The Role of IASB on Corporate Reporting Disclosures: Use of Artificial Intelligence

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Abstract

In the year 2015 the International Accounting Standards Board made a decision to stick to their core business of financial reporting. However, the need for efficient and effective ways of measuring and communicating non-financial information is paramount to ensure the realization of corporate reporting disclosure that has been at loggerheads with the traditional financial reporting. The purpose was to provide clarity in how the International Accounting Standards Board could play a more proactive role on corporate reporting disclosures by focusing on artificial intelligence. This will enable preparers to have a clear understanding of which standards would be appropriate when evaluating non-financial information. The paper adopted a qualitative approach whereby white papers from the World Economic Forum as well as journal papers were used. Drawing from the use of artificial intelligence, this paper reported on the current developments of the Global Regulator's taxonomy, benefits of corporate reporting disclosures by firms along with practical guidelines for mentality change of Accountants in their profession. Finally, challenges advanced by the artificial intelligence such as societal impacts were argued. It was concluded that the Global Regulator could improve the current taxonomy to include non-financial information. This paper will contribute to the body of knowledge as there is scarcity of published data related to to corporate reporting disclosure in emerging economies as well as their responsiveness to country specific regulators.

Keywords: Corporate Reporting Disclosure, Integrated Reporting, International Accounting Standard Board, International Financial Reporting Standards

1. Introduction

Business is not as usual to the preparers and regulators of the accounting profession. The rapid technological change and digital platforms have profoundly changed the way of doing business in the world (World Economic Forum, 2019). The issue of corporate disclosure

reporting which is termed as non-financial information has been evolving from triple bottom line reporting, corporate social responsibility and corporate sustainability reporting (Gray, Kouhy and Lavers, 1995; Mathews, 1997; Thomson, 2007; Tilt, 2010; Setyorini and Ishak, 2012; Lynch, Lynch and Casten, 2014) to integrated reporting (International Integrated Reporting Council, 2019). The continuing debate being addressed by the International Accounting Standard Board (IASB) is whether there is need for including corporate reporting disclosure in the financial statements (International Financial Reporting Standards, 2015). The last World Economic Forum annual meeting sought to find out how technological disruption drive can enhance models of consumption with sustainable benefits for business and society across developed and emerging markets (World Economic Forum, 2019a). Besides, non-financial information in terms of corporate reporting disclosure has been at loggerheads with the traditional financial reporting while, digital trading ways have also emerged. Hence, the ability of information to move across border has enhanced and increased globalization which has led to a change in the business models.

1.1. Research Problem

The evolution of the International Financial Reporting Standards Foundation and the International Accounting Standards Board as the Global Accounting Standard-setter began its work in 2001, as the successor to the International Accounting Standards Committee which had been since 1973. According to Pacter (2015, p.9), "the vision of the Foundation has been supported by many international organizations including the G20, World Bank, International Monetary Fund, Basel Committee, International Organization Securities Commissions, and the International Federation of Accountants". The Accounting Standards Advisory Forum which is consisted of the the Pan African Federation of Accountants, the European Financial Reporting Advisory Group, the Asian-Oceanian Standard-Setters Group, and the Group of Latin American Standard-Setters, is included in these organizations. However, with more countries adopting International Financial Reporting Standards there remains a gap related to the issue of non-financials being included in the financial statements. The users of financial information believe that corporate disclosure reporting should be embedded in their financial statements due to its ability of verification and value creation; it has still been facing various challenges, especially with the preparers of financial statements and the Global Regulator. The International Financial Reporting Standards Foundation and International Accounting Standards Board (2015, p. 7) assert that, 'Until now, our position has always been that the IASB is especially qualified at financial reporting and that we should stick to our trade". However, the current rapid technological development is affecting all organizations and this key Global Regulator is no exception and can no longer ignore it.

The main purpose of this paper was to offer an encouragement to the International Accounting Standards Board on how the Board can play a more proactive role in corporate reporting disclosure with the use of artificial intelligence. This paper aims at answering two main questions: (1) how can IASB be encouraged to use AI in corporate reporting disclosure? (2) How can companies and the accountants incorporate non-financial information using AI? This paper was brought after reading a press report (International Financial Reporting Standards, 2015, p.12) that questioned: "The scope of IFRS: Is it too narrow?" The argument was alongside financial reporting, defending that there exist many other developments in the realm of, corporate reporting such as new standards being developed making financial reporting so complex let alone inclusive of non-financials. However, practical solutions are available to the accounting profession as the world is entering the Fourth Industrial Revolution. This revolution is shaped by advanced technologies from the physical, digital and biological worlds that seek to create innovations at a speed and scale unparalleled in human history (World Economic Forum, 2019). Without sustainability in the society – in terms of environmental performance, social accountability, economic performance and governance – it is impossible for anyone to survive let alone sustain operations.

