





Factors affecting the use of accounting and finance technology during the pandemic crisis

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ABSTRACT

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The recent COVID-19 pandemic, which led to lockdowns and new working norms, has influenced business and accounting transactions in significant ways. This phenomenon and its longer-term impacts are still under-researched and remain unexplored in emerging countries, particularly Malaysia. Therefore, the current study intended to determine the actions taken by Malaysian organizations, specifically in their accounting and finance functions, in response to the COVID-19 crisis. Online survey questionnaires were distributed to collect data. The questionnaires comprised several sections, including demographic information of the respondents and factors affecting users' intentions to use technology for accounting and finance functions in the face of the COVID-19 crisis. This research adopted the Unified Theory of Acceptance and Use of Technology (UTAUT) model as a theoretical basis from which to evaluate the research objectives. The findings showed that only performance expectancy is related to user intention, while other factors, such as effort, attitude, social influence, self-efficacy, and anxiety, display the opposite effect. This empirical study suggests that accounting and finance functions in Malaysia still lag behind in terms of the technology used by employees. In addition, organizations, particularly government departments, are not ready to adopt a fully integrated scientific accounting and finance system.

Contribution/Originality: This study is original as it highlights how organizations can determine the critical success factors for the adoption of new technology. In addition, this study adds to the theory on the effectiveness of the adoption of new accounting and finance technology from a human perspective.

1. INTRODUCTION

COVID-19 is a global challenge, the impacts of which are felt across all economic sectors and industries. Accounting and finance functions are no exception, as COVID-19 has become an agent of change that has forced accounting and finance to adapt quickly for companies to remain in business and stay relevant in the market. However, in a situation of huge uncertainty and poor communication efficiency, it seems inevitable that accountants must change and adopt new technologies and, hence, operate with a new business model. These changes, however, are still under-researched, with many preliminary findings and reports showing that investment in technology is necessary if companies want to survive the pandemic crisis.

Fundamentally, the demand for technology adoption started long before the pandemic crisis occurred across the world. Today's technological advances have their roots in the Industrial Revolution. According to [Alaloul, Liew, Zawawi, and Kennedy \(2020\)](#), [Vaidya \(2018\)](#), and [Lu \(2017\)](#), the Industrial Revolution started in the 1700s with the introduction of the first mechanical looms, powered by water and steam. Fueled by this game-changing use of steam power, the economic structure shifted from agriculture to manufacturing. The Second Industrial Revolution occurred in the 1870s and was characterized by mass labor production influenced by a new source of energy, electricity, from gas and oil. However, these early revolutions relied on the number of human resources to produce more. In the 1970s, the Third Industrial Revolution occurred due to the rise of electronics. The characteristic of this era was automated production driven by electronics and internet technology. This era is known as the Digital Revolution as it centered on the transition from analog electronic and mechanical devices to digital technology. Today, the Fourth Industrial Revolution (IR 4.0) is built on the connection between technology and people. Digitization, automation, and the widespread use of information and communications technology (ICT) form the IR 4.0 landscape.

IR 4.0 encompasses numerous technologies and associated paradigms, including radio frequency identification (RFID), enterprise resource planning (ERP), cyber-physical systems (CPS), cloud-based manufacturing, social product development, and cognitive computing ([Alaloul et al., 2020](#); [Lu, 2017](#)). Mobile computing, cloud computing, big data, and the internet of things are the key technologies of IR 4.0 and have triggered a transformation in the job market as well as in the patterns, conditions, and requirements of learning ([Ansari, Hold, & Khobreh, 2020](#)). [Leopold \(2018\)](#) revealed that only 29 percent of total task hours across diverse industry sectors, including the manufacturing, supply chain, transport, and service industries, are performed by machines or algorithms. However, they anticipated that by 2022, this number would have shifted to 58 percent of task hours performed by humans and 42 percent by machines or algorithms.

In short, IR 4.0 is changing processes and systems that affect all aspects of human life. The continuous application of emerging technology will lead to the disruptive transformation of industries, impacting all areas, disciplines, and economic sectors. Thus, digital economies are inevitable as IR 4.0 provides more opportunities for people to improve their well-being. In addition, IR 4.0 will increase societal cohesion, improve efficiency, and provide convenience, safety, and public security. This is due to the acceleration of digital economic growth brought about by IR 4.0. The emergence of new and sophisticated economic models will properly support countries' development.

