

Reframing Accounting Education Towards Ethical, Sustainable, and Inclusive Professional and Competence-Based Curricula

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Abstract

This paper has two primary objectives. Firstly, it critically examines the current state of global undergraduate accounting education programs, identifying key areas for improvement. Secondly, it proposes a new accounting model curricula for international higher education providers. This model is designed to provide ethical, sustainable, and inclusive professional and competence-based curricula. Past studies in higher education have rarely considered the impact of local cultural and socio-political contexts on the development of an appropriate accounting program. To ensure the validity and effectiveness of our model, we conducted a comprehensive field study involving forums and open-ended interviews with local and global educators, regulators, and professional accounting bodies. The proposed model curricula offer

a transformative opportunity for universities worldwide to reshape their courses/subjects, aligning with their strategic mission and goals, and develop their programs further to produce graduates with quality and life-long learning experiences. In addition to the globalization of the curriculum, our model accounting curriculum aims to ensure that teaching and research activities are responsive to local industries and market demand, relevant and competitive in the context of an individual country's vision in line with the UN SDGs 2030 agenda.

Introduction

The proposal of new curricula for accounting programs has been recurring in higher education literature. However, research on how accounting curricula can evolve into a sustainable market-driven model for producing next-generation accountants is scarce. This question was a starting point for us to reflect on how new skills and knowledge, multidisciplinary competencies, and ethical and moral values can be translated and embedded in accounting courses to stay current in education's rapidly changing local and global context. Within the broader socio-political context, this research paper examines the current state of international undergraduate accounting education programs and proposes a new accounting model curricula for international higher education providers. Global higher education providers must reassess and reframe their undergraduate accounting programs in local and international cultural and socio-political contexts and develop an appropriate accounting program to produce next-generation professional accountants.

"As business models evolve and uncertainty increases, CFOs and their finance teams are uniquely situated to provide the information that powers decision-making for long-term value creation." [Kevin Dancey, CEO-IFAC]. This reflection on accountants' changing roles in an organization reinforces how accountants can strategically and dynamically position themselves within the rapidly changing global business environment. Furthermore, in recent times, the emergence of data analytics, artificial intelligence, blockchain technology, and UN Sustainable Development Goals (SDGs) has made business leaders and professional accounting bodies worldwide reassess the competencies required by current and next-generation accountants.

Since its pronouncement, the UN 2030 agenda for SDGs has been driving every level of society, including the higher education sector worldwide, toward intellectual and technological innovation and humanity's pursuit of excellence. Furthermore, we have seen and continue to see the world finding ways to tackle the novel COVID-19 pandemic (Hoque et al., 2022). Moreover, profound changes in the business ecosystem require professionals to redefine their roles and contributions to society (IFAC, 2019b).

Higher education providers, including professional accounting bodies, play a crucial role in developing the knowledge and skills of current and future accountants to support decision-makers and business leaders with relevant and timely information to enhance both customer and shareholder value. Therefore, preparing the profession for the current and future requires an emphasis on implementing a comprehensive, integrated approach to accounting education that improves accountants' knowledge, skills, capabilities, and ethical behavior (IFAC, 2019b) necessary for an evolving business environment (Lucas and Tan, 2013, Lubbe, 2015, Pasewark, 2021).

Due to the rapidly changing business environment over the last few decades, scholars and practitioners have received a growing call to rethink the skills required of general graduate accountants, including professional accountants (Lucas and Tan, 2013, Lubbe, 2015, Pasewark, 2021). The widespread traditional thinking of accounting as a technical-rational tool has been subject to criticism from employers because of its inability to provide sustainable solutions in times of technological development and severe economic crises. There is a need to consider how higher education providers redesign accounting curricula, delivery modes, and assessments to enhance student learning experiences in extreme situations, such as the COVID-19 pandemic, making the program sustainable overall. Preparing current and future accountants to be critical players in advising businesses to calculate economic and non-economic risks using multidisciplinary knowledge, skills, and logic is essential and timely.

The main strengths of our proposed framework are its covering of competencies and skills to understand how global pandemics such as COVID-19, data analytics, AI/BI, sustainability issues, and local culture and values affect businesses and accounting's role. After conducting interviews and focus group discussions with local employers, graduates, professional bodies, educators, local and global educators, regulators, and accounting bodies, we developed and validated our model curricula. These interviews and focus groups helped us understand their views and recommendations on enhancing accounting curricula and the new skills and competencies required in a rapidly changing business environment. The model also aligns with the International Education Standards (IESs), AICPA, AACSB accreditation, and the International Federation of Accountants (IFAC). In addition, the model considers local culture and values.

Universities can use the proposed model curricula to identify the courses/subjects that cover the desired competency areas in line with their strategic mission and goals and develop their programs further to produce graduates with quality and life-long learning experiences. With relevant and evidence-based learning modes and authentic assessments, students should be able to create multidisciplinary personal and people skills, discipline-specific knowledge and understanding, and personal ethical and moral values. This knowledge will enable them to enter the job market locally and globally or develop their careers further through professional programs/certifications offered by local and global professional bodies. In addition to the globalization of the curriculum, our model accounting curriculum aims to ensure that teaching and research activities are responsive to local industries and market demand, relevant and competitive in the context of an individual country's vision in line with the UN SDGs 2030 agenda.

The following section reviews the current state of accounting education worldwide, as documented by previous studies and professional accounting bodies. Section Three outlines our research design and methods. In Section Four, we introduce our proposed accounting curriculum model. Section Five discusses the validation process of the proposed model. Section Six analyzes the model from multiple theoretical perspectives. The final section concludes with recommendations for current and future accounting education.

Current State of Global Accounting Education

Changing economic and business landscapes have engendered changes in different professions. Accounting is one profession that has been affected by these changes. However, technological changes are the main challenge to the accounting profession, as the more traditional roles of accountants are becoming automated (Pincus et al., 2017). As a result, the accounting profession must innovate in order to remain relevant. Consequently, the training of accountants (i.e., accounting education) will also need to develop innovative ways of training 21st-century accountants (Lawson et al., 2014).

