)$$

Where:

EAP = External auditing practices (performance, functions, and skills) during the COVID-19 pandemic. FC = Firms' internal characteristics. RC = Respondents personal demographic characteristics. ε = Residual error term.

4. Results and Discussion

4.1 Descriptive Statistics

Table 4 outlines the descriptive statistics of the survey variables. The main dependent variable (EAP) has moderate high mean response

value of 2.99 (60%) on Likert scale of five degrees, with low standard deviation of .826. The independent variables LEG and ACT have the highest maximum value of five. OWN has a mean value of 1.69 with a low standard deviation of 0.621, which indicates that most organizations owned by both national and foreign agencies. The mean value of TYP is 1.51, which indicates that most organizations are private agencies. The EDU has the lowest mean (1.40), while type of business activity has the highest mean (3.60). The highest mean value and standard deviation (0.741) shows that the majority of organizations provide services to their customers. Educational degree has the mean value of 1.40 with a standard deviation of 0.695, which reflects that most respondents have master degrees. The mean value of 1.99 shows that the majority of respondents are senior accountants. All variables exhibited acceptable skewness and Kurtosis below the benchmark of five degrees.

Table 4: Descriptive Statistics

Variables	N	Min	Max	Mean	STD	Skewness	Kurtosis
EAP	166	1	5	2.99	.826	-.058	-.633
OWN	166	1	3	1.69	.621	.332	-.646
LEG	166	1	5	3.16	1.714	-.088	-1.750
TYP	166	1	2	1.51	.501	-.049	-2.022
EMP	166	1	4	2.52	1.249	.015	-1.637
JOB	166	1	4	1.99	1.168	.705	-1.063
NAT	166	1	2	1.55	.499	-.220	-1.975
EDU	166	1	4	1.40	.695	2.125	4.934
GEN	166	1	2	1.43	.497	.270	-1.951
AGE	166	1	4	1.77	.925	.983	-.026
EXP	166	1	4	2.75	1.099	-.175	-1.358
ACT	166	2	5	3.60	.991	-.025	-1.047

EAP = External auditing practices (performance, functions, and skills) during the COVID-19 pandemic. OWN= organization ownership structure, LEG= organization legal status, TYP= organization type, EMP= number of employees, JOB=Job title, NAT=Nationality, EDU= Education degree, GEN=Gender, AGE=Age, EXP= Total years of experience, ACT= Type of business Activity.

4.2 Frequency Tables Analysis

4.2.1 Auditing Performance

Table 5 highlights the frequency distributions of respondents' perceptions on the COVID-19 pandemic and auditing performance. The overall average response (AV1) of 3.01 shows that there is a moderate agreement among respondents on the negative relationship between COVID-19 and auditing performance. For example, Q2 stating: "There is a negative relationship between the COVID-19 pandemic and external audit productivity in the UAE." has the highest mean response of 3.13 with a standard deviation of 1.08. Table 8 indicate the average response (AV1) is not significantly different compared to a mean value of 3 (on Likert scale of five degrees) using the one-sample t-test statistic, the p-value of 0.871 is greater than the confidence level of 5%. Therefore, the first hypothesis (H1) which states that "there is a negative relationship between the COVID-19 pandemic and external audit performance" is not accepted. This result is inconsistent with previous studies such as Albitar et al. (2020) and Levy and Brown (2020). Albitar et al. (2020) theoretically argue that companies may negotiate reducing audit fees during the pandemic to cope with declining business conditions, which may force auditors to reduce their efforts to minimize the loss on the audit engagement. While Levy and Brown (2020) highlight the limited access to audit resources during the pandemic. However, it seems that audit firms had incremental "incumbency's technological advantages" perhaps due to high market competition, which allowed them effective remote access to audit evidence and use their efforts more efficiently during structured online meetings, consistent with Deangelo (1981). This is also in line with the Contingency theory predictions on effective "expertise transformations" using for example new digital technology to survive sudden work disruptions. A complex situation like this seems to force audit firms and companies to generate new organizational structures and business models to cope with external shocks. Whether the organizational change has been done through transactional or transformative procedures is outside the scope of this paper and represents an interesting issue for future studies.

