EMBRACING TECHNOLOGIES AMONG ACCOUNTING PRACTITIONERS EXPLORING THE MOTIVATING FACTORS AND CHALLENGES

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ABSTRACT: This research focuses on how the accounting profession embraces change in this new era. Nowadays, as technology adoption can be considered crucial to be applied by accounting practitioners and has been raised by the Malaysian Institute of Accountants (MIA). Specifically, this research explores the awareness, level of knowledge and experience prior to embracing technologies together with the challenges that may disrupt their current services. In order to achieve the objectives, the questionnaire was distributed to the expected 518 accounting practitioners in order to capture the individual views on awareness, knowledge, experience as well as motivating factors and challenges. This research is expected to provide insights to the professional bodies to understand the way of the profession are ready and the action plan that they should identify in improving the competency skills that relevant to the competency framework and important to apply in the near future in order to embrace technology.

Keywords: technology, accounting practitioners, embrace technology, disrupt

1. INTRODUCTION

Traditionally, accountants and auditors have mainly worked with the manual processing data and faced challenges in competing with the new scenario in the financial environment. This happened because of the requirement is tremendously carried across worldwide since most of the countries have adapted to embrace change on technology innovation in accounting and auditing perspective. For example, in research done by IFAC 2016, the technology challenges are investing in and staying current with software, achieving a digital, paperless environment, determining what technology is best for the practice and managing privacy and security risks [1]. Furthermore, practitioners are expected to prepare the work faster, accurate, in real time processing which able to ensure effective decision making. This is because based on MIA president that has emphasized on the key development that may impact the profession, such as big data, data analytics, automation, artificial intelligence, machine learning, cloud, optical character recognition software, block chain and cybersecurity [2] and fintech [3]. For example, as mentioned by ACCA that block chain may disrupt the accounting and auditing profession which related to the adoption of a variety of transactions and digital ledger [4].

On the other hand, referred to Gomes [5] also highlighted that technology was a key focus due to many concerns arising to the growing application of technology among accounting practitioners. The President of MIA also emphasized on the need to embrace digital tools such as genetic, artificial intelligence, robotics. Internet of things and big data [6]. This is in line with the nine technology drivers under the IR 4.0 which is comprised of Autonomous Robots, Big Data Analytics, Cloud Computing, Internet of Things (IoT), Additive Manufacturing (3D Printing), System Integration, Cybersecurity, Augmented Reality, and Simulation. In a recent survey of MIA technology survey 2017 which also found five important technologies among accounting practitioners are cybersecurity, big data and analytics, automation, online services and payment systems and mobile money [7].

The MIA also emphasized that accountants should be more technology savvy and able to cope with the new technologies in order to be in line with the future transforming on the audit task [8]. Besides that, the Chief Executive Officer of Iflix Malaysia also urged that accountants must become more data-driven [9]. While, the past Minister Finance II also urged the accountants need to be ready to embrace innovation in order to sustain its competitive advantage [10].

From the recent survey done by PWC, the five main technologies between the year 2018-2022 comprise of user and entity big data analytics, app- and web-enabled markets, internet of things, machine learning, cloud computing [11]. While IFAC [12] also highlighted that, the development of computer-assisted audit techniques (CAATs), cloud computing, the emerging enterprise resource planning (ERP) software, remote technologies for accessing data and cloud computing, digital marketing, Skype and other VOIP (voice over internet protocol) conference calls, use of smartphones, secure mobile communications and data analysis are the technologies that could impact the work of accounting practitioners in the future. While, Gomes [6] also highlighted the technology areas for examples: artificial intelligence, robotics, the Internet of Things, autonomous vehicles, 3-D printing, nanotechnology, biotechnology, and quantum computing.

