



Harnessing the Power of Artificial Intelligence in the Accounting Industry: A Case Study of KPMG

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ABSTRACT

In the 'New Normal', the accounting industry is experiencing heavy pressure associated with artificial intelligence (AI). The purpose of this study is to examine the ways and how organizations are harnessing the power of artificial intelligence in the accounting industry through the lens of KPMG. There are 39 employees from the KPMG who responded through a structured questionnaire on Google Forms circulated among the employees of the company. The data collected were analyzed and presented in the table of numerical terms. The results showed there is a significant positive relationship between the adaptation of AI in the accounting tasks in KPMG company. The results of this study reflect upcoming AI practices that will be sent to the KPMG to enhance awareness and adopt artificial intelligence applications for better productivity. These findings can help the accountants in clearly understanding how they can use AI technology to improve the accounting standards.

Keywords: Accounting Standards, Accounting Industry, Artificial Intelligence (AI), KPMG International Limited Company, New Normal

INTRODUCTION

Until recently, the task of accounting requires humans to input data on paper-based and draw a reasonable conclusion from the relevant information (Wisskirchen, et al., 2017), while several technological innovations may increase productivity and profit margins, such as computer software and automated production (Wazir et al., 2020). However, in the New Normal, there are unexpected changes in society's behaviors toward harassing the power of artificial intelligence (AI) in the accounting industry. This is noteworthy to



the businesses, especially for the accountants. For example, the KPMG and Deloitte, one of the big accounting firms had announced alliances with IBM Watson analytic and Kira systems in their day-to-day workforces (O'Neill, 2016). This means that the big firms are trying to evolve their tasks from manual to automated-based tasks. Their willingness to continue provides challenges to their workers.

KPMG International Limited is an Anglo-Dutch international professional services provider. It is also known as one of the Big Four accounting firms across globally. The company operates as financial auditing and accounting services (38%), tax consultant (22%), and business advisory (40%). The KPMG in Malaysia is established in 1928 and their staffs are over 2,000 and 8 agencies countrywide. It is located at Hunza Tower, 163E Jalan Kelawei, 10250 Penang. The company performed as integration with their clients to minimizing grip and risk opportunities. It allows gaining knowledge from international expertise in different KPMG participant companies to work with them. In India, it was established in 1993 under the law and regulation of India, and Indian professionals are possessed and accomplished in the company. The company is operated throughout 14 towns.

As of today, KPMG members did not notice that significant changes in human behavior and had to obey standard operating procedures (SOP) in their workforce to maximize the stakeholder's expectation. The members have to carry a huge responsibility as an accountant in terms of integrity, objectivity, confidentiality, professional competence and due care, and professional behavior. Those are the requirements that stakeholders are expecting from the accountants while using the AI system during the Movement Control Order (MCO). During this time, they have to work remotely while using the AI system to reach out to the clients and shareholder's needs. The purpose of this research is to examine how they use AI tech to improve accounting tasks. It is expected to have a positive connection with the accounting tasks.

Our motivation for this research idea is that most accountants are interesting in how the accounting system works in the long term. As highlighted by the Malaysia Institute of Accountant (MIA) (2020), the responders are voice-out that some limitation which is concern about business cost (71%), lacking expertise (59%), and lack understanding of AI beneficial (57%). It is no surprise that most accountants are concern about their expenses before using it because the high-tech will have reasonable prices and more expensive.

Under the MCO, there have been critical improvements in artificial intelligence such as bookkeeping that have changed its concentration from writing paper to computerized form. Due to the traditional methods, it causes an increase in human error risks such as misstated amounts and misinformation. For instance, the management accounting software fails to provide valuable data because its out-of-date systems lead to misguide in decision-making (Alsharari & Lasyoud, 2019).