Table 5: The Relationships Between COVID-19 Pandemic and Auditing Performance

NO.	Statements	N	Mean	STD
1	There is a negative relationship between the COVID-19 pandemic and external audit efficiency in the UAE.	166	3.01	1.188
2	There is a negative relationship between the COVID-19 pandemic and external audit productivity in the UAE.	166	3.13	1.080
3	There is a negative relationship between the COVID-19 pandemic and external audit quality in the UAE.	166	2.92	1.090
4	There is a negative relationship between the COVID-19 pandemic and external audit accuracy in the UAE.	166	2.99	1.047
Average (AV1)			3.01	

4.2.2 Auditing Functions

Table 6 outlines the respondents' opinion on the relationship between the COVID-19 pandemic and auditing functions. The overall average response (AV2) of 2.98 indicates that the respondents moderately believe that COVID-19 pandemic affects negatively the auditing functions. For example, Q6 which states that "There is a negative relationship between the COVID-19 pandemic and external audit gauging levels of financial risk in the UAE." has the highest mean response of 3.11 with a standard deviation of 1.07. Table 8 indicate the overall average response (AV2) is not significantly different compared to a mean value of 3 (on Likert scale of five degrees) using the one-sample t-test statistic, the p-value of 0.257 is greater than the confidence level of 5%. Thus, the second hypothesis (H2), which states that "there is a negative relationship between the COVID-19 pandemic and external audit functions." is not accepted. This result is consistent with the findings of Johnsson & Persson (2021) who found no influence of the COVID-19 pandemic on audit quality in Sweden. His findings show exceptional ability of auditees to adapt and handle digital communication and indicate that online meeting became more structured and time efficient. This effective adaptability complies with the dynamic nature of the Contingency theory which allow managers the flexibility to change policies depending on the business environment and improve the performance using new decision-making systems (Carungu et al., 2021; Castka et al., 2021; Nkundabanyanga, 2022). Furthermore, Castka et al.

(2020) highlighted the significant increase of remote auditing and information and communications technology (ICT) during the pandemic. The information and communication technology (ICT) Development Index (IDI) (2023) shows that the UAE has a very high score (96.4) over a scale of (100) which exceeds the global average (72.8) across 169 countries (International Telecommunication Union, 2023). Thus, this study findings may be attributed to the excellent information and communication technology infrastructure, and high local professional competition between audit firms in the UAE. The former may have facilitated remote auditing and effective connectivity with clients, while the latter may have motivated auditors to maintain clients' satisfaction and sustain market share.

Table 6: The Relationships Between COVID-19 Pandemic and Auditing Functions

NO.	Statements	N	Mean	STD
5	There is a negative relationship between the COVID-19 pandemic and external audit examining reports and financial control systems in the UAE.	166	3.08	1.090
6	There is a negative relationship between the COVID-19 pandemic and external audit gauging levels of financial risk in the UAE.	166	3.11	1.075
7	There is a negative relationship between the COVID-19 pandemic and documenting external audit tests and findings in the UAE.	166	3.05	1.100
8	There is a negative relationship between the COVID-19 pandemic and external audit recommending new policies and procedures in the UAE.	166	2.71	1.101
Average (AV2)			2.98	

4.2.3 Auditing Skills

Table 7 presents the respondents' perceptions on the relationship between the COVID-19 pandemic and the auditing skills. The overall average response (AV3) of 2.97 indicates a moderate relationship between COVID-19 and the auditing skills. For example, Q12 which states that: "There is a negative relationship between the COVID-19 pandemic and external audit ability to work to deadlines under pressure in the UAE." has the highest mean response of 3.18 with a standard deviation of 1.08. Table 8 indicate the overall average response (AV3) is not significantly different compared to a mean value of 3 (on Likert scale of five degrees) using the one-sample t-test statistic, the p-value of 0.720 is greater than the confidence level of 5%. Thus, the third hypothesis (H₃) which states that "there