It is a widely held view that we must narrow the gap between what we teach accounting students in our classrooms and what employers want graduate accountants to do in practice, that is, between the classroom and real-world business (Pan and Perera, 2012, Zeigler, 2015). To enhance their employability, these students need to be familiar with the interdisciplinary nature of the company. This can be achieved by integrating workplace skills development into accounting curricula (Herbert et al., 2021). In addition, it is essential to improve students' problem-solving abilities, communication skills, ethical understanding, and data analytics skills toward professional learning requirements (Zeigler, 2015). We discuss these issues below using past studies.

Employability of Students

To increase the employability of accounting students, they need to possess skills that their employers value the most—attributes that help graduates perform better in the accounting profession. These attributes include cooperation with colleagues, presenting, debating, defending, and having a cheerful outlook (Tan and Laswad, 2018). Thus, it is essential to employ 'work-integrated learning' (WIL) to prepare students for the accounting profession by enhancing their career self-management, professional competencies, discipline-related information, networking skills, and professional identity (Jackson and Meek, 2021). This direction might require maintaining industry visits, meeting industry

professionals or experts, and offering and supporting work placements and internships(Stanley and Xu, 2019). Moreover, business schools should promote experiential and simulation learning by exposing students to real-world cases, designing, implementing, and controlling business strategies to think strategically and solve complex problems, and integrating knowledge across business functions(Zeigler, 2015).

Huber et al. (2017), for example, suggested three learning activities for use in the preparatory financial accounting course: a) Interviewed financial statement users to determine how they employed financial statement information in different businesses; b) Writing an internal control paper where students were required to pick a company and analyze internal control procedures and shortcomings. This helps students perceive the significance of internal controls in the work environment, and c) A financial statement activity in which students analyze two competing companies in the same sector by providing a thorough financial analysis of each company. They then write a report and show recommendations regarding the best investment alternative. This strategy was perceived as effective in developing the AICPA's principal competencies and "real-world skills" recommended by professionals. This also allowed students to understand the ubiquity of accounting and the mechanism employed in most business situations(Huber et al., 2017).

Professional Certificates-based Learning

To broaden accounting students' aspirations for future employment, it is also crucial to expose them to professional learning and certifications(Stanley and Xu, 2019). However, this might require equipping accounting faculties with professional certification. To do this, universities may adjust their reward systems to serve their institutional mission best and need their faculties to obtain professional certifications(Bergner et al., 2020). This should be done with guidance from professional bodies responsible for promoting and supporting WIL in business schools' accounting departments(Stanley and Xu, 2019). According to Mistry, student membership in professional organizations benefits students by providing them with the accounting profession and platforms to acquire the necessary skills and knowledge and learn from professionals' knowledge and experience.

Due to the changing environment, accountants need to have the capacity to acquire new knowledge (Kavanagh and Drennan, 2008, Paisey and Paisey, 2010) According to Pan and Perera (2012:93), accounting graduates need "basic practical accounting knowledge, accounting software knowledge, and industry-specific knowledge and awareness.". Of equal importance is the knowledge of the preparation of financial statements, their analysis and interpretation, and their understanding of strategic decision-making. Stout et al. (2005) mentioned IT knowledge and the ability to gather data from diverse sources for decision-making as requisite knowledge for accounting graduates.

Focus on Interpersonal (Non-technical) Skills

Current employers require accounting graduates to possess various technical, personal, and people skills(Christensen et al., 2019). Hence, accounting programs should focus on enhancing students' technical accounting knowledge. Instead, they should pay attention to organizational skills and personal competencies (e.g., communication, leadership, people skills, collaboration, teamwork, motivation, self-awareness, self-management, and the capability to cope with change) (IFAC, 2003, Bui and Porter, 2010, IFAC, 2015, Coady et al., 2018, Dolce et al., 2020, Asonitou, 2022). Papageorgiou and Callaghan (2020) noted that it is generic, rather than specialized, skills that contribute to accounting students' performance and enhance learning outcomes(Opdecam and Everaert, 2019). Graduates and employers highly demand this non-technical attribute. Hence, these attributes should be well-developed in universities (Coady et al., 2018) as follows:

- Rather than lecture-based learning, team-based learning has improved students' engagement and understanding of course content, final grades, and performance(Swanson et al., 2019). In addition, Christensen et al. (2019)found that team-based or cooperative learning could better support students as future task leaders, socio-emotional leaders, and information providers.
- Students' learning of leadership is particularly needed for those who are about to graduate by integrating leadership topics (such as motivation, power, values, and organizational culture) and skills (such as self-

confidence and critical thinking) in undergraduate courses(Kelly, 2017). Stephens et al. (2012:18) noted that "the [accounting] profession must attract a core of individuals with a passion for becoming leaders who are honest, trustworthy, and of high personal integrity."

- Communication skills, such as reading, writing, listening, and speaking, are essential for accountants(Paisey and Paisey, 2010). In addition, accounting graduates should be able to find, get, and organize information, identify, solve unstructured problems in unfamiliar situations, and practice judgment drawing upon understanding an unfocused set of facts' (AECC, 1990).

Technology-based Learning

Technology has become essential to modern life(Köksal and Razi, 2015), configuring the practices of individuals, businesses, industries, and various organizations, including universities(Raghavan and Thomas, 2014). This includes video recording, electronic dissemination of lectures, visual elements of storytelling and metaphors, and e-learning. Accounting students should understand how technologies impact the environment where they will work within a few months or years. This supports the work readiness of accounting graduates(Kotb et al., 2019).