By Integrating AI, the organizations can perform income determining, foresee liquidation, recognize fakes consequently permitting the bookkeepers to assist the customer with reacting to monetary difficulties before they become intense and change the



consumption. Moreover, it assists bookkeepers with widening their prescient consulting past conventional monetary arranging and further joining other basic spaces of business. For illustration, a precise auto-accommodating of information in customers account (half), managing HMRC (44%), forestalling customers entering off base data (45%), added it 90% of bigger firms utilizing more than 300 individuals revenue in utilizing AI when contrasted with 76% in SMEs (Shibuya Data Count, 2021).

Moreover, the AI-empowered framework upholds bookkeepers' inspection and consistency as it continually screens archives against laws, rules, and banners the reviews with issues, with fakes cost that costing organizations billions of dollars every year. The AI calculations rapidly filter through a gigantic measure of information to recognize potential cheats which may somehow or another be predicted by people. For example, the IL&FS extortion case that cost INR 91,000 crore was the aftereffect of genuine review anomalies in IL&FS accounts (Shibuya Data Count, 2021).

In any case, the dominant part of the business has not utilized its labor force significantly because of uncertainties around the business case, absence of skills, and ROI. KPMG demonstrates an integrated view of intelligent automation technologies across the Triple-A trifacta, which reflects well in KPMG's AI services offerings. It demonstrates a globally consistent approach under the Lighthouse COE and with Ignite as a Core AI platform.

One of its unique strengths is how it has leveraged its decades of learning and domain expertise in risk, in extending and embedding them into the core of AI services. It depicts strong consulting and development services; for example, AI solution prototypes using speech recognition and AI-driven natural language processing. Clients have expressed satisfaction with their partnering experiences with KPMG and mentioned KPMG's impressive expertise in this area. KPMG has demonstrated a strong ability to harness data into meaningful and actionable insights.

According to the KPMG, the organization as a whole is highly stressed and experiencing the unexpected change in the New Normal and this has stemmed the need and requirement to adapt and use AI in their workforces during the Movement Control Order (MCO). Besides, the employees have also been adapting to the work-from-home (WFH) policy because of the Covid-19 pandemic outbreak. Therefore, it causes their operation affected because their clients are losing trust with them while maintaining their code of ethics when using AI tools.

Artificial intelligence is one of the machine learning tools that support the professional's judgment and ensure the company procedures work effectively. AI is widely spreading across globally and impacts work involvement in the 21st. This system is going to enhance problem-solving and free from misstatement material due to the human-made century (Gerlind et al., 2017). Besides, the system is also called intelligent human behaviors, which is defined as a simulation by a machine that genuinely produces every aspect of learning as stated by John McCarthy, who began investigating this subject in 1955.



The main differences between the users and the AI system are that users can engage in more natural dialogue whereas the AI process requires predictive search to obtain the inquiry that you are asking for it (Reuters, 2019). Then, it shows the optimal sources on the top of the search in the nick of time. Similarly, Sentient Technology is a leading trading company that had adopted over 1.5 million CPUs for purchases and issues stock without assists from human-made (Alice, 2018). The AI system had provided a greater speed, able to operate through mass volume, high accuracy, and cost-savings to serve the optimum client’s expectations. This indicates that the usage of AI is well-effectively in the duties especially in accounting sectors. Therefore, it may aid the people to access a big database in less than a minute and enhance their concentration on the main concern by the stakeholders

Where it can increase productivity and reducing the impact of the possible risk on the company's reputation. Integration with AI in a company operation can enhance strategic planning and replaces human massages such as Robotics and Natural language processing (NLP) (Ta, 2020). The system refers to historical information to adapt to an event. Since the Covid-19 pandemic, the expertise is insisting on partnering with the technology companies because it can help the company’s interaction with their clients from afar places. Such as NLP and computer vision are often providing the actual-time basis of financial matters by dealing out documents quicker, and daily reporting. Moreover, the management is selected as a “wait-and-see” behavior (Clarke & Liesch, 2017). This helps the management implement technologies in the financial operation when there is uncertainty. The AI relies on access to massive volumes of data to be effective. It requires extraction and correct and secure data transformation. As the study of Yoon (2020), Korean companies had a faster transformation in their accounting process by using technology during the New Normal.