This paper will contribute to an area that has been dominated with quantitative financial analysis to show the importance of including corporate disclosure reporting in financial reporting. This will be made possible with the digital technology that has been able to change the business environment radically. In addition, this paper provides a standard issue of corporate reporting disclosure because the world is moving to integrated reporting but still in the developing economies sustainability reporting is still lagging due to a lack of a Standard.

The paper is structured in five sections: Section 1 will have the introduction. Section 2 will give a brief literature review. Section 3 will detail the methodology; section 4 will have the discussion while section 5 concludes the paper.

2. Literature Review

2.1. Theoretical framework

This paper is based on a specific theoretical framework of artificial intelligence (AI): Technological singularity theory.

2.1.1. Technological Singularity Theory

In reference to technological singularity theory, Vinge (1993), anticipated the improvement of the computer hardware in the early years of artificial intelligence (AI) which was fathomed to

be slow. The digital computers were incredibly primitive and memory forbiddingly expensive by today's standards (Sejnowski, 2018). The theory was based on four aspects: Firstly, computers will become "awake" and will advance to superhuman intelligence. Secondly, large computer networks may someday "wake up" and become superhumanly intelligent. Thirdly, computer and human interfaces will become so intimately entangled that superhuman intelligence will occur. Fourthly, advancements in biological science result in dramatic improvements in human intelligence. At a glance, there seems to be a conflict between the artificial intelligence (AI and the intelligence amplification (IA). Vinge (1993) gave a clarification which stated that artificial intelligence dealt more with computer networks and human-computer interfaces while intelligence amplification was a faster way to superhumanly intelligence. Intelligence amplification seemed to be proceeding naturally while the artificial intelligence needed applying more machine learning. Hence, Vinge based his work on Von Neumann - a mathematician, who expressed both surprise and concern to the idea that there was "an ever-accelerating progress of technology and changes in the modes of human life" (Synthetic Smart Teams, 2018). Nevertheless, it appeared that Von Neumann was thinking of normal progress of a human with machine learning, not the creation of superhuman intellect. Nonetheless, Vinge (1993) was quick to explain that artificial intelligence advances will often have applications in intelligence amplification and vice versa. Conversely, the reality is that AI and IA are completely different. For the purpose of this article, artificial intelligence proposition takes root of the discussion.

This paper explains that the idea of technological singularity is revealed as a real concept rather than a science fiction by Kurzweil (1999) where he probes the past, present and future of artificial intelligence from its earliest philosophical and mathematical roots to tantalizing glimpses of 21st-century machines with superior intelligence and prodigious speed and memory. Kurzweil's idea is based on a similar premise to Moore (1965), that was referred to as Moore's Law to show that the number of transistors on a chip doubled to mean greater computing power if the number of transistors continued to grow at a rapid pace without ceasing. The implication would be that eventually computers will process information faster than humans. Thus, this paper sought to explain the basis of technological singularity theory and the transformation of the accounting profession with the use of artificial intelligence in business.

2.2. Empirical literature

Accounting educators and stewards of accounting research have a great responsibility to reflect changes in broader society as well as in reporting. Gray and Bebbington (2000, p.6) in their study on Environmental Accounting, Managerialism and Sustainability: Is the Planet safe in the hands of Business and Accounting explained that,

> *"The essence of the literature is that accounting educators indoctrinate their students through a slavish attachment to the professional syllabus and thereby produce students who are ethical immature, intellectually passive and largely incapable of innovation…Such concerns (particularly about education) go some way towards explaining why, despite the demands of both the corporate sector and the environmental movement, accountants' response to the environmental crisis remains fairly lukewarm and predominantly constrained by Generally Accepted Accounting Principles (GAAP)s. Such matters might concern us whatever our views. When faced with the exigencies of sustainability, such matters become importantly critical".*

The potential capital-market benefits of non-financial information are greater than the costs anticipated such as: market liquidity, lower cost of capital and better capital allocation (Christensen, Hail & Leuz, 2018). International organisations that have contributed to uptake of corporate reporting disclosure have a number of standardized instruments such as the Global Compact's Ten Principles and the Global Reporting Initiative guidelines. They have also developed guidelines that are being used to provide companies with ways to systematically assess measure and communicate their non-financial information. Therefore, corporate reporting disclosure is no longer a mere nicety. The companies in countries such as India, China and Russia are utilizing sustainability reporting results to increase transparency, credibility and overall company value. Although public companies are the most prevalent reporters, some private equities are also placing emphasis on the use of sustainability reporting to manage their portfolio of companies (Lynch, Lynch and Casten, 2014).