Thus, technological development should be effectively incorporated into accounting curricula so that students understand their effects on businesses(Kotb et al., 2019). This can facilitate the creation of an interactive and practical accounting classroom(Downen and Hyde, 2016), increase students' interest in the class (Shehata et al., 2020), and improve students' engagement and performance (Coovadia and Ackermann, 2021, Krasodomska and Godawska, 2021). Incorporating digital pedagogy into accounting curriculum design can enhance students' skills, such as innovative critical thinking and online navigation(Bunting et al., 2015), in today's modern and technology-based work environment. The employment of images and visual metaphors in accounting is increasing, with professional accounting bodies paying increasing attention to visualization. This can enhance students' skills in using iconography to present accounting or financial information(Osgerby et al., 2018).

Integration of Data Analytics

Employers usually need help finding accountants with the required data analytics skills(Agnew, 2016). Thus, it is widely suggested that data analytics should be embedded in accounting curricula (Richardson and Shan, 2019, Libby et al., 2022, Losi et al., 2022). Academic accounting programs should familiarize students with newly developed technologies and incorporate them into accounting courses to educate students on finding and using valid information(Vasarhelyi et al., 2015). For example, in auditing, with the aid of data analytics, data collection can be extended to the entire population of transactions rather than auditing only a sample of transactions(Krahel and Titera, 2015). In addition, sophisticated technologies can help auditors collect remote data and dynamic analytics. Thus, accounting graduates should be able to understand easily, adapt to, and use data analytics tools to support decision-makers in better answering accounting-related questions(Baccala and Ponagai, 2018). However, we should recognize that accountants in the new big data work environment require other professional judgments to evaluate anomalies reported by machines/technologies that help them in remote data extraction, transformation, and analyses(Richardson and Shan, 2019).

Ethics Embeddedness

Accounting students should be taught more than just the technical aspects of accounting courses. Instead, they should understand the moral implications of these techniques (Blanthorne, 2017, van der Kolk, 2019). This issue became crucial, especially after the public scandals that contributed to the collapse of large companies, where some accountants were found to be accomplices(Rezaee et al., 2012). In this regard, van der Kolk (2019)referred to the problem of separating ethical issues from management accounting's technical subjects, which can weaken and reduce the potential value of ethical considerations by turning them into afterthoughts.

This finding implies that accounting students should receive ethical training (Blanthorne et al., 2007, Blanthorne, 2017). Shaub (2017)highlighted the importance of engaging accounting students in an accounting ethics course that

should expose them to processes that would help them make ethical decisions. This course involves practices that impede reflexive decisions that reflect the fallacies of thinking. The course would enable students to recognize the shortcomings of pure calculation-based moral reasoning (Shaub, 2017). This course or method of learning should teach students how to resist ethical compromises in their careers.

Russell et al. (2020) indicate the importance of compassion for accountants. They affirmed that compassion is a soft skill that aids accountants in making ethical decisions. They also highlight the necessity of compassion in ethical leadership as "ethical leadership is positively related to subordinate compassion towards their peers—peer-directed organizational citizenship behaviors" (p. 7). Accounting educators play a significant role in instilling compassion in students. They can adopt different teaching strategies, including case studies and formal teaching (Weng et al., 2013).

Key Takeaways from Literature and Contributions of Our Model

The literature review indicates that accounting graduates' employability depends on matching their skills and the company's needs. Our proposed framework seeks to determine which companies value fresh accounting graduates' skills, and we surveyed employers regarding this issue. Professional learning and certification are essential for future employment. One of the requirements to maintain most of these certifications is lifelong training. In our empirical test, one of the focus groups, employers, highlighted lifelong learning as an essential skill for current and future accounting graduates. In addition, the literature indicates that people's skills are necessary for accounting graduates, who are expected to lead teams. Accordingly, our proposed framework focuses on the technical skills of accounting professionals and people. Another critical issue in the literature is ethics, an essential professional skill in our proposed model.

Further, the global studies on accounting education reviewed above indicate that the challenge for accounting education providers is to develop accounting curricula and professional training programs that require accountants to consider how they can add value to their workplace from different facets in the rapidly changing business environment.

In this article, we aim to address the gap in most of the works in the literature in a twofold manner: First, we empirically validate our proposed model. This study adds value to the debate about future accounting curricula as an empirical check of the developed framework. This reality check lets us ascertain which accounting curriculum fits the necessary accounting skills in today's changing business environments. Second, by paying more attention to recent developments in the accounting profession, that is, technology and data analytics, ethics, and SDGs, we seek to build a framework that aligns with current trends in technology and data-driven businesses and SDGs. Our framework channels these trends into the curriculum so accountants can drive companies' digitization.

Research Design and Method

Our research approach involved multiple phases: a) literature review, b) archival data analysis, c) international benchmarking, d) online surveys, e) focus group interviews and discussions, f) data analysis and report writing, and g) model validation.

One of the analyses made for this paper was to compare the key performance indicators of Saudi universities with those of the top international universities. Therefore, we took all Saudi universities and a global control group of some selected universities from different continents. Appendix 1 presents a list of the international universities considered in this survey.

Using initial feedback from participants and our review of past studies, we developed research instruments, such as survey questionnaires and focus group interview questions. To create a model accounting program that is compatible with the needs of accounting professionals locally and globally, we hosted focus group discussions including representatives from 13 accounting and auditing firms, including BIG Four, and government officials represented by the Ministry of Finance, the Ministry of Education, the Ministry of HR, the Ministry of Investment, and the Ministry of Commerce in Saudi Arabia. In addition, we sought feedback on the proposed model curricula from 13 local and

international experts (8 academics and five professionals). Feedback on our proposed model from our participants is discussed later in this paper.

Findings

To meet the growing demand for current and next-generation accountants by businesses and society, higher education providers, including universities worldwide, have introduced accounting education programs at various levels, ranging from diploma/undergraduate to postgraduate. Accounting curricula provide students with essential knowledge, skills, and attitudes (IFAC, 2019a). According to IFAC (2019a:11), general (accounting) education helps prepare an individual for entry into a professional accounting education program and supports lifelong learning and development. In its 2019 report, IFAC noted that general education helps professionals and aspiring accountants integrate technical competence, professional skills, values, ethics, and attitudes developed through professional accounting education. Examples of general education topics include but are not limited to (a) understanding ideas and events in history, (b) knowledge of diverse cultures, and (c) awareness of economic, political, and social forces in the world (IFAC, 2019a:11).