Figure 1. AI in Accounting Market by Region



Source: MarketsandMarkets Analysis

Governments across the Asia-Pacific (APAC) locale are endeavoring to profit from the influx of advanced interruption by utilizing man-made brainpower (AI) abilities. Against



this setting, steady government approaches are relied upon to drive the AI stage incomes in APAC to US\$29.3bn in 2024 (Global Data, 2020; Marketsandmarkets, 2019).

An investigation of Global Data's market opportunity forecasts model for AI uncovers that the income of AI stages will develop at an accumulated yearly development rate (CAGR) of 26.8% somewhere in the range of 2019 and 2024 (see Figure 1). China, Japan, and India will represent 66% of the general income by 2024, with China alone representing roughly 37%. Governments keep on accepting AI, to engage themselves and their residents by making savvy measures. A portion of the potential utilization regions where execution or expanded utilization of AI will have a huge effect incorporate medical services, schooling, and law requirement.

Undoubtedly, over the recent years, AI has seen various occurrences of government-drove drives and strategies. China has made a few AI research focuses and is putting resources into improving the nature of AI research through different drives like China's New Generation AI Development Plan. Furthermore, the Chinese Ministry of Industry and Information Technology intends to allot US\$950m yearly to finance vital AI projects. The Singapore Government also has been one of the early adopters of AI, which has been a critical factor in driving AI advancement in the country. For example, Singapore has held hands with Microsoft to create smart chatbots that can convey a bunch of tech-based human-like client administrations. Moreover, Singapore's Ministry for Communications and Information has additionally teamed up with Microsoft and Intel to dispatch AI4E, a workshop to make members mindful of AI. In India, Intel marked a reminder of comprehension (MoU) with the Central Board of Secondary Education (CBSE) to enable almost one lakh understudies with AI joining in the country's schooling framework. Before 2018, India reported the National Institution for Transforming India (NITI) Aayog to initiate a public program on AI with a specific spotlight on research. As highlighted by Karippur, Liang, and Balaramachandran (2020), the Singapore government is accepting AI tech where it provides significant functions in reliability, collaborative and hedonic motivation for social engagement.

Likewise, in July 2019, the Malaysia Digital Economy Corp (MDEC) declared the foundation of an AI unit to help the setting up of the National AI Framework (Marketsandmarkets, 2019). In May 2019, every one of the understudies tried out colleges and specialized schools and was commanded to take an amateur-level AI course. Similarly, Australia put away AU\$29.9m in 2019 to improve and build up the country's AI area and other arising advancements. The improvement of AI and its application regions keep on advancing, giving huge advantages to the general public. Government support regarding positive approach structures and expanded appropriation of AI won't just improve the assistance conveyance and administration capacities for residents yet additionally help drive the reception of AI across different areas in APAC.

However, businesses had joined into the application of AI systems without understanding the challenges faces by the risks. FAAS corporate reporting investigation recorded 60% of Singapore respondents thought the value of financial information generated by AI systems cannot be fully reliable as the data. It indicates that the people knowing the technologies do not provide a full guarantee that the information is valuable data to



enhance the decision-making. Hence, it requires human intelligence to work along with AI systems to guide the pathway for the company's aim (Solaimani, Mohammed, Rashed & Elkelish, 2020). The study by Li, Haohao, and Ming (2020) underlined that management intelligence mechanisms, value creation concepts, and management accounting concepts are the changes from the AI toward the professional. Those concepts offer improvement in the accounting sector. Therefore, the top risks cited about turning non-financial information into reporting information are maintaining data privacy, data security, and the lack of robust data management systems.

In conclusion, a revolution of initiative where needed by the human feature within the organization. This is a critical role to ensure that the company's objectivity is archiving. The evolution in the accounting sector is in the high-tech, where it changes the accountant's position and responsibilities in the workforces compared to the traditional accounting techniques. Today, it is pointed out by the expertise that requires understanding the accounting procedures and what system is suitable in the company performance.