3. Research Methodology

The rationale for this paper was to see how the Global Regulator of the accounting profession would champion corporate reporting disclosure practices within country-specific contexts given the rapidly emerging technology. This paper used secondary qualitative data with the analysis of existing literature expressed by the World Economic Forum. This is because the World Economic Forum engages the foremost political, business and other leaders of society to shape global, regional and industry agendas. During the recent annual meeting held in Davos-Klosters, Switzerland, 22nd – 25th January 2019, the main agenda was shaping a global architecture in the age of the fourth industrial revolution. The researcher obtained a personal email invitation from the World Economic Forum website on material requested for use after signing into the website. Other recommended white papers were emailed to the researcher. In addition, other literature reviews in journals, government reports, international organization websites and books were also reviewed. Narrative analysis was used to scrutinise the application of corporate reporting disclosure using (AI) as propelled by the technological

singularity theory. The aim was to answer two main questions: (1) How can IASB be encouraged to use (AI) in corporate reporting disclosure? (2) How can companies and the accountants incorporate non-financial information using AI?

4. Discussion

Muthuri and Gilbert (2011), argued that despite the growing body of research focusing on corporate reporting disclosures in developing countries, there is a dearth of research on CSR institutionalism in African countries. This has been attributed to a lack of standard in the accounting profession. The following discussion explains the linkage between corporate reporting disclosure and artificial intelligence.

4.1. Artificial Intelligence (AI)

This is a branch of computer science that works on creating computers or machines that are as intelligent as human beings (Garbhe, 2017). Sejnowski (2018, p.3) explains the origin of artificial intelligence in the 1950s, "when there were two competing visions for how to create an artificial intelligence: one vision was based on logic and computer programs, which dominated AI for decades; the other was based on learning directly from data, which took much longer to mature". Artificial intelligence is the software engine that drives the Fourth Industrial Revolution (World Economic Forum (2019). According to the Society for the Study of AI and Simulation of Behaviour (2019), McCarthy in 1956 defined artificial intelligence as "The science and engineering of making intelligent machines especially intelligent computer programs". Artificial Intelligence is a way of making a computer, computer-controlled robot, or software think intelligently and in a similar manner like the intelligent humans (Tutorialpoint, 2019). According to Alsedran (2017), artificial intelligence offers reliability, cost-effectiveness, solve complicated problems, and make decisions; in addition, it restricts data from getting lost. Furthermore, Alsedran explained that artificial intelligence is designed with algorithms that are already being used on daily lives in terms of applications including: virtual assistants such as SIRI and CORTANA, decision management, deep learning platforms and bio matters among others.

In agreement, Mwachiti (2018, p.15), quips that "artificial intelligence is ready for prime-time transforming if not disrupting all the sectors of the economy that generate lots of data from technology to finance, mobility or manufacturing. However, recent developments have seen the application of AI and machine learning technologies to bookkeeping as a reality with most of the major accounting Software vendors (Intict, OneUp, Sage and Xero) offering capabilities to automate data entry, reconciliations and sometimes more". Furthermore, Mwachiti (2018, p. 16 citing Baptiste's work) says that, "by 2020, accounting tasks such as tax, payroll, audits,

banking etc. will be fully automated using artificial intelligence technologies which will disrupt the accounting industry in a way it never was for the last 500 years. This may appear scaring to many accountants, however, this rapid technology will not replace or eliminate accountants, but will add an advantage to the accounting profession". A mindset shift is therefore required by all accountants to embrace technology that will be a game-changer as it is bringing greater efficiencies in the business and free up accountants to analyse data for their investors (Nzou, 2017). Therefore, accountants will require communication, analytical, technical, and interpersonal and management skills.

How the International Accounting Standards Board Can Use Artificial Intelligence?