We propose a competency framework for accounting education programs based on the current state of local and global education programs, IFAC's 2019 competency framework, and IAESB 2015 standards (see Figure 1).

The AACSB is an international accreditation body that ensures stakeholders that a program's curriculum meets the industry standard. Our proposed model is developed by mapping its curriculum and courses' learning outcomes to the AACSB's five learning goals (LG 1: Core Knowledge and Global Perspectives; LG 2: Critical Thinking Skills; LG 3: Ethical and Social Responsibility; LG 4: Thought Leadership; and LG 5: Communication Skills).

Structure of the Model

Depending on the semester system, to obtain a bachelor's degree in accounting, students are required to complete the following credit hours across four years:

	Semester System	Trimester System
Accounting program requirements	52– 75 Credits (40-50% of total credits)	72 – 95 Credits (40-50% of full credits)
TOTAL CREDIT HOURS	130 - 150 Credits	180 - 190 Credits

Each course/subject received three credit points. Depending on the length of the program (three to four years), it can be designed and delivered at four levels: 1. Enabling, 2. Foundation, 3. Intermediate, and 4. Advanced (see Figure 1).

The enabling program is a non-credit compulsory online short course covering a) local culture, customs, and values and b) academic integrity. These two non-credit courses will help students understand competency areas in their local contexts by establishing academic integrity policies.

Local Culture, Traditions, and Values

We propose a short, non-credit point compulsory online course that introduces students to the history, local culture, and customs. Upon completing this module, students should demonstrate their knowledge, skills, and competencies in understanding the importance of local culture and traditions in personal development for their careers. Depending

on the needs of a local country, topics may include Indigenous history, culture, and Islamic economics (for Muslim nations).

Academic Integrity

As expected, this online module focuses on issues related to academic integrity standards and is set by the university. Upon completing this module, students gather knowledge of academic misconduct such as cheating, plagiarism, and collusion.

The foundation-, intermediate-, and advanced-level programs cover courses with credit points covering accounting and non-accounting competency areas in line with IESs 3 and 4 and the IFAC framework. Intermediate-level core courses integrate technical competencies and professional skills into a curriculum. Advanced-level courses focus on advanced skills, knowledge, and understanding of accounting issues using real-life cases in organizations.

Students can also take optional courses in contemporary areas such as big data and artificial intelligence, forensic accounting and cyber security, digital auditing, value-added tax, international taxation, and advanced cases in tax.

The program structure (Table 1) covers the non-accounting and accounting competency areas. At the foundation level, non-accounting competency areas, such as sustainability and CSR, management fundamentals, entrepreneurship, data analytics, and digital marketing, are covered (see Figure 1), and IFAC/IESs competency areas are covered at the foundation, intermediate, and advanced levels (see Table 1). Appendix 1 briefly overviews the proposed courses/subjects offered at various levels with the intended learning outcomes.

Model Validation

We conducted several focus group discussions, as shown in Table 2. The discussions focused on issues such as what academic and professional courses/certifications they recommend to accounting graduates, how these courses/certifications can enhance the employability of graduates, their suggestions regarding the incorporation of subjects and competencies in accounting curricula, their views on the central accounting topics that should be incorporated in accounting curricula, and how they can help universities to make learning more effective and develop market-driven curricula.

All group members remarked that today's employers look for students or employees ready for work. When asked what the main accounting topics should be incorporated into accounting curricula, we learned several insights from a diverse group of forum members. We briefly outline this in turn.

"The topics all spin around data from top search terms, what employers are looking for in graduates, and the global learning platforms. When you look at question one that you asked, there were a couple of challenges. One is that 25% of students in primary school today, when they graduate, will be looking for jobs that we do not even know exist today. Therefore, we will try to look around the corners when planning for the future. Therefore, we must prepare learners for an agile framework and infrastructure structure. The answer is that everything around the data is at the core. We look at the CPA exam, which is expected to change in the US in 2023. The biggest shift is the requirement to have a thorough understanding of data so that if you practice with the biggest markets in the world, you can learn how to read and apply data. Therefore, I assume that encrypted currencies and sustainability are one core component. Thus, three key areas associate research from a global perspective and integrate them into the syllabus or curricula. You can have it as core content with a new syllabus or as a standalone framework, which is interchangeable depending on the level of intuition, grade, class, or whatever you want to try. This flexibility is the key to success." [An Executive from AICPA]

"I think of a few things that could be incorporated is the use of digital technologies because you know professional accountants start using sophisticated and smart technologies and will see a lot of different ways of working coming on, so the inclusion of these digital technologies the most relevant one's things like

machine learning, artificial intelligence, data analytics would be a big plus. There is also a piece of globalization and its relevant effect on regulation. These could be considered part of your consideration because globalization, outsourcing, services, etc., will be significant in the future. It is something that is on special regulations, associated disclosures, etc. These are the things that I would suggest being incorporated into the potential accounting curricula." [An Executive from ACCA]

"Sustainability will be a key sustainable development goal, reporting around sustainability standards and assurance around sustainability reporting. There is also the broader topic of assurance. There is a significant discussion in the UK on how the area of assurance expands beyond traditional assurance to serve a wider group of stakeholders. So, these are two key areas." [An Executive from ICAEW]

We also asked the participants this question: Artificial intelligence, blockchain, and data analytics are essential in today's business environment. However, accounting students sometimes raise concerns regarding the difficulty of these technologies, mainly because most need a programming background. How can this issue be resolved?