This research paper aims to (1) understand the impact of artificial intelligence and the opportunities it presents for the accountancy profession, (2) examine the relationship between artificial intelligence and professional accountant practices, (3) develop a deep understanding of how artificial intelligence can solve accounting and business problems, and (4) suggest different ways that AI can be used by accountants for better productivity

RESEARCH METHOD

The study is exploratory in nature. A well-designed and structured questionnaire was administered to gather information from respondents and make a judgment on a specific topic such as a survey form and the responses received have been represented, as suggested to use a quantitative tool to examine the impact of AI through the accounting field by the researcher of Lee & Tajudeen (2020).

The Google Form is the fundamental tool for quantitative outcome research methodologies and studies. It is used to request some questions to a sample of respondents, using various types such as online polls, paper questionnaires, online surveys, and web-intercept surveys. We have prepared a questionnaire method for collecting data. Therefore, we have used Google Form for completing our research relating to AI in the accounting industry.

Asking questions can provide the measurement and fact of many concepts and it is important to make a reasonable conclusion. In the Google survey, responses are limited to the responder's feedback and it is predetermined questions. Google Form gathers information activities where can be expressed numerically and shown a statistic report as evidence relate to AI in the accounting industry. This will make a reasonable judgment and more accuracy by referring to the statistics such as Google form analysis. Most researchers regularly use it to correlate facts on specific demographics. The survey is managed through web or surveys analytics, including a massive quantity of people to



ensure the trends are statistically representative. Even when the survey audience is massive, quantitative research can be targeted towards a specific audience, usually determined by demographic information such as gender, geographic location, and age. The limitation of this research does not include personalized behavior, such as habits or motivations behind the decisions. This can be leading out some important feedbacks from the respondent. It causes the report to be inaccurate about feelings, attitudes, and habits that are harder to quantify yet offer important additional context to support statistical data. Therefore, quantitative and qualitative research are paired, a complete set of data can be gathered about the target audience's demographics, experience, attitudes, behaviors, wants, and needs (Polfish, 2021).

RESULTS AND DISCUSSION

The members of KPMG company were the respondents of this research paper. There are thirty-nine questionnaires were answered by the KPMG members out of 100 questionnaires. Hence, the rate of the responses is 39%. Table 1 presents the respondent profiles.

Table 1. Profile of Respondents

Demographic Variable	Frequency	Percentage
Gender		
Male	21	53.84
Female	18	46.15
Age (In years)		
21 - 30	18	46.15
31 - 40	17	43.59
41 - 50	4	10.26
50 and above	0	0
Nationality		
Malaysia	37	94.87
Indian	2	5.13
International	0	0
Qualification		
Sijil Pelajaran Malaysia (SPM)	1	2.56
Sijil Tinggi Persekolahan Malaysia (STPM) /Matriculation /A-levels /Foundation /Diploma	10	25.64
Bachelor's Degree	20	51.28
Master's Degree	8	20.51



Table 2. Respondents' Awareness of Artificial Intelligence to the Professional Accountants (Multi Choice Questions)

Questions and responses	Frequency	Percentage
Do you think the awareness of AI is spreading in the accounting industry?		
yes	26	66.67
no	7	17.95
not sure	6	15.38
Will AI compensate for human intelligence?		
yes	18	46.15
no	14	35.9
not sure	7	17.95
Which accounting software is used in your organization?		
SQL Accounting	9	23.1
UBS Sage	9	23.1
Auto Count	14	35.9
Bukku Accounting	0	-
Wave Accounting	0	-
Other	4	10.3
Due to the Covid-19 outbreak, are there any challenges/ risks to perform the tasks while using AI?		
yes	8	20.5
no	21	53.8
not sure	10	25.6
Do you think AI system is more reliable than traditional accounting methods?		
yes	19	48.72
no	15	38.46
not sure	5	12.82
How often AI associate with accounting?		
yes	14	35.9
no	13	33.3
not sure	12	30.8
Will AI compensate for human intelligence?		
yes	18	46.2
no	14	35.9
not sure	7	17.9
Has the aid of AI benefited the accounting industry?		
yes	13	33.33



not	18	46.15
not sure	8	20.51

Table 2 indicates that the majority of respondents (67% and 46%) recognized the awareness of the AI system in their accounting tasks. It shows that most respondents (36%) are using the auto count platform to accomplish their tasks. During the New Normal periods, they suddenly switch to work remotely to reduce the spreading of the new disease. Also, 54% of the respondents answered that they did not have any challenging issues for now during the MCO policy.