Ironically, investment in technology is useless if users are unable to accept and use the technology. Many organizations globally have realized the benefits of technology and online services and, therefore, they aspire to provide the latest online services. Many advantages, such as cost reduction, improved services, and increased efficiency and effectiveness, will benefit the organization in the long run. However, the success of such initiatives and efforts depends not only on the invested capital and financial resources but also on the people's willingness to accept, use, and adopt the technology and, more importantly, to exchange their current practices for new, modern, and sophisticated activities.

This research, therefore, aims to explore these changes and examine the factors that affect the acceptance and use of technology in organizations, specifically in the context of accounting and finance functions. Many accounting and finance technologies have been crafted to simplify business transactions, facilitate better decision-making, improve complex analysis, and enhance financial operations.

Based on these facts, this study aims to identify the determinants of the adoption or acceptance of accounting and finance technology among employees in accounting and finance departments. In short, the purpose of this study is to examine the technological acceptance of employees involved in the accounting and finance function.

This study makes several contributions. Firstly, in terms of practice, it will allow organizations to determine the critical success factors of the adoption of new technology in their organization. This is especially true for the

critical factors that relate to human behavior and responses to new information technology adoption. Secondly, it will allow the government and related national accounting bodies like the Malaysia Institute of Accountants (MIA) and international bodies like the International Federation of Accountants (IFAC) to design a policy to guide and assist organizations with the successful adoption of new information technology in their operations. Finally, this study will add to the theory and body of literature on the effectiveness of the adoption of new accounting and finance technology from a human perspective. Many prior studies have focused more on the financial and management perspectives.

This paper is organized as follows. Section 2 is a literature review, followed by the research procedure and methodology in Section 3. Section 4 presents and discusses the findings, while Section 5 is the conclusion. Finally, Section 6 discusses the limitations and presents suggestions for future research.

2. LITERATURE REVIEW

2.1. General Impact of COVID-19

COVID-19 was first reported in China in December 2019. It became a global pandemic, and as of 14 July 2020, the World Health Organization (WHO) has reported 12,964,809 confirmed cases and 570,288 deaths worldwide. The USA has recorded the highest number of cases (3,428,462) and deaths (573,288). Malaysia has also been affected, with 8,729 confirmed cases and 122 deaths, and is currently ranked 76th out of 215 countries. Most countries, including Malaysia, have imposed lockdowns as a preventive measure to hold back the spread of COVID-19 (Shah et al., 2020). Malaysia implemented various phases of its Movement Control Order (MCO) in 2020 and 2021. Under the MCO, all activities and travel were prohibited. All industries closed except for essential services such as healthcare, grocery stores, and multi-functional stores selling daily necessities. Due to this lockdown, economic activities were severely damaged across industries (Donthu & Gustafsson, 2020). The tourism industry, for example, documented an unprecedented decline in revenue as a result of plummeting tourist arrivals (Lim & To, 2022).

COVID-19 has thus not only had serious implications for people's health but has also had a significant impact on business and the economy (Hyman et al., 2021). It is also connected to several new challenges because the main economic activities were restrained. As many countries imposed travel restrictions, increased lockdown lengths, and limited social activities, these actions directly affected the general economy (Verma & Gustafsson, 2020). The potential impact on the macroeconomy includes slower growth of consumption and investment, fluctuation of prices, and the contraction of exports and imports (Mohsin, Hongzhen, & Hossain, 2021). Additionally, the pandemic crisis disrupted demand and supply through spillover effects on regional and global supply systems (Pantano, Pizzi, Scarpi, & Dennis, 2020). China, which previously acted as a global material supplier, had to halt its exports of raw materials and products due to the lockdown. This action severely affected value chains across the world, including in Asia, the United States (US), and Europe.

Due to this negative effect, financial stability was severely affected, which put pressure on the financial sustainability of governments, corporations, and individuals. Lower corporate earnings and greater debt servicing burdens on companies led to increasing defaults, causing job losses and plunging investor confidence with the potential to trigger a widespread credit crunch and financial crisis. The share market was no exception, as many companies recorded stock market volatility (Bora & Basistha, 2021), and some companies experienced negative stock market returns (Ashraf, 2020). Surveys in China showed that many small and medium-sized enterprises (SMEs) only had cash for up to five months of operation, while a third only had enough for up to one month. This was particularly problematic given China's high level of non-financial corporate debt (UNDP China, 2020).

In Malaysia, the government conducted various surveys during the MCO to assess the impact of COVID-19 on business. Of the companies, 53.4 percent could survive one to two months, while only 4.7 percent could sustain themselves for more than six months. In addition, 83.1 percent of companies or firms required financial assistance

or subsidies from the government, and 39.1% of respondents said they required changes to laws or regulations as well as a delay in loan payments. To ease the burden on businesses and the public, the Malaysian government issued a few stimulus packages to strengthen the economy during the MCO.