The AICPA Executive Interviewed remarked:

As guardians of learners, students, and children, we assume responsibility for this. For example, statistics show that there are 6.3 million graduates of computer science who are unemployed and 6 million vacancies for computer science graduates in the US. There are two reasons for this disconnect: we want people who do not just know the history of computer science, and we need people who can code. Professional qualification bodies can provide solutions since practical competency is a critical piece. Regarding data, two things were different, for example, trying to develop candidates as data scientists. This is an entirely different type of data. Therefore, we must ensure that the data courses we teach and get our students to learn and study are data relevant to the finance and accounting business, which is quite different.

Another significant point that has yet to be expressed is the need for universities to teach people skills. Employers are looking for graduates with academic intellect, professional competency to perform tasks, and the cultural fit of somebody we want to employ. Thus, those people's skills are just as critical as the technical and academic skills universities should teach as part of well-rounded learners.

The ICAEW Executive added:

The data skill level depends on the individual's role in a company. When I see ICAEW preparing chartered accountants, we say we are not teaching you to be technology experts; we teach you how different technologies are relevant in business practice and introduce you to understand what risks are so you can have conversations with technology experts.

Several others shared this sentiment and called for more IT-based foundational courses for accounting students to prepare better for their IT-based accounting learning. Participants proposed incorporating IT-based introductory courses, such as digital accounting, digital auditing, and big data (business) analytics. Students should also be taught spread-sheet-based financial accounting, CVP, budgeting, and performance/cost variance modules to gain firsthand experience in dealing with practical issues when computing and analyzing accounting data for decision-making. We must recognize that digital abilities are essential to all business operations. The impact of digitization, robotics, and AI on accounting requires appropriate training for future accounting students. A Partner at Deloitte, Saudi Arabia, raised concerns about the resource constraints in implementing the framework. He said:

"The overall program seems great and aligned with the current market needs. However, applying them efficiently remains challenging, considering the need for more resources. The quality of an academic program depends on sufficient resources, including qualified faculty members and appropriate textbooks and study materials. A resource deficiency will negatively affect the students' performances and program outcomes."

Fourteen former accounting graduates participated in focus group discussions. Several participants raised concerns that some universities need to catch up with the rapid developments in the accounting profession and technological advancements, which, in turn, affect the quality of their graduates. One participant said:

"I completely agree that the programs should be market-driven. However, the market is changing rapidly, so education must follow the changes and development in rules and regulations that take time. For example, we studied GAAP at the university level. However, these companies used IFRS. Therefore, education fails to follow the changes in the market."

They believe universities should pay more attention to technology and skills to prepare their students for the job market. For example, another participant said, *"Students should be equipped with knowledge in accounting applications such as oracles ERP, as after graduation, I have faced difficulties comprehending these applications."*

Representatives from the Saudi Ministry of Finance, Education, HR, Investment, and Commerce believe that the current government/public sector accounting curricula, such as IPSAS, must be revised for the skills ministries requiring accounting graduates. To fill this gap, churches provide in-house training to new graduates on government/public sector accounting and financial management issues. The Ministry of Finance reported training 150 graduates in 2021 to prepare them for work in the governmental sector. Most participants in the focus group meetings viewed that the current accounting curricula should be regularly updated to improve the quality of the present accounting programs by depending on accurately translated materials that provide a clear view of the underlying concepts. They further recommend that all universities incorporate new technologies in accounting education, such as the advanced levels of Excel, Power BI, ERP, SAP, Atrex, blockchain, cyber security, and other apps that help business and accounting firms in computational operations. Students need to understand how these apps can help companies comprehensively manage resources, how analytics software is developed through machine learning and artificial intelligence, how cloud computing helps in this respect, and the transformation of the audit process to digital auditing.

We also sought feedback from Saudi employers regarding the contents of the current accounting curricula. We asked respondents to determine their perceptions of the contents of today's accounting curricula based on their experience with fresh graduates. As shown in Figure 2, the most significant percentage of employers (21%) highlighted the importance of financial statement analysis. Big data and artificial intelligence (AI) followed this, where 19% of employers stressed its importance. The lowest number of employers showed concerns about sustainability and public sector accounting (11 and 12%, respectively). Interestingly, this finding reveals that many employers pay significant attention to including data technologies in accounting curricula. As indicated above, 19% of employers referred to big data and AI, 17% referred to data-based decision-making, and 16% referred to cyber security and blockchain, with 52% of the employers.

Today's employers are looking for students or employees ready to work. Integrating professional designations and certifications is especially important in the local and global labor markets. Professional qualifications can add more to teach graduates how to use that body of knowledge in the workplace effectively. This is really about skills. Professional bodies are updating the curriculum and bringing the most relevant topics and essential technical skills into the curriculum: *"Now, universities need to teach people skills. Employers are looking for graduates with academic intellect plus professional competency to do the task...."* [The Global Head Academic Channel in AICPA]

To what extent can professional certification enhance graduates' employability? Most practitioners believe a professional certification/degree will develop graduates' critical thinking, and professional qualifications can help graduates apply for that skill. In addition, it offers graduates an opportunity to gain detailed insight into what they can expect in the future. It gives them a good teaser in selecting where they want to go and how they want to develop their future skills. Therefore, it is more valuable in the workplace. Regarding which professional certifications are preferable for students, IMA's Academic & Community Relations Manager in the Middle East and Africa commented:

"We value all certifications. However, much of the information that students are learning resonates with certifications. There are several similarities. So, the students need to have that choice and see what they want to do and whether certification A or B is a good choice for them...."

Professional certifications will boost graduates' CVs, help them obtain a designation, and increase their likelihood of earning potential and career progression. Therefore, more graduates should pursue professional designations and postgraduate certification. The Principal for Strategic Initiatives in the IFAC stated, "Graduates who obtain a designation have a higher degree of likelihood of earning potential as well as career progression."