Besides that, there is a need to be ready to face the new reform of globalization that called the Fourth Industrial Revolution. As mentioned by Malaysia Ministry of Finance II that highlighted that practitioners are needed to go beyond the conventional practice for business planning and development [13]. Thus, there is a necessity to ensure the readiness of practitioners to embrace technology and accelerate changes in the future. For instance, the expectation of practitioners by IFAC [14] that have seen 82 percent need to better understand innovation, 80 percent has concerns about recruitment to meet future needs, 90 percent believe the digital future is rapidly approaching and 8 percent believe the CPA profession is future ready. In Malaysia, the Competency Framework is also established for the purpose to expose accountants to the impact of digital disruption which is

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relevant and valuable to the digital economy [15]. The CEO of MIA also mentioned that the IR 4.0 will impact all areas of accounting profession which MIA also committed to improving the skills of accountants in order to meet the market and economic demands [16]. Thus, the research is relevant to examine the knowledge, interest, intention to adopt and motivating factors to adopt any type of technologies among accounting practitioners in Malaysia. Furthermore, there is a need to look into challenges to adopt to new technology.

THE USAGE OF TECHNOLOGIES AND ACCOUNTING PRACTITIONERS

Big data also one of an important role in the management accountants and business analysts that go beyond the financial data [17]. Beside big data, management accountants should also understand the use of artificial intelligence (AI) when AI will help in managing the big data [18]. Then, the use of robots is also important due to the automation to ensure the accountants become more productive [19]. Then, AI also important to automate the process of banking transactions as opportunities for practitioners to adopt the technology, while cloud technology also would ensure the expansion of business [7].

Besides that, accounting practitioners should ensure the understanding of other new technology such as fintech and crowdfunding because they will need to advise their clients on the usage of the technologies [6]. In the perspective of internal auditor, data analytics also could transform the internal audit function by having an automated audit process and continuous audit monitoring [20]. However, the improvement of skillsets in auditing is really needed in line with the technology advancement that could be equipped with to embrace data analytics [21].

Beside auditors and accountants, CFOs or heads of reporting from Americas, Asia-Pacific, Japan and the Middle East also found that the changes in technology, including cloud-based systems, data analytics, robotic process automation (RPA) and artificial intelligence (AI) are one of the challenges in external reporting [22]. While the CEO of MIA also emphasized that one of the big challenges is to ensure the understanding of technology and applications in order decision can be made rapidly [9]. While, there are also challenges that faced for the technology adoption, which found the survey made by MIA that comprises of high business costs, lack of talent to utilize technology effectively, and lack of understanding on the benefits of adopting technology [7]. From the survey of CFO, [23] has found that various of challenges, for examples: difficulty of updating technology without disrupting daily activities, lack of workforce skills, lack of budgets, lack of system integration, lack of change management expertise, lack of visibility into spending, lack of time and lack of executive buy-in. While PWC [24] also has found challenges as a threat for examples: over-regulation, geopolitical uncertainty, cyber threats, availability of key skills and speed of technological change. Furthermore, disruptive technology issues have been worldwide debated in a lot of areas and countries such as in Japan, disruptive innovation has been recognized as the strategy that led to Japan's affected economic development after World War II [14]. Disruptive technology would be fear of business because may impact to failure, however, [25], said that some researchers claimed the link between disruptive innovation and significant trouble for established companies often did not hold up and disruption does not necessarily happen all the time. By referring to MIA [26], they have justified that "disruptive IT innovation does not imply that everything in services or development processes will change. Past discussions around the impact of Internet computing often see changes in these dichotomous terms: either everything changed or nothing changed".

In embracing change, there is research done in digital transformation among a wide range of industries that related to the ability of technology to bring transformative change to business by MIT Sloan Management Review and Capgemini Consulting in the year 2013. They found that 78% digital transformation will become critical to their organisation in the next two years, 63% seen that the pace of technology change is too slow and there is a lack of urgency in change [27].

From the impact of the disruptive technology that may change the accounting profession, MIA has developed a new framework that called as the competency framework because of the existence of technological and digital disruption as well as new regulations and standards [128] which they concerned with digital skills. This is because digital disruption is one of the biggest risks and challenges in the profession. Besides that, there is a worried about the impact of digital disruption on smaller firms and stakeholder expectation such as in blockchain and cybersecurity [29].

