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Formulating A Competency Framework for Accountants on Environment, Social and Governance (ESG) Standards and Finance Digitalization

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Abstract: Accountants are one of the most important professions nowadays because, with their education and experience, they can assist the government in building the nation. However, the recent trend shows that the demand for competent accountants is increasing due to the importance of Environment, Social, and Governance (ESG) standards, coupled with the explosion of financial technology. Unfortunately, current working accountants and recent accounting graduates are struggling to meet these international demands, as employers are finding it difficult to find competent accountants who are knowledgeable about ESG and experts in financial technology. Thus, this paper intends to discuss and propose an accounting competencies framework that meets the needs of industries, supports government aspirations to develop via technological advancement, and balances social and economic development based on ESG principles. It is expected that this competency framework related to ESG and financial technology will benefit the accounting profession and higher learning institutions by allowing them to design more industrial-relevant training and educational qualifications. This paper is significant because it ensures there is no shortage of accountants with ESG skills and knowledge, and it can support a government plan to achieve net zero by 2050.

Keywords: *ESG, accountant, accounting, accounting education, sustainability*

1. Introduction

Due to many natural disasters, extreme weather, swift climate change, environmental pollution, severe corporate fraud, high-profile corruption (Salin et al., 2024), low quality of employment, and unfair trade practices, ESG has become a more important issue in Malaysia. Numerous entities have introduced numerous international and local ESG guidelines, including the Global Reporting Initiative (GRI), Bursa Malaysia Sustainability Reporting Guide, Task Force on Climate-related Financial Disclosure (TFCD), SASB Standard, CDC Investment Works ESG, IFC Performance Standard, United Nations Sustainable Development Goals, Bank Negara Malaysia Climate Change and Principle-based Taxonomy, Paris Climate Agreement, and RAMSus' Sustainability Rating Report. However, complying with and meeting the guidelines' recommendations is difficult for the company and requires specific knowledge. Currently, an accountant is the best and most qualified person to assist companies and governments in meeting ESG standards internationally and locally. This is because the accountant currently oversees the company's financial affairs and annual report, which includes both monetary and narrative reporting that is disclosed alongside the financial statement.

Coupled with the explosion in financial technology (Fintech), including the emergence of artificial intelligence, machine learning, big data analytics, blockchain, cyber security, virtual banking, and digital currencies, the recent trend highlights the critical need for higher skills and competencies among accountants to meet this national agenda. Coincidentally, there is a convergence of ESG and digital finance skills, as technology adoption is also part of the ESG requirements. For example, to reduce paper and hence deforestation, accountants need to execute electronic transactions, which will eliminate the use of paper-based financial records. Additionally, the implementation of integrated accounting and virtual meetings can prevent transportation movement, thereby contributing to a reduction in carbon emissions. The combination of ESG and Fintech competencies is crucial for the industry as a whole, and for the government in particular, as it aids in the development of the country through various policies and guidelines. In Malaysia, for example, ESG and Fintech skills are required to achieve national aspirations of the Malaysia Madani Concept, United National Sustainability Goals (UN SDGs) Number Eight (8) of Decent Work and Economic Growth, 10-10 Malaysia Science, Technology, Innovation, and Economy (MySTIE) of Business and Financial Services, Key Economic Activities (KEGA) of Green Economy (under Malaysia Shared Prosperity Vision 2030), and also related to Malaysia Economy Plan 12 (RMK12) of resetting the economy and advancing sustainability.

Regrettably, many employers struggle to find competent accountants and entry-level accounting graduates to meet the demand for ESG and Fintech knowledge. A recent survey by the ACCA CA ANZ (2022) reveals that 50 percent of accountants do not have the necessary skills to participate in financial technology, while a report by Financial Executive International (2021) reveals that 57 percent of chief accounting officers do not have competencies to integrate ESG reporting with their financial reporting. Another survey among accounting educators in the United States of America also found that only a few departments have formally integrated ESG components into the accounting curriculum, while numerous faculty members have taught ESG topics through their initiative (Simmons, 2024).

This is a worrying phenomenon, as accountants are the backbone of the business's survival due to their presence at all levels of the organization hierarchy (lower, middle, and top management). In addition, the role of the accountant in the business is so crucial, including financial performance analysis, risk management, cash flow budgeting, and assurance. Lack of ESG and Fintech skills among accountants poses a significant risk to the business, as regulators may penalize the company for non-compliance with laws and potentially eliminate it from the market. This is because customers and workers today prefer to engage with companies that prioritize environmental sustainability, social inclusion, and the adoption of green technologies. Moreover, raising capital becomes challenging as companies lacking ESG activities face rejection from shareholders and banking institutions.