2.2. The Impact of COVID-19 on Employment and the Accounting Profession

The impact of COVID-19 was sudden, and businesses were forced to act quickly. Along the way, unfortunately, many working lives were seriously impacted, which eventually led to an unemployment crisis believed to be greater than any previous recession (Petrosky-Nadeau & Valletta, 2020). There were about 25 million unemployment insurance claims in the US, and Petrosky-Nadeau and Valletta (2020) believed there was also a high degree of unreported unemployment.

Montenovo et al. (2020) identified that due to the pandemic in the US, there were greater declines in employment for workers aged 20 to 24 and those with high school degrees and some college. In addition, unemployment was greater in occupations that require more interpersonal contact and that cannot be performed remotely. In Australia, job loss due to the COVID-19 pandemic was more prominent among younger workers, women, lower-income workers, and people working in occupations that require them to be near other people (Coates, Cowgill, Chen, & Mackey, 2020).

Even if employees were still employed, adjustments needed to be made to the working environment, working arrangements, salary, and employee benefits. A report by the Association of Chartered Certified Accountants (ACCA) stated that the businesses continued to review remuneration and employment models as one of the measures to combat the impact of COVID-19, which included cuts to salaries and bonuses, retrenchment, voluntary separation schemes, changes in employment contracts, and recruitment freezes. Due to COVID-19, there was also a rise in remote working practices and flexible working arrangements. In the long run, businesses also anticipated changes in the workplace to depend less on the physical workplace and more on the use of technology (ACCA, 2020c).

The accounting profession was also highly influenced by COVID-19. Diwing (2020) found that 20 percent of firms in the US believed that some accounting practices would not survive the crisis. This is due to concerns related to the effects of COVID-19, which required firms to enforce social distancing in the office. Consequently, accounting firms rearranged their office layout and reduced the number of employees working at a time by introducing shifts or having employees work entirely from home. These measures were taken by businesses to ensure the safety and health of their employees and other people related to the business. One of the consequences was a decrease in employee productivity (ACCA, 2020a).

Alternatively, a study by Dingel and Neiman (2020) confirmed that employees who worked in finance, corporate management, and professional and scientific services could possibly work from home. The findings suggested that accounting professionals could mitigate the impact of COVID-19 by changing their work environment because they could continue to work remotely and maintain their level of productivity. This is, however, inapplicable if their clients are so badly affected by the COVID-19 pandemic that they need to fully shut down their operations.

A survey conducted by the Association of Chartered Accountants ACCA (2020a) in April 2020 confirmed that businesses were struggling to meet customers' demands, experiencing a decrease in cash flows, and forecasting lower revenues and profits or even losses due to the COVID-19 outbreak. This may have reduced the demand for accounting and related services as many businesses were falling apart or facing financial distress due to the impact of COVID-19 and, hence, were unable to engage accounting-related services.

However, in difficult times like this, professional accountants play a vital role as the most trusted intermediaries between businesses and their shareholders and stakeholders by instilling trust in the public and helping in the recovery of the business. Professional accountants should ensure that shareholders and stakeholders

receive the most accurate information about the position of the businesses. Businesses were also expected to be ready for various auditor's reports to be issued. Professional accountants should do their best to assist businesses in navigating the various business challenges they faced due to COVID-19 (IFAC, 2020). While the role of accounting professionals did not change and remained important, they did need to upgrade their skills to become experts in cloud accounting and analytic systems (ACCA, 2020b).

A survey by the Confederation of Asian and Pacific Accountants (CAPA) also found that in the immediate term, accountants need to enable firms to continue to operate in this challenging environment by ensuring the availability of the tools that are currently used, while in the longer term, accounting firms need to stay relevant and able to deliver added value to their clients by focusing on sustainability and reinventing future models. Based on the survey, future-ready accounting firms need to possess six qualities: agility, flexibility, resilience, openness to technology, innovation, and collaboration. Firms also need to accelerate their adoption of digital solutions, enhance investment in technology, provide a seamless digital customer experience, implement remote working practices, provide access to digital communications and collaboration tools, and operate in the virtual environment (Confederation of Asian and Pacific Accountants (CAPA), 2020).