Aligning Professional Qualifications Alongside Academic Qualifications

Aligning professional and academic qualifications can provide opportunities for future professionals. These professional qualifications should be aligned not only with global but also with the local visions of the market, that is, capabilities shaping the future ideas of the local market. Identifying what qualifications and certifications universities should be a dynamic response to business, technology, and regulatory changes. This may come from staff that is globally recognized and from local qualifications as well because many of these changes will be local. These qualifications should include technical knowledge, a solid ethical foundation for professionals, and professional skepticism. In addition, these qualifications would give next-generation graduates a solid base of professional skills, such as teamwork, problem-solving, technology skills, and data analytics, where they can tell the story behind the data. Hence, alongside technical skills, professional skills are critical to helping secure better careers for professionals. The skills obtained through these qualifications can be further developed and enhanced through assessments in the updated curricula.

This can also be enhanced by offering some academic courses as electives or as opportunities to put professionals on track, such as sustainability reporting, technology, digital audit, and coding, that is, looking at more sophisticated financial sector reporting and audit issues. For instance, sustainability is essential to sustainable development goals, reporting sustainability standards, and ensuring sustainability. There is a significant discussion in the UK on how the area of confidence expands beyond traditional security to serve a wider group of stakeholders. Including digital technologies such as machine learning, artificial intelligence, and data analytics in the curricula would be a significant addition because professional accountants have started using sophisticated and intelligent technologies. For instance, in ICAEW exams, students currently use data analytics software that many accounting firms use to analyze data within the exams, learning, developing, and demonstrating those skills. ICAEW also has a data analytics certificate that teaches students how to code in Python.

Data, encrypted currencies, and sustainability are the key areas that should be integrated into the syllabus or curricula of future accounting programs. Accounting departments can have them as core content with a new syllabus or as standalone frameworks, which are interchangeable depending on the level of intuition, grade, class, or whatever they want to try. This flexibility is the key to success.

Regarding the essential certifications employers recommend in the Saudi market, as shown in Figure 3, most employers recommend that primary accounting students take SOCPA certifications. In particular, almost 60% of employers highlighted the importance of SOCPA certification, while less than 10% recommend all other international accounting certificates. This finding highlights the critical value of local or regional education and credentials for Saudi employers compared to international certifications. This, in turn, reflects the peculiarity of the Saudi institutional market, which significantly affects the educational and professional requirements of potential accounting graduates.

Discussion

This paper aims to develop an integrated program for accounting graduates that suits the contemporary world of difficulties, upsets, hopes, and unwanted crises, such as the COVID-19 pandemic. Our proposed model is interdisciplinary in focus, covering multidimensional technical and non-technical competencies, skills, knowledge, and the ethical and moral values required for current and next-generation accountants.

From a rational choice perspective, organizational managers need accounting information to make sensible decisions to maximize the organization's goals (Demski and Feltham, 1976, Ansari and Euske, 1987, March, 1987). Accounting is viewed as a business language. Internal managers use managerial accounting information for decision-making. In

addition, financial accounting produces information related to financial matters for external stakeholders, such as investors, creditors, regulators, and the community. Our proposed curricula cover courses at all levels of their study where students should be able to understand and apply accounting as a calculative tool where various stakeholders can find the relevant information they need. However, foundation-level financial and managerial accounting courses should also cover all the strengths and weaknesses of viewing accounting as a number-crunching tool.

The accounting research literature is exceptionally rich in enhancing knowledge of how superior managers use accounting information to express their leadership styles, how subordinates react to budget-related pressure, and how managers use budgets in response to prevail environmental circumstances. Other human factors include personality and attitudinal variables, the influence of personality factors on participative budgeting, dysfunctional aspects, and the phenomena of budgeting and organizational slack. We should incorporate these factors into our budgeting and performance evaluation teaching materials in managerial accounting courses. Our proposed model covers these critical behavioral issues in foundation- and advanced-level courses. In addition, the human relations approach suggests that personal relations among organizational members are essential to productivity (Roethlisberger and Dickson, 1939, Mayo, 1945).

Accounting is context-centric. As discussed, advanced information technologies such as AI, BI, and big data analytics have emerged. Blockchain technologies, Bitcoin, and SDGs. It will continue to shape how businesses run and the accounting role therein. Therefore, higher education providers need to embed these issues into the accounting curriculum at various stages of the program structure. The foundation-level design should have a standalone course on each topic, followed by modules on accounting's role in intermediate- or advanced-level systems such as managerial accounting, management control, decision-making, and digital auditing. Further, risk assessment, analysis, and management should also be embedded into advanced-level courses to prepare students to assess and manage unpredictable crises such as the COVID-19 pandemic. After completing these courses, students should understand how organizations can develop and use accounting technology in decision-making.

Scholars also view accounting from a political-economy perspective. The central thrust of this approach is to understand the close interdependence between the economy, polity, and society. It attempts to understand a particular phenomenon from its socio-political context at a time and place (Commons, 1934, Soltow, 1963). It considers a society's institutional legitimacy in explaining an organization's accounting and management processes. "Institutions" are patterns that define what is felt to be proper, legitimate, or expected modes of action in a given society (Parson, 1971). Ostrom (1986:5) has defined "institutions" as "prescriptions commonly known and used by a set of participants to order repetitive, interdependent relationships." "Prescriptions" refer to which actions are required, prohibited, or permitted (Ostrom, 1986:5). Institutional aspects cover various social and economic institutions: the state, markets, legal systems, religion, law and order, political processes, governmental administration, labor unions, and cultural rules and customs. These regulate or dictate organizational activities and human behavior. Advanced-level accounting courses should cover this aspect of accounting to enhance students' knowledge of how accounting can be designed and used to address socio-political and institutional issues within an organization.

Individuals' ethics and morals influence how they behave and act in their organizations' daily activities. In a recent paper, Mai and Hoque (2023) discussed how individuals' ethical and moral values might shape accounting and accountability practices in organizations. Citing Schweiker, they remark that ethics are sets of patterned, predictable, and rigid rules. Different groups of ethical rules apply to people from various positions. Ethics can be established after formal law or informal cultural and social norms.