Therefore, regulatory bodies such as the Malaysian Institute of Accountants, professional bodies such as ACCA, CIMA, and CPA Malaysia, and higher education institutions must make a significant effort to align their professional accounting training, courses, and qualifications with the requirements set by private and government agencies. This research aims to explore and examine the ESG and Fintech competencies required in the business and government sectors, ensuring that accountants remain relevant and capable of integrating their knowledge and competencies into planning, strategies, processes, operations, decisions, and ultimately, information disclosure. In summary, this paper aims to identify the gaps in the accountant competencies needed for the implementation of ESG and digital finance and to develop a fundamental framework of accountant competencies that aligns with these areas. If we fail to address these issues, it could lead to a rise in unemployment, jeopardize the country's prosperity, and attract foreign investment from nations that are more competitive and have advanced in ESG adoption and the Fintech revolution.

There are several contributions to this study. First, this study will contribute to a better government policy. This research is related to the national priority agenda which is ESG is one of the major themes in the Malaysian government's plan which is on advance sustainability and becoming a carbon neutral country. In addition, this research will help the Malaysian government fulfill its aspiration to transform the country into a high-tech nation and leverage the transformation of technology for the socioeconomic development of the people and the nation. In this context, the role of the accountant is crucial in leading the role of both private and public sectors to fulfill the government's aspirations.

Second, this study involves the development of a new model and framework that outlines the competencies of accountants, taking into account the latest ESG and digital requirements of both practitioners and industries, particularly in the Malaysian business environment. This model can be used by regulatory and professional bodies like the Malaysian Institute of Accountants (MIA), Association of Chartered Certified Accountants (ACCA), Chartered Institute of Management Accountants (CIMA), Bursa Malaysia, Securities Commission, and Bank Negara Malaysia to design their training based on ESG and digital technology requirements. In addition, Malaysian higher learning institutions such as universities, colleges, polytechnics, and education ministries can also use this model to establish more innovative and industry-relevant accounting courses.

Third, an assessment instrument based on the framework can be developed to assess the accountants' competencies required by the industry. This instrument can also be used to create a matrix that illustrates the relative importance of each competency's characteristics. Qualification Agency (MQA)institutions, such as universities and the Malaysian Qualification Agency (MQA), can also use the same tools to measure the relevance of accounting graduates to industry ESG requirements.

2. Literature Review

Overview of ESG

Future sustainability is not the only element garnering emphasis; others include co-prosperity, ethical management, and environmental conservation. As a result, the importance of a company's non-financial performance has increased. Hence, several institutions are adopting ESG indices to assess the nonfinancial operations of firms. ESG is a framework that considers the requirements and potential means of generating value for each organizational stakeholder, and it is intended to be integrated into a company's strategy. ESG is an acronym developed in a 2004 report by 20 financial institutions in response to a call from Kofi Anan, United Nations Secretary-General. As it implies, ESG refers to how corporations and investors integrate environmental, social, and governance concerns into their business models (Gillan et al., 2021). ESG is also a non-financial approach for evaluating a company's performance that encourages corporations to shift from a single aim of profit maximization to several goals of environmental preservation and social responsibility (Yuan et al., 2022).

People are starting to pay more attention to the company's social and environmental performance due to the growing urgency of the threat posed by global climate change, and ESG has inevitably grown to be a significant business activity (Salin et al., 2023). Its goal is to direct investors and businesses toward sustainable development by adopting investment decisions that take environmental, social, and governance (ESG) considerations into account (Renneboog et al., 2008). The European Union (EU) is leading the world in ESG practices and institutionalization of policies, and since 2018, the Non-Financial Reporting Directive (European Parliament, 2014) has made it mandatory for companies with 500 or more employees to disclose important ESG-related information and expanded its application by issuing the revised Corporate Sustainability Reporting Directive (E.U. Commission et al., 2021) in April 2021. Since President Biden's inauguration in 2021, the United States has declared ''2050 Net-Zero'' and is actively enhancing its system to promote ESG practices, strengthen human rights, respond to climate change, and enhance ESG disclosure mechanisms. In addition, the UK enacted a company law that would make it mandatory to disclose all corporate ESG information step by step by 2025 and CSR has been made mandatory in India. Furthermore, Korea requires all KOSPI-listed companies to disclose ESG data by 2030 (Lee and Kim, 2023). As a result, as of June 2021, 137 countries had signed the carbon neutrality statement, and organizations and nations around the world continue to work towards ESG in various ways (Chowdhury, 2012).