2.3. The Benefits of Technology in the Accountant's Workplace

The rapid expansion of technology has strongly influenced the way accountants perform their jobs. According to Wahyuni (2018), the role of an accountant is no longer that of a bookkeeper but rather a provider of financial analysis in the digital economy. To analyze customer needs, financial and non-financial data need to be accurately interpreted so they are more meaningful for decision-making. Hence, accountants must keep abreast of emerging developments in information technology and continually improve their capabilities. Enterprise resource planning (ERP), for example, transforms businesses from labor to machine intensive and, hence, increases firm control (Suhaimi, Nawawi, & Salin, 2016). Professional organizations such as the Association of Chartered Accountants (ACCA) and the Institute of Chartered Accountants in England and Wales (ICAEW) have also shown significant interest in ensuring their members keep up with new technologies and how they change the work environment, so they do not lose relevance (Moll & Yigitbasioglu, 2019).

Taipaleenmäki and Ikäheimo (2013), Güney (2014), and Kwilinski (2019), on the other hand, have suggested that cognitive technology will provide opportunities for businesses in general and accountants in particular to reduce the time needed to process large transactions. The newest technologies, such as blockchain, aim to put an end to businesses' traditional methods of billing, documentation, processing, registration, inventory systems, and paying. The technology will allow companies to record both sides of a transaction simultaneously in a shared book in real-time, rather than keeping audited records of financial transactions in separate, privately created databases or accounting books. The need for traditional double-entry accounting will disappear, as the legalities of accounting will be fully automated (Kwilinski, 2019). With blockchain, the entire population of transactions can also be verified, thereby providing a higher level of assurance. However, while increased transparency might suggest a smaller likelihood of tax avoidance, the anonymity provided by some cryptocurrencies might have the opposite effect (Moll & Yigitbasioglu, 2019).

Based on this literature review, it is evident that the role of the accountant will change due to technology. The COVID-19 crisis has become the catalyst to push or force accountants to make drastic changes in the shortest possible time to ensure they stay relevant and remain in business.

3. THEORETICAL FRAMEWORK AND HYPOTHESIS DEVELOPMENT

This research used the Unified Theory of Acceptance and Use of Technology (UTAUT) model introduced by Venkatesh, Morris, Davis, and Davis (2003) as the theoretical basis upon which to evaluate the effects of technology on the new role of accountants during and after the COVID-19 crisis. The UTAUT model has been extensively

tested and employed to predict system usage and make technology adoption and usage-related decisions in various fields (Chao, 2019). The UTAUT model consists of six main constructs: performance expectancy, effort expectancy, social influence, facilitating conditions, behavioral intention to use the system, and usage behavior. This study, however, added several other constructs, including attitude, self-efficacy, and anxiety, to obtain a richer perspective on the determinants of technology use. In addition, instead of testing actual use, we limited our study to behavioral intentions because it proved difficult to gain access to measure the actual use of technology during the pandemic.

Historically, the UTAUT model transformed and integrated eight previous theoretical models, namely Innovation Diffusion Theory (Rogers, 1995), the Theory of Reasoned Action (Fishbein & Ajzen, 1975), the Theory of Planned Behavior (TPB) (Ajzen, 1991), the Technology Acceptance Model (TAM), the Extended TAM (TAM2), Combined TAM and TPB, and Social Cognitive Theory (Bandura, 1986). Its comprehensive framework is suitable given the context of this study. Based on observations and a review of the literature, we developed six hypotheses for this study:

Hypothesis 1: Performance expectancy positively affects users' intentions to use financial and accounting systems during the pandemic crisis.

Hypothesis 2: Effort expectancy positively affects users' intentions to use financial and accounting systems during the pandemic crisis.

Hypothesis 3: Attitude toward using technology positively affects users' intentions to use financial and accounting systems during the pandemic crisis.

Hypothesis 4: Social influence positively affects users' intentions to use financial and accounting systems during the pandemic crisis.

Hypothesis 5: Self-efficacy positively affects users' intentions to use financial and accounting systems during the pandemic crisis.

Hypothesis 6: Anxiety positively affects users' intentions to use financial and accounting systems during the pandemic crisis.

4. RESEARCH METHODOLOGY

This study used online survey questionnaires to collect data. Online survey questionnaires were chosen as a method of data collection because they are cheaper, faster, and can reach a large number of potential respondents via different technological devices, such as smartphones and tablets. The data collected through the questionnaire was analyzed using the Statistical Package for the Social Sciences (SPSS). Several analyses were conducted, including descriptive analysis, reliability analysis, correlation analysis, and regression analysis.

The questionnaire was constructed based on the prior literature. It included questions developed by Venkatesh et al. (2003). It comprised several sections, including demographic information of the respondents and factors affecting their intention to use technology for accounting and finance functions during the COVID-19 crisis. The questionnaire was sent for expert review by well-known professors, practitioners, and professionals to ensure its validity. A small pilot study was conducted before the final version of the questionnaire was used for the data collection. The instrument used a Likert-type 5-point scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree.