In 2001, the Foundation launched the extensible Business Reporting Language (XBLR) initiative to provide a common electronic format of businesses and financial reporting. This was intended to standardize financial reporting using the software's filling format. According to Debrecency et al. (2010), a key aspect of the data quality of these filings is the correctness of the mathematical relationships implied by the taxonomy. Hence, the Global Standard Setter can change the ongoing process of the taxonomy to include the non-financial information that will take care of the corporate reporting disclosure to enable digital consumption of the financial statements. It is for a fact therefore that corporate reporting disclosure has too much information. However, with the application of artificial intelligence, data mining can be done so easily and faster and big data will not continue to be a challenge to preparers. Machines can learn to perform redundant, repeatable and often at times, extremely time consuming tasks (Mwachiti, 2018). Currently, machines have been able to recognise speech, translate language, and perform data diagnosis. Today, artificial intelligence is driving algorithmic trading, which is faster than traditional long-term investment strategies and more deliberate than high-frequency trading (HFT) in stock markets. AI is also being used to improve credit evaluation on loans, to accurately deliver business and financial information, to pick up signals on social media that predict market trends and to provide biometric security for financial transactions (Sejnowski, 2018). If the global Regulator could be willing to provide a standard for non-financial information, then the same Board could encourage country-specific Regulators to invest in this software (XBRL) which will help in presenting information in an economical way.

Just the same way SIRI/CORTANA application is used, the same type of interface can be used for business finance without having to change the standards completely (Marr, 2017). Moreover, the challenge of having "complex" data would be solved by the use of artificial intelligence via digital technologies, owing to the fact that (AI) can collect and analyse data in real time (WEF, 2019). These digital technologies are platforms; they are not in any real sense the final consumer product. Digital technology in the capital market is expected to grow while

governments should promote XBRL adoption for business reporting in their own respective countries (Yoon et al., 2011). Therefore, Holroyd and Coates (2015) explain that in this complex and fluid global economic order, digital-content developments represent one of the few areas ripe for continued artificial intelligence expansion.

Lastly, the financial statements are changing from the traditional way of presenting only financial information to non-financial current information that is currently being provided for currently as "notes/disclosures" (Institute of Certified Public Accountants of Kenya, 2018). This requires accountants to improve their communication skills when presenting the information to the users (Tokar, 2015). One of the major unintended consequences of adopting IFRS Standards is the need for financial statements that go beyond the consolidated financial statements to include the element of sustainability reporting. It is apparent that accountants that have been slow, even reluctant - to initiate the sorts of changes which management systems require of the accounting system. According to Vinge (1993), even if all the governments in the world were to understand the "threat" of artificial intelligence and be in deadly fear of it, progress toward the goal would continue. Vinge (1993, citing Frank, 1985) gave a scenario that in fiction, there have been stories of laws passed forbidding the construction of "a machine in the form of the mind of man". Nevertheless, the current situation is different for Sejnowski (2018) who shows that the recent progress in artificial intelligence (AI) was made by reverse engineering brains. That is, learning algorithms for layered neural network models is inspired by the way that neurons communicate with one another and is modified by experience. This has produced a type of (AI) being referred to as block chain, a database, which uses cryptographic functions to maintain data integrity and identity authentication. World Economic Forum (2019d), explained that block chain keeps records of all data exchanges, which is referred to as a ledger in the cryptocurrency world, and each data exchange is a transaction of its own. This ledger tracks transactions whereas a distributed ledger uses a decentralized people to people network to maintain the ledger. Every verified transaction is then added to the ledger as a block. According to Bebbington and Gray (2001), accountants must be willing to change with the spate of the technological disruption. Artificial intelligence needs accountants to have communication, analytical, managerial, and continuous learning skills to make a professional judgement. This is because the accounting office has now metamorphosed into the finance unit due to a role change, which currently deals now more with aspects of technology, treasury, funding and tax matters (Nzou, 2017).

How Companies Can Incorporate Non-Financial Information by Use of Artificial Intelligence?

Most developed countries have adopted corporate reporting disclosure in their reporting system. Brown and Fraser (2006) gave reasons for including non-financial information to the

Accounting profession: it will help create new visibilities and facilitate discussion and debate among interested parties. In agreement, Morgan (1988), explains that accounting promotes dialogic rather than monologue conceptions of reason and thus facilitates the 'layers' of talk required in a multi-perspectival environment. With the artificial intelligence being taken positively as part of data analysis, it will help in reporting financial and non-financial information and improving decision making. Sejnowski (2018) notes that artificial intelligence is learning algorithms that work like refineries that extract information from raw data; that information can be used to create knowledge; that knowledge leads to understanding; and understanding leads to wisdom.