ESG has also become a crucial activity for businesses. As for ESG performance, it has become a key criterion for measuring corporate sustainability levels, especially among investors, corporations, and governments. Additionally, over the past few decades, the worldwide financial markets have experienced exponential growth in sustainable investment. For example, by 2021, a total of 3,826 person responsible investor (PRI) signatories had signed on to the United Nations Principles for Responsible Investment, representing an approximate 20-fold increase in total assets in 15 years. ESG not only increases stakeholders' trust in the company but also lowers the cost of financing, improving corporate financial performance (Friede et al., 2015).

The relationship between technology or digital and ESG

The integration of technology and digitalization into ESG practices has the potential to create positive impacts on society and the environment. Several studies have found that technology and digitalization can play a significant role in promoting ESG practices. Fang et al. (2023) found that digitization (using digital technology) improves the ESG performance of Chinese companies that are not politically connected and located in regions with high-quality institutions. This is because digitization lowers agency costs and enhances goodwill. However, the study did not find a significant improvement in environmental performance. The results remain consistent even after using different measures of digitization, ESG scores, and estimation methods.

According to the OECD's case study report (2019), blockchain can be a digital enabler across the infrastructure value chain to achieve sustainable infrastructure services. However, blockchain technology is not typically associated with being environmentally friendly because the first and most well-known application, Bitcoin, requires a lot of energy and produces a lot of carbon emissions. However, this is not always the case, as blockchain can be designed in a way that uses less energy and is more environmentally sustainable (OECD, 2019). Kar et al. (2022) identify in their study that artificial intelligence (AI) can help organizations manage resources better, share data more effectively, and provide better customer services. In the financial sector, AI can provide personalized services for clients and improve customer care. AI can also predict weather-related power outages and prevent environmental damage by responding quickly.

Furthermore, technology and digitalization can help companies reduce their environmental footprint. Chen and Lee's (2020) study reveals that technological innovation in high-income and high-technology countries can significantly reduce their carbon emissions. Interestingly, this innovation also contributes to the reduction of carbon emissions in neighboring countries that share similar characteristics. Similarly, Xu et al. (2023) investigated 210 Chinese manufacturing companies and discovered that digital transformation, including digital capability and strategy, can promote eco-innovation, such as eco-process, eco-product, and eco-management innovation. This, in turn, enhances sustainable performance. The study also found that eco-innovation partially mediates the relationship between digital transformation and sustainable performance. Furthermore, many ESG initiatives currently rely on technological innovation. This includes the use of electric vehicles, solar energy, hydrogen energy, renewable energy, bioenergy, carbon capture, utilization, and storage. All these initiatives and efforts serve to support the ESG aspiration.

However, some studies have also pointed out the potential risks and challenges associated with the integration of technology and digitalization into ESG practices. Kar et al. (2022) expressed their concern about the environmental, social, and economic impacts of technology use. For instance, they raised concerns about the ethical implications of AI technologies, the limited human capacity to understand machine language and apply this understanding to problem-solving, the lack of legislation or regulation, and the threat of cyber-attacks. The integration of technology and digitalization into ESG practices has the potential to create significant benefits for companies and society at large. However, careful consideration of the potential risks and challenges is also necessary.

The role of the accountant in ESG

Generally, accountants play an important role in supporting their company, both in management and operation. Based on the International Federation of Accountants (IFAC) and Malaysian Institute of Accountants (MIA), an accountant is responsible for managing the finances, costs, and cash of the company, providing assurance and audit services, performing taxes, and any other advisory services. Besides, accountants also sit at many top levels of organizations, such as CEO, Board of Directors, and Chief Financial Officers, and hold ministerial positions. However, like other professions, professional accountants are increasingly challenged to demonstrate their relevance in the capital market, as well as their ability to evolve and face new challenges.

With the evolution of ESG, which will eventually integrate and be embedded in company operations, the accountant also needs to be ready and equipped with all the necessary knowledge and skills. Accountants, for example, play an important role in promoting ESG considerations in corporate reporting, particularly in terms of the development and implementation of ESG reporting frameworks and strategies. Providing accurate and reliable information to stakeholders is a vital role of accounting in the context of a company's governance (Haniffa and Cooke, 2005). In terms of ESG reporting, accountants combine non-financial information such as green initiatives, social impact, and corporate governance practices with financial information, which is referred to as integrated reporting (IR). Reporting on ESG risks has been a somewhat complicated process due to the demand for different types of ESG information from various types of users (ICAEW Insights, 2021). However, accountants have the right expertise to measure ESG and offer businesses advice on risks and opportunities (Stylianou, 2021).