The respondents in this study were employees working in accounting and finance functions in Malaysia. The main purpose was to collect data regarding the employee's intention to use technology in their accounting and finance role during the pandemic. A total of 1,000 respondents were contacted via various online tools. The study collected 83 completed questionnaires, indicating a response rate of 8.3 percent. The sample number complies with the recommendation by Sekaran and Bougie (2013), who argued that a sample size of 30 to 500 is sufficient for most research.

5. RESULTS AND DISCUSSION

5.1. Descriptive Analysis

Table 1 shows that the majority of respondents were female, aged between 31 and 40 years old, and had a bachelor's degree. In addition, most of them worked for a government department or agency.

Table 1. Demographic information.

Respondents' information		Frequency	Percent
Gender	Male	40	48.2
	Female	43	51.8
	Total	83	100.0
Age	21-30	16	19.3
	31-40	44	53.0
	41-50	19	22.9
	51 and above	4	4.8
	Total	83	100.0
Education level	School and below	4	4.8
	Certificate	4	4.8
	Diploma	13	15.7
	Bachelor's degree	29	34.9
	Post-graduate degree	20	24.1
	Professional qualification	13	15.7
Total	83	100.0	
Firm/organization	SME	9	10.8
	Publicly listed company	7	8.4
	Audit firm	9	10.8
	Government department or agency	58	69.9
	Total	83	100.0

5.2. Reliability Analysis

The results of the reliability analysis indicated that the measures were robust in terms of their internal consistency reliability. As shown in Table 2, the reliability ranged from the lowest value of 0.778 (self-efficacy) to the highest of 0.955 (behavioral intention), which indicates a good level of reliability of the results. This is based on Hair, Black, Babin, Anderson, and Tatham's (2003) suggestion that a Cronbach's alpha coefficient greater than 0.7 can be considered good, greater than 0.8 can be considered very good, and greater than 0.9 can be considered excellent.

Table 2. Reliability analysis.

Variable	No. of questions	Cronbach's alpha value
Performance expectancy	4	0.891
Effort expectancy	4	0.898
Attitude	4	0.874
Social influence	4	0.903
Self-efficacy	4	0.778
Anxiety	4	0.859
Behavioral intention	3	0.955

5.3. Correlation Analysis

This study used Pearson correlation analysis (see Table 3) to examine the convergent and discriminant validity of the results. Based on several scholars, such as Hair et al. (2003), only variables with a coefficient value greater/less than 0.4/-0.4 (indicating that a moderate relationship existed between the variables) were considered for further analysis. In this study, only the variable anxiety did not meet the requirements since the relationship

was not significant and the coefficient value was less than 0.4. Therefore, this variable was excluded from the regression analysis.

Table 3. Correlation analysis.

Variable	Performance	Effort	Attitude	Social influence	Self-efficacy	Anxiety	Behavioral intention
Performance	1.000	0.600	0.600	0.541	0.502	0.030	0.639
Effort	0.600**	1.000	0.652	0.619	0.540	-0.083	0.509
Attitude	0.600**	0.652	1.000	0.618	0.507	-0.039	0.562
Social influence	0.541**	0.619	0.618	1.000	0.584	-0.103	0.519
Self-efficacy	0.502**	0.540	0.507	0.584	1.000	0.047	0.416
Anxiety	0.030	-0.083	-0.039	-0.103	0.047	1.000	-0.031
Behavioral intention	0.639**	0.509	0.562	0.519	0.416	-0.031	1.000

Note: ** indicates statistical significance at 0.05.

5.4. Regression Analysis

This study used regression analysis (see Table 4) to examine the influence of performance expectancy, effort expectancy, attitude, social influence, and self-efficacy on the user's intention to use technology in their accounting and finance function during the COVID-19 crisis.

Table 4. Multiple regression results.

R = 0.688			
R ² = 0.474			
Adjusted R ² = 0.440			
F-value = 13.865			
Sig. F: 0.000			
	B	SE B	β
(Constant)	1.010	0.411	
Performance	0.421	0.113	0.420***
Effort	0.038	0.116	0.041
Attitude	0.178	0.113	0.192
Social influence	0.138	0.111	0.149
Self-efficacy	-0.001	0.105	-0.001

Note: *** indicates statistical significance at 0.001.