On the other hand, moral actions are local and situational and are 'planted' by an individual to 'grow' organically (Blatz, 1972, Bauman, 1993, de Kok, 2019). Actions of moral accountability do not conform to preconceived rules but manifest simultaneously in specific situations for the good of oneself and others (Schweiker, 1993). Ethical accountability is the responsibility one holds for others based on social and cultural norms and standards. The actions of ethical accountability are clear, well-defined, and mutually accepted. Moral and ethical modes of accountability at the personal level are part of all types of formal accountability (Mai and Hoque, 2023).

Another type of ethics is professional, which refers to the responsibility of individuals to adhere to professional standards or codes of conduct specific to a group, such as experienced accountants (Mai and Hoque, 2023). Members of this professional group are accountable for behaving in a manner consistent with the formal or informal norms established by the group, such as the AICPA, IMA, and CIMA (UK).

Next-generation accountants should be aware of these notions of human behavior and their influence on accounting functions when producing information for managers and preparing accounting reports for external stakeholders. To withstand the global crisis of trust, universities should incorporate ethics into their curricula in two ways: by embedding it across all their modules and by having separate ethics learning programs.

Our proposed model curriculum has four distinct features. First, it has been developed by mapping course learning objectives and outcomes with the professional qualification frameworks of local and global professional accounting bodies such as Australian CPA, American CPA, Institute of Chartered Management Accountants (CIMA) – UK, IFAC, IESs, and Saudi Arabian CPA and AACSB. This global focus enhances students' marketability and provides a seamless transition toward obtaining professional certification from accounting bodies. Second, it integrates and emphasizes the essential critical and logical thinking skills to enhance students' cognitive abilities. Third, it ensures that teaching and research are responsive to local and global market demands, relevant, and competitive in the context of the UN SDGs 2030.

Finally, the model curricula will pave the way for students to embrace a local vision that promotes the localization of the accounting profession through active engagement with local accounting bodies. Commenting on our model, A Head of the Accounting Department of a USA University wrote: *'The proposed market-driven model of the accounting curriculum is of very high quality, aligned with SAQF (Saudi Accounting Qualifications Framework), AACSB, SOCPA curriculum, CPA Evolution Model and other organizations' recommendations.'* Echoing this comment, an Executive of the Quality and Development Division of IFAC remarked: *Excellent curriculum aligned with 2019 IESs. From what I see, I want to comment that the SOCPA curriculum mapping is an excellent idea I am sure students will find extremely helpful. Also, this will encourage them to join SOCPA since it is clear what is expected from them.'*

All focus group discussion participants believed that aligning professional and academic qualifications can provide opportunities for future professionals. These professional qualifications should be aligned not only with global but also with the local visions of the market, that is, capabilities shaping the future ideas of the local market. Identifying what qualifications and certifications universities should be a dynamic response to business, technology, and regulatory changes. This may come from qualifications that may be globally recognized and from local qualifications because many of these changes will be local. These qualifications should include technical knowledge, a solid ethical foundation for professionals, and professional skepticism. These qualifications would give graduate students a solid base of professional skills, such as teamwork, problem-solving, technology skills, and data analytics, where they can tell the story behind the data. Hence, alongside technical skills, professional skills are critical to helping secure better careers for professionals. The skills obtained through these qualifications and professional certificates can be further developed and enhanced through assessments of the updated curricula.

During focus group discussions, the participants highlighted many points that universities and policymakers should consider when increasing the employability of accounting graduates. According to employers, integrating new technologies and accounting topics into accounting curricula has become increasingly important in today's and future business environments. Also, accounting students must acquire new skills to get jobs in the new digital economy. In addition, employers highlighted the importance of professional certifications, especially local certifications, and lifelong learning in enhancing next-generation accounting graduates' professional skills and boosting their marketability. Many employers support the government's localization efforts through their vision. Qualifying graduates with interdisciplinary skills, digital knowledge, and understanding should be a top priority for current and next-generation accounts.