is a negative relationship between the COVID-19 pandemic and external audit skills.” is not accepted. This result is consistent with Shen et al. (2020) who found that the pandemic has supported the auditing practitioners to improve their auditing and information technology skills, which may have enabled auditors to overcome the side effects of the pandemic. It seems that auditors were able to apply some advanced analytical skills to reduce the time and effort of audit engagements (See KPMG, 2020), such as using evidence obtained directly from external parties e.g., banks or suppliers, or using analytical models including artificial intelligence, data function development, and blockchain (Albitar et al., 2020), or indirect experiences such as training, workshops, or direct interaction with clients (Lennox and Wu, 2018). Although some audit firms cancelled training activities to reduce costs (Deloitte, 2020), auditors seem to be prepared for emergency situations before the pandemic or used other alternatives such as online training, direct interaction with clients or on-job training to upgrade their skills (Chen et al., 2008; Lennox and Wu, 2018). This explanation is consistent with Johnsson & Persson (2021) who found evidence that auditees have invested well in digitization even before the pandemic, and the big four audit firms had a good experience in handling digital communication in Sweden. This is also consistent with the Contingency theory which predicts that uncertain situations provide incentives for managers to improve their leadership and decisiveness quality (Carungu et al., 2021).

Table 7: The Relationships Between COVID-19 Pandemic and Auditing Skills

NO.	Statements	N	Mean	STD
9	There is a negative relationship between the COVID-19 pandemic and external audit determination and confidence in the UAE.	166	2.90	1.099
10	There is a negative relationship between the COVID-19 pandemic and external audit meticulous attention to detail in the UAE.	166	2.93	1.113
11	There is a negative relationship between the COVID-19 pandemic and external audit ability to work to deadlines under pressure in the UAE.	166	3.18	1.086
12	There is a negative relationship between the COVID-19 pandemic and external audit problem-solving skills in the UAE	166	2.89	1.087
Average (AV3)			2.97	

4.3 Correlation Matrix

Table 9 presents the Pearson product-moment correlation matrix in order to investigate the relationship between the study variables. The outcomes reveal that there are significant negative correlations between EAP, EMP and EDU with coefficients of -.188 and -.178 respectively at the 5% confidence level. This implies that respondents with high education and working in large firms perceive more negative impact on auditing practices during the pandemic. Also, the outcomes show several significant correlations between organization and respondents characteristics. For example, there are significant negative correlation between TYP and LEG with coefficient of -.351 at the 1% confidence level, while TYP and EMP have significant negative correlation with coefficient of -.281 at the 1% confidence level. These results imply that survey respondents from private companies tend to be shareholding, while survey respondents from large companies have government ownership.

Table 9: Correlation Matrix

	OWN	LEG	TYP	EMP	JOB	NAT	EDU	GEN	AGE	EXP	ACT	EAP
OWN	1	-.094	.207**	-.094	-.028	.212**	-.033	.030	-.115	-.063	-.079	.076
LEG		1	-.351**	-.048	-.018	-.092	-.182*	.080	-.080	-.001	.017	.120
TYP			1	-.281**	-.067	.313**	.038	-.191*	.163*	.127	-.118	-.034
EMP				1	.222**	-.143	-.015	.056	-.065	-.036	.155*	-.188*
JOB					1	.027	.130	.057	.234**	.263**	.197*	.079
NAT						1	.007	-.267**	.355**	.445**	-.060	-.078
EDU							1	.007	.199*	.228**	-.030	-.178*
GEN								1	-.270**	-.297**	.148	-.103
AGE									1	.735**	-.068	-.045
EXP										1	-.005	-.081
ACT											1	.024
EAP												1

** Correlation is significant at the 0.01 level (2-tailed). * Correlation is significant at the 0.05 level (2-tailed).

4.3.1 Determinants of Auditing Practices during the COVID-19

Table 10 indicates the relationships between the dependent external auditing practices (EAP) and several independent variables during the COVID-19 pandemic using multiple regression analysis (OLS). In this paper, audit practices consist of audit performance, functions and skills. The results show significant negative impact of EMP,