5.4.1. Performance Expectancy Positively Affects Users' Intentions to Use Financial and Accounting Systems during the Pandemic Crisis

The findings demonstrate that users' motivation to use financial and accounting systems is positively impacted by performance expectancy ($\beta = 0.420$, $p < 0.001$). Therefore, H1 is supported. This implies that during the pandemic crisis, employees in accounting and finance departments increased their intention to use financial and accounting systems as doing so would increase their job performance. During the pandemic, technology was the only way employees could execute their tasks as it provided flexibility to carry out the tasks from anywhere and at any time, improved connectivity, allowed timeless communication, enhanced stakeholders' engagement, and enabled both vertical and horizontal collaboration.

5.4.2. Effort Expectancy Positively Affects Users' Intentions to use Financial and Accounting Systems during the Pandemic Crisis

The result shows that effort expectancy does not positively affect users' intention to use financial and accounting systems ($\beta = 0.041$, $p > 0.10$). Therefore, H2 is rejected. Effort expectancy is defined as the degree to which a person believes that using a system will be effortless (Davis, Bagozzi, & Warshaw, 1989). In this research, possibly because many of the respondents executed their jobs manually before the pandemic, they were concerned that the experience of using new systems and technologies for the first time would be difficult and complicated.

Since respondents felt the new system was relatively hard to understand and use, they refused to accept the system in the performance of their duties.

5.4.3. Attitude towards using Technology Positively Affects Users' Intentions to use Financial and Accounting Systems during the Pandemic Crisis

The result shows that attitude does not positively affect users' intention to use financial and accounting systems ($\beta = 0.192$, $p > 0.10$). Therefore, H3 is rejected. Attitude toward technology in this research is represented as an individual overall affective reaction to using the system (Venkatesh et al., 2003). The non-significant association of attitude is documented in prior literature such as that of Thompson, Higgins, and Howell (1991); it can be due to the employee's negative feelings about performing the target behavior, e.g., using the new accounting and finance system. Due to pressure, in addition to hurdles in working from home caused by family problems, employees may feel displeasure, disgust, and depression about using the system. They may feel that using the system frustrates them and bores them quickly.

5.4.4. Social Influence Positively Affects Users' Intentions to use Financial and Accounting Systems during the Pandemic Crisis

The result shows that social influence does not positively affect users' intention to use financial and accounting systems ($\beta = 0.149$, $p > 0.10$). Therefore, H4 is rejected. Social influence in this research refers to the degree to which an individual perceives that it is important to others for him or her to use the new system. This factor may be insignificant in the context of this research because, during the pandemic, the majority of employees worked from home, isolated from others. While they needed to use the technology, others' perception of them was not important because nobody assessed them at home, and thus, the enhancement of image or status is not applicable here. Furthermore, internalization in reference to a group culture also cannot be established so the employee does not assign importance to interpersonal agreements with others in specific social situations (Thompson et al., 1991).

5.4.5. Self-Efficacy Positively Affects Users' Intentions to use Financial and Accounting Systems during the Pandemic Crisis

The result shows that self-efficacy does not positively affect users' intention to use financial and accounting systems ($\beta = -.001$, $p > 0.10$). Therefore, H5 is rejected. Self-efficacy refers to an individual's belief in their capacity to execute a certain action to achieve a specific outcome. In this context, it seems that the respondents had low perceptions of their ability to utilize technology and system-related tools to perform their job. This can be due to negative thinking and low confidence in their abilities to use new technology and systems in accounting. In addition, they may also believe that the technology is complex, difficult, and complicated to learn.

6. CONCLUSION AND LIMITATIONS

The results do not support the UTAUT model used to study the acceptance of accounting and finance technology during the COVID-19 crisis. This study has shown that only performance expectancy influences employees' intentions to use the technology, while other factors such as effort, attitude, social influence, and self-efficacy have no such effect. This suggests that in terms of the technology used by employees, the accounting and finance functions in Malaysia still lag behind. Possibly, before the pandemic, many transactions were executed manually. However, during the crisis, organizations, particularly government departments and agencies, were not ready to fully embrace an integrated scientific accounting system. In addition, it is possible that only the most important accounting and finance transactions were completed using new technology during the crisis, while the least important ones were stopped until the pandemic became endemic and employees were allowed back to the office.

There are certain limitations of the study. First, the response rate was low. Possibly, this was because potential respondents were not interested in answering the survey due to their busyness. Second, as this study used a survey questionnaire, bias due to the use of self-reported data may exist. Some respondents may perceive themselves as being more knowledgeable, technologically savvy, and competent than they are. In addition, respondents may not respond based on the actual situation in their workplace but be tempted to respond based on a socially desirable outcome, to please their peers or others. This phenomenon is known as social desirability bias.