For example, Manoj (2022) stated that managerial accountants can contribute by enhancing corporate valuation and image by leveraging more voluntary ESG disclosures, as well as playing a key role in the internal audit process in an IR-based ESG setting. Accountants can work closely with sustainability experts, investors, and regulators to develop more comprehensive and effective ESG reporting frameworks. By developing standards and guidelines and promoting ethical and sustainable business practices, accountants can help ensure that ESG reporting is accurate, reliable, and useful for decision-making. To support these efforts, in November 2021, the International Sustainability Standards Board (ISSB) was established and subsequently published IFRS S1 General Requirements for Disclosure of Sustainability-related Financial Information and IFRS S2 Climate-related Disclosures.

3. Impact of ESG To the Accountant

There are several impacts of ESG on the job and responsibility of the accountants, as discussed below.

Expanded Reporting Obligations
The integration of ESG factors into financial reporting has broadened accountants' responsibilities. Accountants are now tasked with not only ensuring accurate and transparent financial reporting but also incorporating non-financial metrics related to environmental impact, social responsibility, and corporate governance. This expanded reporting landscape necessitates a deep understanding of sustainability reporting frameworks and the ability to communicate complex ESG information effectively.

Risk assessment and mitigation
ESG factors are increasingly recognized as critical determinants of an organization's long-term viability. Accountants play a pivotal role in identifying, assessing, and mitigating ESG-related risks. This involves evaluating the financial implications of environmental risks, assessing social and reputational risks, and ensuring robust governance structures. Integrating ESG risk management into financial analysis requires accountants to adopt a holistic perspective that considers both traditional and emerging ESG risks.

Strategic Decision-Making Support
Accountants are now essential to strategic decision-making processes because they provide insights into the financial implications of ESG strategies. They must assist organizations in aligning financial goals with sustainability objectives, considering the impact of ESG initiatives on shareholder value, and navigating the trade-offs between short-term financial gains and long-term sustainability. This strategic role requires accountants to possess a nuanced understanding of ESG dynamics and their implications for business operations.

Enhanced Stakeholder Engagement
The ESG landscape emphasizes the importance of stakeholder engagement and transparency. Accountants are instrumental in fostering meaningful dialogues with stakeholders by providing accurate and reliable ESG disclosures. They must facilitate communication with investors, regulators, customers, and the broader community, addressing inquiries related to sustainability performance, social impact, and governance practices. This necessitates effective communication skills and the ability to convey financial and non-financial information comprehensively.

Integration of ESG into Auditing Processes
ESG considerations have become integral to auditing processes, requiring accountants to assess the reliability and completeness of ESG disclosures. This involves evaluating the design and effectiveness of internal controls related to ESG data, verifying the accuracy of reported information, and assuring the organization's adherence to sustainability reporting frameworks. The integration of ESG into auditing processes underscores the need for accountants to be well-versed in both financial and non-financial auditing standards.

Theoretical Framework
A theory that can be related to an accountant's skills and knowledge in the context of ESG is Transformative Learning Theory by Mezirow (1991). This theory focuses on the process by which individuals critically reflect on their assumptions, beliefs, and values, leading to a profound change in their worldview. This theory comprises several key concepts. Firstly, there are disorienting dilemmas. This refers to events or experiences that challenge the existing assumptions of an individual and prompt his or her critical reflection. Secondly, is critical reflection. This is the process by which individuals examine and question their existing beliefs and assumptions. Thirdly, is perspective transformation. This is the outcome of critical reflection, where an individual's worldview or frame of reference is fundamentally altered.

In the context of ESG, accountants traditionally focus on financial data and compliance. However, they are facing a dilemma, as ESG issues require them to broaden their perspective and critically assess the impact of corporate activities on society and the environment. The integration of ESG into accounting practices often requires a fundamental shift in how accountants view their role within an organization. Thus, accountants may need to critically reflect and challenge their existing assumptions about what constitutes value and success in business.

This involves moving beyond purely financial metrics to consider social and environmental impacts. Through transformative learning, accountants can develop a more holistic understanding of their role, incorporating ESG factors into their professional practices As accountants engage with ESG issues, they may transform how they perceive their responsibilities. For example, they might shift from a focus on short-term financial gains to a commitment to long-term sustainability and ethical practices. This transformation can lead to more meaningful and impactful contributions to their organizations' ESG strategies.