In addition, 49% of the respondents agreed that the traditional method is less effective compare to the AI systems. It indicates that the employees of KPMG needed to use the AI system to perform their tasks and more AI technologies in the company. A total of 36% of respondents frequently work with AI systems. This showed that they needed AI technologies to complete their tasks and they are seeking to continue the development of AI systems in the company. Moreover, 46% of respondents believed human intelligence will be substituted by Artificial intelligence. The AI system acts as the simulation of human skills such as calculation, problem-solving skills, and analysis of documents. However, 46% of respondents disagreed that AI provides valuable information to them. The main reason is the increase in frauds and cybercrime cases which causes the information to be less valuable and leading out confidential data.

Table 3. Respondents' Awareness of Artificial Intelligence to the Professional Accountants (Text form)

Questions and responses	Frequency	Percentage
If so, please state the reason. (What/ Why)		
Not	5	12.82
Not reliable information		
It needs to develop my skills		
Because AI is very helpful during the covid 19.		
Because it faces the interaction with my clients. On which it needs to follow the SOP.		
Based on the above statement, state the reason. (Why)		
Nope	10	25.64
Because it doesn't influence me		
AI can keep track higher volume of transaction		
Because AI is simply regulated.		
Help to keep the softcopy document, easy to access as long got internet		
Because it needs to reach out to my customers		
Because it useful		



Because I always plan my time to associate the AI		
Because it imposed to working with accounting systems to maximize the client's needs		
Require to contribute the tasks		
If you answered yes on question 13, please identify 5 reasons why are you using an AI system to perform the tasks?		
<ol style="list-style-type: none"> 1. Speeds up the process of collecting data 2. Fewer mistakes occur 3. Easy to determine the problem compare to paperwork's 4. Data will remain to compare to paper (paper gone the data gone) 5. Other people just need to look at our work online 		
Graphs and charts are preparing in a proper way, reduce human error in compiling data.		
<ol style="list-style-type: none"> 1. Able to communicate effectively 2. More information 3. More accurate 4. More clarification 		
<ol style="list-style-type: none"> 1. Can do anytime as long got internet access 2. Reduce the possibility of losing documents 3. Can have flexible working hours 4. Can have a client from a various country outside Malaysia 5. Can reduce the possibility of keying the wrong figure 	10	25.64
<ol style="list-style-type: none"> 1. Access the big databases 2. Fast progress 3. Reduced fraud cases 4. No delay 5. It works remotely 		
<ol style="list-style-type: none"> 1. Enhancing evidence-based 2. Enhancing decision making 3. Reduced human input 4. Reduced material misstated 		
How does IBM Watson analyze its impact on your company's operation? (On which areas impacted)		
I don't know		
It accesses fast		
The audit progress will be faster?		
I don't know		
Financial annual report		
It impacts the company operation		
On auditing services	7	17.95



Table 3 presents the respondent answers to few text questions. It implies that the AI system is still required to use in their task due to new laws and regulations. During the MCO policy, they needed to proceed with their jobs by using AI systems to improve their decision-making. It is still one of the alternative ways to reach out to the customer's needs and reduce human error. Although Kira and IBM Watson systems are less reliable and unaware of the systems, they still can access a huge quantity of the agreement in less than a minute.