Future research should expand the sample to people from non-accounting and finance functions, such as those working in investment, financial planning, management accounting, costing, insolvency, forensic accounting, and internal auditing. This would give a rich supply of information and allow a comparison to be made on the intention of technology use based on profession. In terms of the scales used, future research should use more robust scales, such as longer Likert scales (one to ten) or continuous scales to obtain more accurate results. Lastly, other data collection methods, such as interviews, could also be employed to get in-depth information on the subject matter under research.

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REFERENCES

- ACCA. (2020a). COVID-19 global survey: Inside business- impacts and responses. Retrieved from https://www.accaglobal.com/my/en/professional-insights/global-economics/Covid-19_A-Global-Survey.html.
- ACCA. (2020b). Covid-19: Its impact on assessment, skills development and careers for accounting and finance. Retrieved from ACCA <https://www.accaglobal.com/my/en/cam/coronavirus/covid-impact-education.html>.
- ACCA. (2020c). Covid-19: The road to recovery? Retrieved from ACCA https://www.accaglobal.com/gb/en/professional-insights/global-economics/Covid-19_Road_to_recovery.html.
- Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211.
- Alaloul, W. S., Liew, M., Zawawi, N. A. W. A., & Kennedy, I. B. (2020). Industrial Revolution 4.0 in the construction industry: Challenges and opportunities for stakeholders. *Ain Shams Engineering Journal*, 11(1), 225-230. <https://doi.org/10.1016/j.asej.2019.08.010>
- Ansari, F., Hold, P., & Khobreh, M. (2020). A knowledge-based approach for representing jobholder profile toward optimal human-machine collaboration in cyber physical production systems. *CIRP Journal of Manufacturing Science and Technology*, 28, 87-106. <https://doi.org/10.1016/j.cirpj.2019.11.005>
- Ashraf, B. N. (2020). Economic impact of government interventions during the COVID-19 pandemic: International evidence from financial markets. *Journal of Behavioral and Experimental Finance*, 27, 100371. <https://doi.org/10.1016/j.jbef.2020.100371>
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice Hall.
- Bora, D., & Basistha, D. (2021). The outbreak of COVID-19 pandemic and its impact on stock market volatility: Evidence from a worst-affected economy. *Journal of Public Affairs*, 21(4), e2623. <https://doi.org/10.1002/pa.2623>
- Chao, C. M. (2019). Factors determining the behavioral intention to use mobile learning: An application and extension of the UTAUT model. *Frontiers in Psychology*, 10(1652), 1-14.
- Coates, B., Cowgill, M., Chen, T., & Mackey, W. (2020). *Shutdown: Estimating the COVID-19 employment shock*. Victoria: Grattan Institute.
- Confederation of Asian and Pacific Accountants (CAPA). (2020). *COVID-19 impacts - Challenges facing the profession and professional accountancy organisations*. Kuala Lumpur: CAPA.
- Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: A comparison of two theoretical models. *Management Science*, 35(8), 982-1003. <https://doi.org/10.1287/mnsc.35.8.982>