4. Technical Skills Required for Accountants

Due to the evolution, employers look for accountants who can help them advance their business and meet their stakeholders' needs. Below are some potential outcomes and top technical skills that relate to ESG needed for accountants.

Sustainability Reporting and Assurance
Accountants operating in the ESG realm must possess a comprehensive understanding of sustainability reporting frameworks such as the Global Reporting Initiative (GRI), the Sustainability Accounting Standards Board (SASB), and the Task Force on Climate-related Financial Disclosures (TCFD). Proficiency in interpreting and applying these frameworks is essential for accurately capturing and disclosing a company's environmental, social, and governance performance. Additionally, expertise in assuring sustainability disclosures is crucial for ensuring the reliability and credibility of such information.

Data Analytics and Technology Proficiency
The ESG landscape is characterized by an abundance of data, ranging from carbon emissions and social impact metrics to diversity and inclusion indicators. Accountants need to be adept at leveraging data analytics tools and technologies to process, analyze, and interpret this voluminous and diverse dataset. Skills in data visualization and interpretation are particularly vital for transforming raw ESG data into meaningful insights that inform decision-making processes.

Integrated Reporting and Materiality Assessment
Accountants in the ESG field should be proficient in integrated reporting, which involves synthesizing financial and non-financial information to provide a holistic view of an organization's value creation. Conducting materiality assessments is a key component, requiring accountants to identify and prioritize ESG issues that are most relevant to a company and its stakeholders. This skill ensures that reporting efforts are focused on the issues that truly impact the organization's long-term sustainability.

Climate Accounting and Carbon Footprint
Given the escalating concerns related to climate change, accountants in the ESG domain need to possess specialized knowledge in climate accounting. This includes understanding methodologies for calculating and reporting a company's carbon footprint, assessing climate-related risks and opportunities, and navigating the evolving landscape of climate-related financial disclosure requirements. In this regard, familiarity with greenhouse gas accounting standards and protocols is crucial.

Regulatory Compliance and Evolving Standards
Staying abreast of the ever-evolving regulatory landscape about ESG reporting is a critical skill for accountants. This involves not only an understanding of existing ESG reporting requirements but also an ability to anticipate and adapt to forthcoming regulatory changes. Accountants must be proactive in ensuring that their organizations comply with relevant standards and disclosure mandates, while also advocating for responsible and transparent ESG practices within the broader regulatory environment.

Soft Skills Required for Accountants
Successful accountants not only have technical expertise but also possess a robust set of soft skills that enhance their effectiveness and professional development. These interpersonal abilities empower accountants to thrive in their positions, establish robust client connections, and negotiate the ever-changing terrain of the accounting industry. Here are some potential outcomes and recommended soft skills that are crucial for accountants to handle ESG problems.

Communication Skills

The ability to communicate complex financial and non-financial information clearly and concisely is paramount for accountants in the ESG field. As ESG reporting often involves conveying intricate sustainability metrics to diverse stakeholders, including investors, regulators, and the broader public, effective communication fosters transparency and enhances the credibility of the reported information. Articulating the impact of ESG initiatives on financial performance and disclosing relevant information with clarity are integral components of this skill set.

Stakeholder Engagement and Relationship Management

Given the multifaceted nature of ESG considerations, accountants must be adept at engaging with a diverse array of stakeholders, ranging from internal teams to external partners and regulatory bodies. Building and maintaining relationships with these stakeholders is vital for ensuring the integration of ESG principles into the fabric of organizational decision-making. Accountants should be proficient in addressing concerns, soliciting feedback, and fostering collaboration to advance sustainability objectives.

Critical Thinking and Analytical Skills

In the ESG realm, where data points are often non-financial and qualitative, accountants need robust critical thinking and analytical skills to interpret, assess, and report on a wide range of ESG metrics. This involves evaluating the materiality of sustainability factors, identifying risks and opportunities, and synthesizing information to provide a comprehensive view of the organization's performance in the ESG domain.