2. RESEARCH METHODOLOGY

A. Questionnaire Design

A questionnaire is developed for the purpose of this study. The purpose of the questionnaire is to explore the experience, knowledge, interest and intention to adopt any new technology, motivating factors, challenges toward embracing technologies and challenges toward disruption current services. In addition, respondents need to choose the four most preferred technologies that they have knowledge, interest and intention to adopt. Then, respondents need to choose 4 most challenging factors and motivating factors that they have experienced. The items have been adopted and modified due to the views gathered from [11, 30, 12, 31] and [1].

B. Data Collection

The data collection involves the distribution of questionnaires to accounting practitioners from the private and public sector. They were approached personally by the researchers via telephone or email. Once the respondents provided their consent to participate in this study, a set of the questionnaire with a self-addressed envelope provided was drop-off to the respondents. The respondents were requested to complete and return the completed questionnaire within a period of three months. In total, 700 questionnaires were returned. However, only 518 questionnaires were usable ,providing a successful response rate of 74 percent.

C. Respondents' Profile

From 518 respondents involved in this study is more than 50% from 22-30 years (64.29%) and 35% are from 31 to 60 years. They also have employed by PLCs (13.71%) and Non-PLCs (11.20%) together with other organization, which is the government sector, university, and any related organization. Most of the respondents are among accountant (40.15%), external auditor (22.59%), tax practitioner (16.22%), internal auditor (7.53%), corporate secretary (2.9%) and others are coming from the regulator, academician and related to accounting area. In related to the accounting profession, most respondents come from commerce and industry (42.08%), public sector (29.73%), public practice (24.71%) and academia only 3.47%. They also own members or professional certificate from MIA (36.10%), MICPA (4.44%), ACCA (23.36%), CPA (4.83%) and others (CMA, CIMA, IIA and other related to accounting). In related to the scope of their job, the three main scopes are accounting (31.27%), audit (27.41%) and tax (20.27%), whereas the others come from company secretarial, financial accounting, management accounting and management consultancy.

3. RESULTS AND DISCUSSION

A. Findings on experiences with technology

In related to investigating the current job and respondents' experience, most of the respondents can be considered gain experience in using any type of technology during their current job. This is because about 83.40% own experience by using any type of technology during their current job. This indicates that respondents in this study would be ready with the used of any adoption of technology in their profession.

During their current job, they also experience some challenges that might constraint their current work. During the exploratory investigation, respondents allowed to choose any four challenges that they have experienced. From all respondents, 290 have experienced in time matters which is they have seen that longer time in getting feedback from clients are the most challenge. Then, 277 of them have indicated that they have experienced in facing slow operation on any procedure, while 274 have seen the cost incurred are increasing and 266 of them feel that a longer time is required to implement audit process. The less challenge that they have experienced geographical limitation, of on lack communication with clients, longer time in preparing any type of financial report and involvement of manual processes. Findings on knowledge, interest and intention to B. adopt technologies

Respondents can be considered to slightly have knowledge when most of the respondents (63.51%) have experience attended any courses prior to this survey. In addition, respondents also showed interest in planning to investigate more on technology to improve their understanding of the technology used in the future. Only 8.11% of respondents have seen not interest to investigate and learn more.

In this study, respondents also have to choose four technologies that they have acquired knowledge. About 409 respondents have knowledge in social media, followed by the mobile application (314), payment systems (221) and the internet of things (210). The other technologies that moderately understand by respondents are databases, online

services (182), automation systems (79), digital wallet (71), data analytics (68), mobile money (62), cloud computing (54), artificial intelligence (48), bitcoin (47), eXtensible Business Reporting Language (36), analytic-based system (32), cybersecurity (30), blockchain (24), cryptocurrencies (23), virtual reality / augmented reality (21) and robotic process automation (20). This indicates that respondents have shown knowledgeable in some of the preferable technology on the four main technologies.