- Dingel, J. I., & Neiman, B. (2020). How many jobs can be done at home? BECKER FRIEDMAN INSTITUTE For the Economic at the University of Chicago: Retrieved from https://bfi.uchicago.edu/wp-content/uploads/BFI_White-Paper_Dingel_Neiman_3.2020.pdf.
- Diwing, A. (2020). Covid-19 impact on the accounting and legal professions in the United States. Retrieved from https://www.prweb.com/releases/covid_19_impact_on_the_accounting_and_legal_professions_in_the_united_states/prweb17199449.htm.
- Donthu, N., & Gustafsson, A. (2020). Effects of COVID-19 on business and research. *Journal of Business Research*, 117, 284–289.
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*. Reading, MA: Addison-Wasely.
- Güney, A. (2014). Role of technology in accounting and e-accounting. *Procedia-Social and Behavioral Sciences*, 152, 852-855.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2003). *Multivariate data analysis* (6th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.
- Hyman, M., Mark, C., Imteaj, A., Ghiaie, H., Rezapour, S., Sadri, A. M., & Amini, M. H. (2021). Data analytics to evaluate the impact of infectious disease on economy: Case study of COVID-19 pandemic. *Patterns*, 2(8), 100315. <https://doi.org/10.1016/j.patter.2021.100315>
- IFAC. (2020). Maintaining trust & confidence during a crisis: Lessons learned from the global COVID-19 pandemic. International Federation of Accountants. Retrieved from <https://www.ifac.org/what-we-do/speak-out-global-voice/points-view/maintaining-trust-confidence-during-crisis#toptab-3the-role-of-the-accountancy-profession>.
- Kwilinski, A. (2019). Implementation of blockchain technology in accounting sphere. *Academy of Accounting and Financial Studies Journal*, 23(2), 1-6.
- Leopold, T. R. (2018). The future of jobs report. Retrieved from <http://reports.weforum.org/future-of-jobs-2018>.
- Lim, W. M., & To, W.-M. (2022). The economic impact of a global pandemic on the tourism economy: The case of COVID-19 and Macao's destination-and gambling-dependent economy. *Current Issues in Tourism*, 25(8), 1258-1269. <https://doi.org/10.1080/13683500.2021.1910218>
- Lu, Y. (2017). Industry 4.0: A survey on technologies, applications and open research issues. *Journal of Industrial Information Integration*, 6, 1-10. <https://doi.org/10.1016/j.jii.2017.04.005>
- Mohsin, A., Hongzhen, L., & Hossain, S. F. A. (2021). Impact of COVID-19 pandemic on consumer economy: Countermeasures analysis. *Sage Open*, 11(2), 21582440211008875. <https://doi.org/10.1177/21582440211008875>
- Moll, J., & Yigitbasioglu, O. (2019). The role of internet-related technologies in shaping the work of accountants: New directions for accounting research. *The British Accounting Review*, 51(6), 100833. <https://doi.org/10.1016/j.bar.2019.04.002>
- Montenovo, L., Jiang, X., Rojas, F. L., Schmutte, I. M., Simon, K. I., Weinberg, B. A., & Wing, C. (2020). *Determinants of disparities in COVID-19 job losses*. Retrieved from Nber Working Paper Series No. 27132.
- Pantano, E., Pizzi, G., Scarpi, D., & Dennis, C. (2020). Competing during a pandemic? Retailers' ups and downs during the COVID-19 outbreak. *Journal of Business Research*, 116, 209–213. <https://doi.org/10.1016/j.jbusres.2020.05.036>
- Petrosky-Nadeau, N., & Valletta, R. G. (2020). An unemployment crisis after the onset of COVID-19. Retrieved from FRBSF Economic Letter: <https://www.frbsf.org/economic-research/publications/economic-letter/2020/may/unemployment-crisis-after-onset-covid-19>.
- Rogers, E. M. (1995). *Diffusion of innovations* (4th ed.). New York: Free Press.
- Sekaran, U., & Bougie, R. (2013). *Research method for business* (6th ed.). New York: John Wiley and Sons, Inc.
- Shah, A. U. M., Safri, S. N. A., Thevadas, R., Noordin, N. K., Abd Rahman, A., Sekawi, Z., . . . Sultan, M. T. H. (2020). COVID-19 outbreak in Malaysia: Actions taken by the Malaysian government. *International Journal of Infectious Diseases*, 97, 108-116. <https://doi.org/10.1016/j.ijid.2020.05.093>
- Suhaimi, N. S. A., Nawawi, A., & Salin, A. S. A. P. (2016). Impact of enterprise resource planning on management control system and accountants' role. *International Journal of Economics & Management*, 10(1), 93-108.

- Taipaleenmäki, J., & Ikäheimo, S. (2013). On the convergence of management accounting and financial accounting—the role of information technology in accounting change. *International Journal of Accounting Information Systems*, 14(4), 321-348. <https://doi.org/10.1016/j.accinf.2013.09.003>
- Thompson, R. L., Higgins, C. A., & Howell, J. M. (1991). Personal computing: Toward a conceptual model of utilization. *MIS Quarterly*, 15(1), 125-143. <https://doi.org/10.2307/249443>
- UNDP China. (2020). *Assessment report on impact of COVID-19 pandemic on Chinese enterprises*. New York: UNDP.
- Vaidya, S. A. (2018). *Industry 4.0 – A glimpse*. Paper presented at the 2nd International Conference on Materials Manufacturing and Design Engineering.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology: Toward a unified view. *MIS Quarterly*, 27(3), 425-478. <https://doi.org/10.2307/30036540>
- Verma, S., & Gustafsson, A. (2020). Investigating the emerging COVID-19 research trends in the field of business and management: A bibliometric analysis approach. *Journal of Business Research*, 118, 253-261. <https://doi.org/10.1016/j.jbusres.2020.06.057>
- Wahyuni, T. (2018). *The role of information technology in supporting accountant profession in the era of industrial revolution 4.0*. Paper presented at the 3rd International Conference on Vocational Higher Education (ICVHE 2018), Atlantis Press.

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