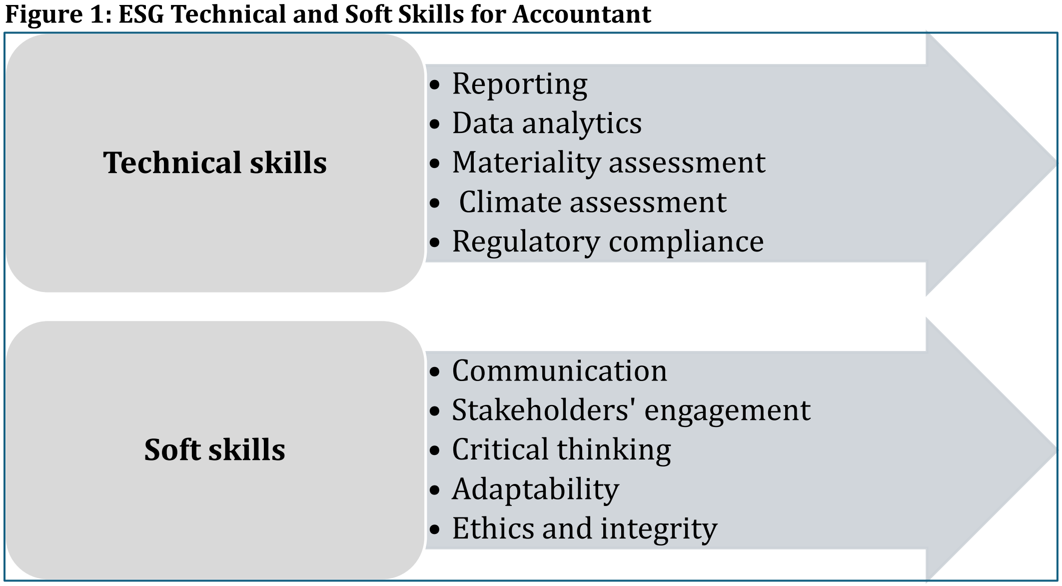
Adaptability and Continuous Learning

The ESG landscape is characterized by rapid evolution, with shifting regulatory frameworks, emerging sustainability standards, and evolving best practices. Accountants in this field must demonstrate adaptability and a commitment to continuous learning to stay abreast of changes. A proactive approach to staying informed about the latest developments in ESG reporting, disclosure requirements, and emerging trends is essential for maintaining the relevance and effectiveness of accounting practices in this dynamic environment.

Ethical Judgment and Integrity

ESG reporting is closely tied to ethical considerations, and accountants must exercise sound ethical judgment in navigating the nuances of sustainability disclosures. Upholding integrity in the reporting process, ensuring accuracy in data representation, and adhering to ethical principles contribute to the credibility of the organization's ESG disclosures. Accountants must be vigilant in identifying potential greenwashing practices and uphold a commitment to transparency and authenticity.

Figure 1: ESG Technical and Soft Skills for Accountant



4. Conclusion and Recommendations

The purpose of this study is to explore and examine the ESG and Fintech competencies that are required by accountants both in the public and private sectors. Reporting, data analytics, materiality assessment, climate assessment and regulatory compliance are the most important skills sought for technical skills, while communication, stakeholders' engagement, critical thinking, adaptability and ethics and integrity are required for soft skills.

This paper is significant as it demonstrates the impact of the framework and contributes to how accountants can enhance and create values for a different group of stakeholders. For the industry, competent accountants who can support multiple need-based ESG and technological services of the company for sustainable growth can be produced. Based on their competencies, invaluable advice can be given to the company so that the company can make huge profits, which are distributed back to the investor via dividends and the government via tax revenue. For the government, industry-relevant accountants are much needed for financial and budgetary policies. Their expertise is also critical to safeguarding the nation from the severe impact of a financial crisis and helping the country to realize its national agenda, e.g., to adopt an economic model that leverages technology and balances social-economic development with ESG principles. In terms of policy, this framework contributes as it will assist the policymakers and regulatory bodies, such as accountants' professional bodies and associations, in guiding the future accountants' skills, knowledge and competencies. For environmental, accountants will ensure their company embeds ESG as an important factor for corporate decision-making, like using natural resources and green technology without harming the environment. For society, a guided framework will be able to reduce unemployment as fresh graduates can fulfill their employer expectations. For academia, universities can adopt the framework for accountant competencies that can be used by universities to develop futuristic accounting courses that meet industry ESG requirements.

Future research can be conducted to collect the actual data using various methodologies. First, content analysis from job advertisements can be employed to review and map ESG requirements with the competencies required for the accountant that are needed by the government and industries to implement ESG activities. Secondly, we can conduct focus group interviews with practitioners, professional bodies, and consultants to gather their perspectives on the competencies that current and future accountants require to spearhead national ESG implementation. Finally, a survey can also be conducted to reach a wider and higher number of accountants to understand their current competencies and gaps for future ESG-related activities.

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