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During the survey, respondents are also seen to have an interest in the four main technologies which comprise of social media (179), mobile application (176), cryptocurrencies (175) and databases and online services (164). These results indicate that social media and the mobile application would be common technology that respondents aware and interest. This would be no major challenge in attracting respondents.

The most preferable to adopt are databases, online services (186), mobile application (176), data analytics (165) and social media (157). Followed by analytic based system (148), cloud computing (145), cybersecurity (144), automation systems (134), payment systems (124), XBRL (100), artificial intelligence (86), internet of things (76), digital wallet (62), mobile money (61) and robotic process automation (52). However, the less preferable technologies to adopt cryptocurrencies, bitcoin, virtual reality / augmented reality and blockchain.

C. Findings on motivating factors

In motivating the embracing technologies, accounting practitioners would identify four main motivating factors there are the advantages in business (421), to be competitive (366), the needs in business (299) and market demands (260). Followed by respondents have believed that technology able to help in serving clients operating internationally (244) and could increase the return on investments (143). The less motivating factors for respondents are demanded by regulators and influenced by other businesses, increase the return on investments and capability to serve clients that operating internationally.

D. Findings on challenges towards embracing technologies

In future, there are challenges that respondents will face in ensuring the readiness to embrace any new technologies. The four main challenges that selected by respondents are due to lack of training (386), lack of knowledge (366), lack of experiences (302) and lack of investment in technology adoption (235). The fewer challenges in ensuring their willingness to embrace are lack of support networking, lack of urgency in using technology, lack of government support, more to wait and see and the lack of successful adopters.

E. Findings on challenges toward disruption of current services

However, any new technology would also disrupt the current services. The four main challenges that could disrupt the technologies as choose by respondents are worried about the security and privacy (341), increasing the cost of operation (306), the need to have expertise and specialist staffs (248) and the possibility of cyberattack (246). However, respondents are less worried about increasing in service fees, keeping up with regulations and technology, fear of the data transparency, the changing role of accountants and resistance from the clients

4. CONCLUSIONS

Based on the findings that indicated that the exploratory findings would provide views of future accounting practitioners due to the respondent that have knowledge, interest and intention on different technologies. There is a need to provide more knowledge on certain technologies such analytics, artificial intelligence, the blockchain, as cybersecurity, XBRL, virtual reality / augmented reality and robotic in to improve their interest and intention to adopt any technology that related to their profession. This is in line with the challenges in readiness that lack of training and lack of knowledge is the main challenge in embracing technologies. Furthermore, the findings also could be important to future accounting practitioners who could be educated from the university level. This could be done when the university ensures the graduates understand the purpose of each technology to be embedded in accounting and auditing tasks. The sufficient knowledge and skills will ensure accounting practitioners will be more ready to face the challenges on readiness and to face with current services.

This is in line with the effort done by MIA on preparing programmes that organise workshops, programmes and education awareness on the implementation of AI and analytics, suggesting solutions for industry and develop the AI lab in order to explore the development [7]. While IFAC [12] also emphasised on the skills related matters, for examples: understand the new accounting software and other business and financial models, need to ensure the up-t0-date of any new technology that relevant to the business environment, ability to communicate the IT usage to the clients, data communication and analysis. Based on [6] also highlighted that educators are important to play their role to ensure the future auditors will be more knowledgeable to embrace the technology adoption.. Thus, this study will provide views to educators and trainers in order to ensure the graduate will understand the purpose of each type of technologies prior to entering the working environment. Besides that, this will provide awareness to accounting practitioners and educators on the technology preferences in the market.

This research has been carried with limitation when the views on technology preference have only covered a small group of accounting practitioners in the area of Klang Valley and unable to generalize to the whole group of accounting practitioners in Malaysia. Besides that, this research only focused on the exploratory on technology preference together with the motivating factors and challenges that concerned by the accounting practitioners. In addition, this research is not investigating the technology usage of accounting practitioners. Thus, the researcher will investigate the readiness of accounting practitioners on how to embrace the technologies on a bigger scale of respondents.

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