EDU and GEN on EAP with beta coefficients of -.252, -.164 and -.182 at different confidence levels. This result implies that well educated male respondents (GEN) perceive low negative impact of the COVID-19 pandemic on auditing practices, and vice versa. Likewise, the auditing practices are negatively affected in small size companies (EMP), and vice versa. This result means that for every one-unit decrease in firm size, auditing practices are expected to negatively increase by 0.25 units, even after controlling for all other independent variables. As large firms are more exposed to public scrutiny and have more resources to implement corporate governance mechanisms (Cosset et al., 2016; Durnev and Kim, 2005). In contrast, there is a significant positive relationship between JOB and EAP with beta coefficient of .182 at the 5% confidence level. This implies that survey respondents with high job rank perceive more auditing practices risk during the COVID-19 pandemic. These results are consistent with the Contingency theory which predicts that several internal factors affect optimal organizations' management approach (Castka et al., 2021). The overall analysis model has an adjusted R-square (0.08) with a significant F-statistic (2.41) at the 5% confidence level. The Kolmogorov-Smirnov test indicate normality of the study variables, because the p-values are greater than the confidence level of 5% (Table 11). Furthermore, Table 12 indicates there is no significant sign of heteroscedasticity using the Breusch Pagan Test statistic because the p-value of 0.132 is greater than the cut-off confidence level of 5%.

Table 10: Multiple Linear Regression Model (OLS)

Predictors	EAP (dependent variable)				
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	4.037	.547		7.378	.000
OWN	.139	.106	.105	1.314	.191
LEG	.036	.040	.074	.894	.373
TYP	-.109	.146	-.066	-.746	.457
EMP	-.167	.054	-.252***	-3.104	.002
JOB	.129	.058	.182**	2.220	.028
NAT	-.200	.150	-.121	-1.333	.184
EDU	-.195	.094	-.164**	-2.075	.040
GEN	-.303	.135	-.182**	-2.236	.027
AGE	.034	.101	.038	.336	.738

EAP (dependent variable)					
Predictors	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
EXP	-.086	.090	-.114	-.948	.344
ACT	.036	.065	.043	.549	.584
R			.383 ^a		
R ²			.147		
Adjusted R ²			.086		
Durbin-Watson			1.627		
F-statistic			2.412 ^{**}		
N			166		

EAP = external auditing practices (performance, functions, and skills) during COVID19 pandemic (Q1 to Q12). All variables abbreviations are explained in Table 1. N= number of observations. ***, ** indicate significance at the 0.01 and 0.05 confidence levels respectively (2-tailed).

Table 11: Test of Normality

Tests of Normality - Kolmogorov-Smirnov ^a			
	Statistic	df	Sig.
EAP	1.08	166	.076
AV1	1.66	166	.144
AV2	.842	166	.102
AV3	.922	166	.109

EAP = External auditing practices. AV1= survey responses (Q1 to Q4). AV2= survey responses (Q5 to Q8). AV3= survey responses (Q9 to Q12).

Table 12: Test of Heteroscedastic

Breusch-Pagan Test Statistics		
Breusch-Pagan test value	df	p-value
16.258	11	0.132

5. Conclusion

This paper examines the influence of the COVID-19 crisis on external audit practices and highlights the most important determinants of external audit practices during the pandemic. This paper findings indicate that COVID-19 pandemic has neutral influence on the