Table 4. Result of Respondents on using Kira system and IBM Watson by the Professional Accountants (Multi Choice Questions)

Questions and Responses	Frequency	Percentage
Kira system is one of the AI systems in helping various tasks of accounting such as review contract and comprehensive report?		
yes	14	35.9
no	11	28.2
not sure	14	35.9
So have you used the Kira system before performing auditing and accounting services?		
yes	9	23.1
no	17	43.6
not sure	13	33.3
Are there challenges while using the Kira system to strengthen the quality of auditing and accounting tasks?		
yes	18	45.9
no	7	18.9
not sure	14	35.1
Is the Kira system being 100% accurate and well efficient in risk management during accounting practices since the cyber-crime cases keep increasing rapidly?		
yes	11	28.2
no	15	38.5
not sure	13	33.3
Deloitte company said that "By teaming with Kira Systems, we can help organizations reduce their review time while deploying higher-value activities. Let's save our eyes for more strategic matters". Do you agree with this statement?		
yes	10	25.6
not	17	43.6
not sure	12	30.8
John Kelly stated that "By applying Watson, KPMG is taking a forward-looking approach to extending its expertise, helping professionals and clients gain		



new insights from critical enterprise information." Do you agree with this statement?		
yes	8	20.5
no	16	41
not sure	15	38.5
Are there any limitations when using IBM Watson?		
yes	7	18.4
no	14	36.8
not sure	17	44.7
Do you think AI system such as Kira system and IBM Watson Analyze are able to strengthen the bond/confidence between you and your clients?		
yes	12	29.7
no	9	24.3
not sure	18	45.9
Do you think Kira system is better than IBM Watson Analyze?		
yes	8	21.1
no	8	21.1
not sure	23	57.9
Do you think both systems will change our way of communicating in 10 years especially auditing services?		
yes	18	47.4
no	7	18.4
not sure	13	34.2

Table 4 signifies Kira and IBM Watson systems are some of the AI systems that are less useful in enhancing their financial information due to cyber-crime issues. This will be causing the accountants required to improve their skills and training relates to IT skills to avoid talented hackers. Therefore, the employees are seeking for investing in other AI applications in their tasks so they can combat the new challenges in the future.

The KPMG company and other accounting firms should work on improving and creating an environmental balance between the artificial intelligence application and human connection. This is because sometimes the systems are hacked by the hacker experts and may not be generating a 100% guaranteed on strengthening the financial reporting especially the decision-making. The system is required to work along with professional accountants to make a reasonable judgment. Secondly, accountants should be always trained and up-to-date their knowledge concerning IT skills through self-learning or provided by the company. Kira system is still no confidence to use in the workforce and employees are afraid to use it. It may be the cause of the company's poor performance. During the MCO period, this causes a significant impact on the company performance in which they are lack technology skills. Thirdly, the company should select the optimum delivery method of AI applications in the workplace. This will be increasing the awareness of AI systems in their workforces. Kira system should be investigated by the



KPMG because the employees had experienced the system's less functionality in helping their tasks. KPMG and accounting firms should always keep in mind the integration among the management and employees. The employees are the ones of the final users to use and work with the system on daily basis. KPMG company and other accounting firms should take conscious note on the developing trends of artificial intelligence and the best technique, practices, and technologies to improve their accounting tasks and standards allowing the management to be free from stress during MCO periods.

CONCLUSIONS

The research paper has examined the impact of artificial intelligence on accounting tasks and standards at KPMG. As the table above shows that there are significant positive influences toward using artificial intelligence in the accounting industry as a whole and across different segments of the company's management accounting concept, value creation concept, and control intelligence mechanism concept found to be associated with the AI system. Many factors have brought heavy pressure towards the use of AI systems. Kira system is one of the AI systems used in the KPMG company however it is less effective in the accounting sector. Although it is infamous to the accountants, it still provides some advantages in performing their tasks. Therefore, the role of professional accountants is needed during the operation of AI system to ensure that the system is work effectively and making an appropriate judgment before it presents to the public.

Future research may apply qualitative methods. This will help the accountants deeply understand how AI systems benefit them. It highly will create awareness of the AI system in the accounting sector.

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