Change of Accountants Mentality to Corporate Reporting Disclosure (CRD) and Use of AI

Accountants have been worrying that corporate reporting disclosure is mostly being done by multinational companies due to the access to capital. However, this is changing with every company size being called upon to take responsibility. In addition, accountants are evaluating not only the short-term financial performance of companies, but also their real vitality: In other words, their ability to grow in the context of new challenges and manage 'raw' risks generated a rapidly changing world (Lynch et al., 2014). This will be enhanced only by the use of artificial intelligence to reduce big data. The implication of the technological singularity theory on AI involves extremely high-bandwidth networking of servers that have the ability to communicate at variable bandwidths, including ones far higher than speech or written messages. This will facilitate more symmetrical decision support systems that will make better economic decision outcomes (Vinge, 1993). This idea has been supported by various governments as explained by Coates and Holroyd (2015, p.9), "digital connectivity, expanding and promoting faster and cheaper Internet service could quickly become an electorate-pleasing staple with the potential to stimulate new digitally based businesses".

Value creation in business is the pertinent issue in the business environment. Accountants are already skilled at measuring input and output, performing analytical procedures, quantifying, cost savings, measuring return on investment and producing reports to stakeholders. Hence, they can play a central role in measuring, reporting and verifying non-financial activities (Hughen, Lulseged, and Upton, 2014). Accountants need to lend expertise in assurance methodology, book keeping, internal control risk assessment, standard setting by taking an active role in growing and improving the assurance market for corporate reporting disclosure services. According to World Economic Forum (2019c), artificial intelligence is now emerging as an essential accelerator of digital transition because of three factors: (1) The rise to very large data sets with the amount of data continuing to grow at an accelerating rate (2) The rapid growth of computing capacity and decreasing prices which

enable the processing of large data sets by an increasing number of users and (3) Continuous development of new data-use algorithms.

Possible Drawbacks or Challenges of Using Artificial Intelligence (AI)

Little did anyone foresee in the 1950s that it would take many years and a great breakthrough in computer power before computer vision would reach human levels of performance (Sejnowski, 2018). The high hopes and severe consequences of artificial intelligence (AI) remain alive in the collective memories of governments and regulators around the world. While there is no denying of the rapid rise of technological advances in using AI, the reality is that the economic, work-force and societal impacts of the AI remain suspect (Holroyd & Coates, 2015). While Artificial Intelligence presents business with an opportunity for significant productivity gains, it also brings a unique challenge (World Economic Forum, 2019b). These business challenges are: Issues of digital trade barriers including outdated regulations, fragmented governance and strict data localization policies which could potentially hamper these gains. Specific to IASB Regulator: It is the heterogeneous outcomes of adoption of IFRS as a globally accepted accounting standard. These different outcomes are because the quality of information does not purely depend on a set of rules, standards or particular technology being used. Diverse culture, educational, political, and economic factors might deter the expected outcome.

However, businesses need to manage the quality of data by learning the machine methods. The goal is to open up conversations as opposed to closing them down with 'incontrovertible bottom lines' (Boyce, 2000, p. 55). Therefore, with this technology being adopted into the operations of the companies, the software/machines will be able to do heavy lifting of calculating, reconciliations and responding to enquiries from other team members and clients about balances and verifying information (Machiti, 2018).

5. Conclusion

Corporate Reporting Disclosure is a global issue, and much work needs to be done nationally and internationally to increase the reliability of accounting systems (Lynch et al., 2014). The users of financial information believe that corporate disclosure reporting should be embedded in their financial statements due to its ability of verification and value creation. Companies in emerging markets such as India, China and Russia are utilizing sustainability reporting results to increase transparency, credibility and overall company value (Lynch, Lynch & Casten, 2014); it has still been facing various challenges especially with the preparers of financial statements and the Global Regulator. It is important to bear in mind that the standard-setting process is pertinent to safeguard the future balance of competitive forces in

the national market as well as global markets (World Economic Forum, 2019). Many companies are engaging in data mining with the help of artificial intelligence developments, thus making more accurate decisions. The Global Regulator could improve the ongoing taxonomy, improve the current software and issue a standard on corporate reporting disclosure because the accountants cannot adopt anything outside the 'given' standards neither the country specific regulators.

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