external auditing practices including auditing performance, functions, and skills. Firm size, respondents' job rank, education and gender are the most important factors impacting auditing practices during the pandemic. These findings support the predictions of the Contingency theory on flexible organizational changes using for example new digital technology to survive during emergency situations. However, whether these organizational changes have been conducted through transactional or transformative procedures is rendered for future studies. The practical implications of these results are essential for several stakeholders. The government has successfully implemented several emergency plans to help the economy to cope with the effects of the COVID-19 pandemic such as relaxing the working conditions, a large stimulus business package, other measures include suspension of some government and municipality charges, support small businesses, accelerate major infrastructure projects and overdue financial payments to contractors. These government incentives and stimulus packages should be associated with enhancing direct and indirect corporate experiences in terms in providing training, workshops using latest technological advances and business analytical techniques to support corporate compliance and accountability during pandemics. The government should continue investing in communication technologies infrastructure to reduce business risk during unpredicted situations to increase investors' confidence and attract international investments. Audit firms need to participate effectively in networking activities with stakeholders such as government, corporations, small and medium size companies (SMEs) and non-profit organizations to enhance technology awareness, change management programs, provide technical expertise, design contingency plans to minimize corporate transformation costs towards more digitalized business operations. Corporations needs to maintain their investments in intellectual capital so they can effectively sustain their activities during business emergencies in the future. A substantial change in the educational institutions' programs is essential to focus on modern business analytics techniques such as artificial intelligence and competency skills. More studies should be devoted to the influence of new digital technology and other competency skills on external audit practices in the future.

Appendix 1: Survey Instrument

Section 1 (Auditing Performance): Tick the appropriate box that reflect your preference about each statement (strongly disagree; disagree; neutral, agree and strongly agree)

- 1 There is a negative relationship between the COVID-19 pandemic and external audit efficiency.
 - 2 There is a negative relationship between the COVID-19 pandemic and external audit productivity.
 - 3 There is a negative relationship between the COVID-19 pandemic and external audit quality.
 - 4 There is a negative relationship between the COVID-19 pandemic and external audit accuracy.
-

Section 2 (Auditing functions): Tick the appropriate box that reflect your preference about each statement (strongly disagree; disagree; neutral, agree and strongly agree)

- 5 There is a negative relationship between the COVID-19 pandemic and external audit examining reports and financial control systems.
 - 6 There is a negative relationship between the COVID-19 pandemic and external audit gauging levels of financial risk.
 - 7 There is a negative relationship between the COVID-19 pandemic and documenting external audit tests and findings.
 - 8 There is a negative relationship between the COVID-19 pandemic and external audit recommending new policies and procedures.
-

Section 3 (Auditing Skills): Tick the appropriate box that reflect your preference about each statement (strongly disagree; disagree; neutral, agree and strongly agree)

- 9 There is a negative relationship between the COVID-19 pandemic and external audit determination and confidence.
 - 10 There is a negative relationship between the COVID-19 pandemic and external audit meticulous attention to detail.
 - 11 There is a negative relationship between the COVID-19 pandemic and external audit ability to work to deadlines under pressure.
 - 12 There is a negative relationship between the COVID-19 pandemic and external audit problem-solving skills.
-

Section 4 (Firms' Internal Characteristics): Tick the appropriate box for the following items

- 13 Organization ownership: (1) 100% National, (2) Mix, (3) 100% Foreign.
 - 14 Organization legal status: (1) Shareholding, (2) Partnership, (3) Joint-Venture, (4) LTD (5) Other (please specify).
 - 15 Organization type: (1) Government, (2) Private
 - 16 Number of employees in organization: (1) Less than 100, (2) 101 to 500 (3) 501 to 1000, (4) More than 1000
-

Section 5 (Respondents' Demographic Characteristics): Tick the appropriate box for the following items

- 17 Job title: (1) Accountant, (2) Senior Accountant, (3) Financial Manager, (4) Other:
 - 18 Nationality: (1) National, (2) Non-National.
 - 19 Education degree: (1) Bachelors, (2) Doctorate, (3) Masters, (4) Other (please specify)
 - 20 Gender: (1) Male, (2) Female
 - 21 Age: (1) Less than 30, (2) 31-40, (3) 41-50, (4) More than 50
 - 22 Type of business Activity: (1) Industry, (2) Trading, (3) Service, (4) Financial, (5) Other:
 - 23 Total years of work experience: (1) 0-1, (2) 2-5, (3) 6-10, (4) more than 10
-

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