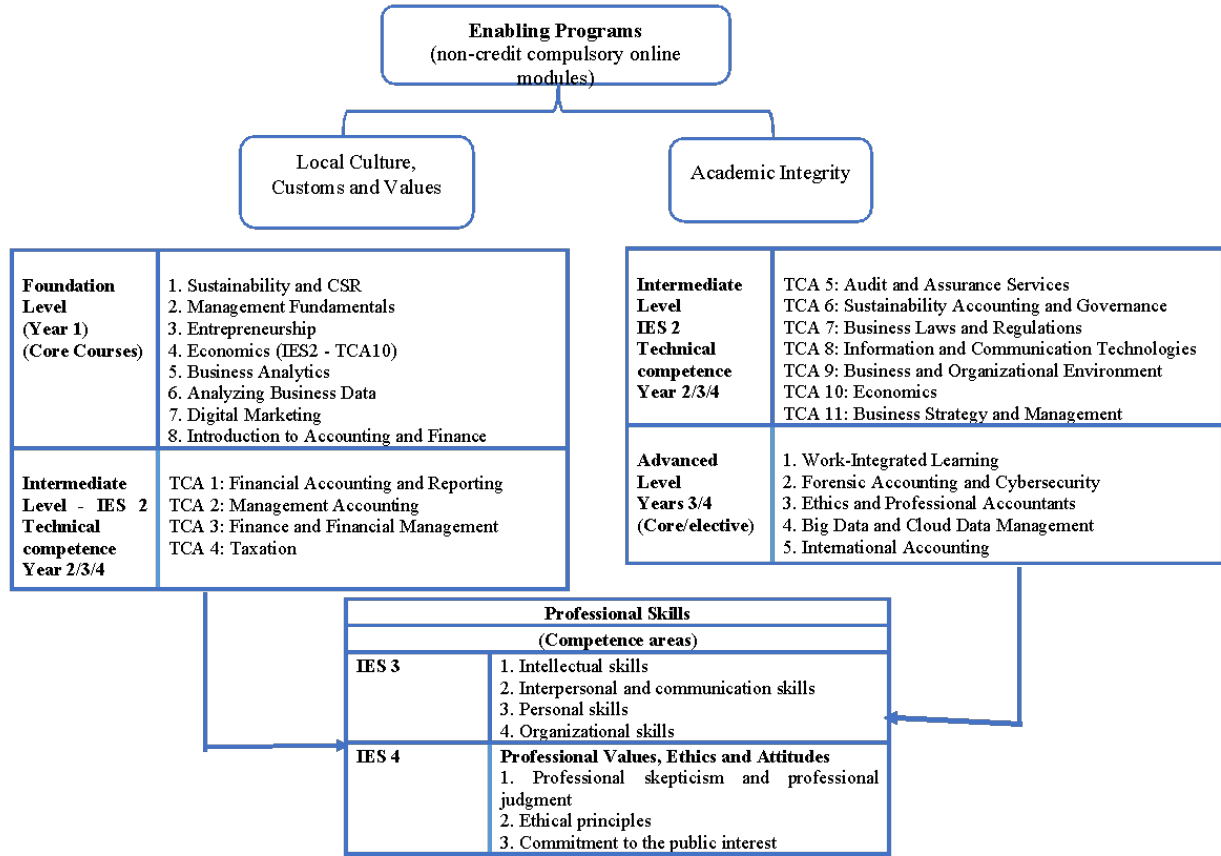
Conclusions

In developing the accounting curricula model, the current study examines the impact of local cultural, socio-political, and economic contexts on the professionalization of accountancy education. In addition to the global accounting education context, as documented in past studies and reports, we used the state of Saudi Arabian accounting education and culture, among others, as an example.

The proposed undergraduate accounting education framework presented in this paper can be adapted by universities worldwide to identify the courses/subjects that cover the desired competency areas. This should align with their micro goals (national economic development frameworks) and macro strategic goals (UN SDGs) and develop their programs further to produce graduates with quality and life-long learning experiences. Furthermore, with relevant and evidence-based learning modes and authentic assessments, students will develop multidisciplinary personal and people skills, discipline-specific knowledge and understanding, and personal ethical and moral values to enter the job market or build their careers further through professional programs offered by various local and global accounting professional bodies.

In conclusion, while a country (developed or developing) cannot operate in isolation from the global economic system, it could also become a disaster for a country to place any global socioeconomic and political system over its own local socioeconomic and political requirements, growth, and development. This is the real meaning of the localization of accountancy that professional accounting bodies should embark on. Accountants produced by any university in any country and, indeed, by the professional body, local professional bodies must be relevant to the local market. The same Western world popularly says that when you are in Rome, you should do as Romans do.

Figure 1
A market-driven Framework for Accounting Education Programs



TCA: Technical Competency Areas
 IES: International Education Standards

Figure 2
Saudi Arabian Employers' Perceptions of the Contents of Current Accounting Curricula

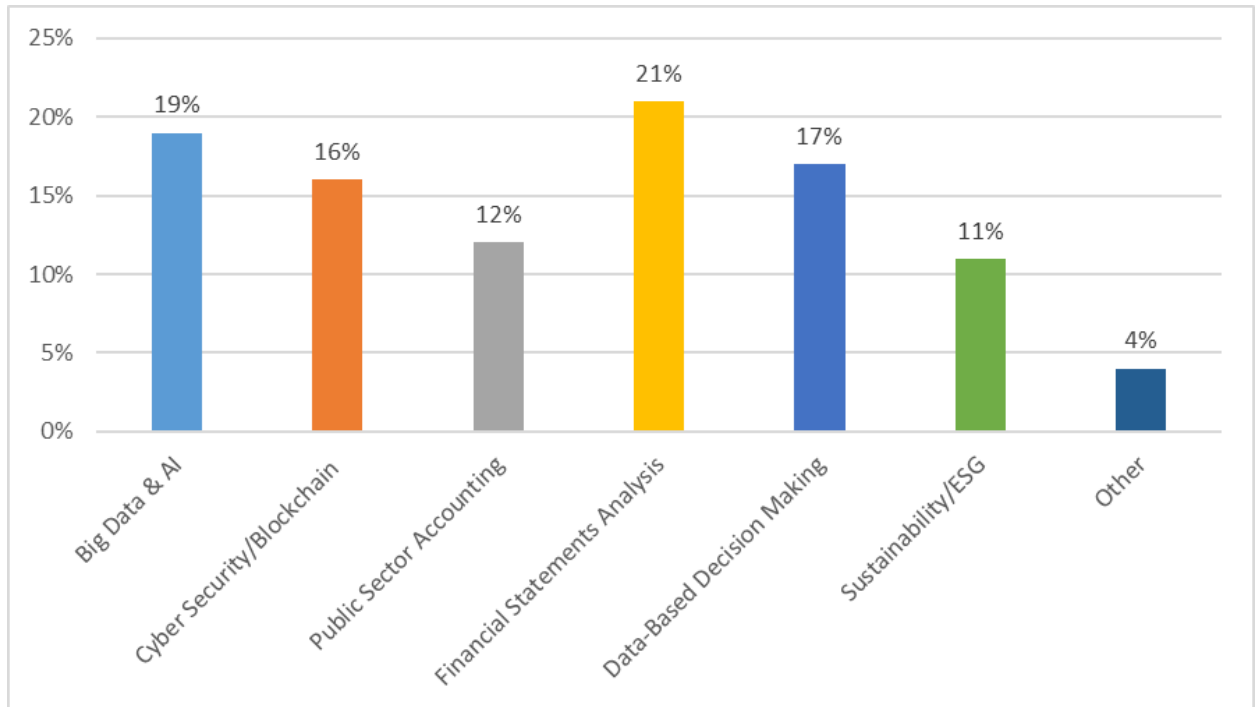


Figure 3
Recommended Professional Certifications to Accounting Major Students by Saudi Employers

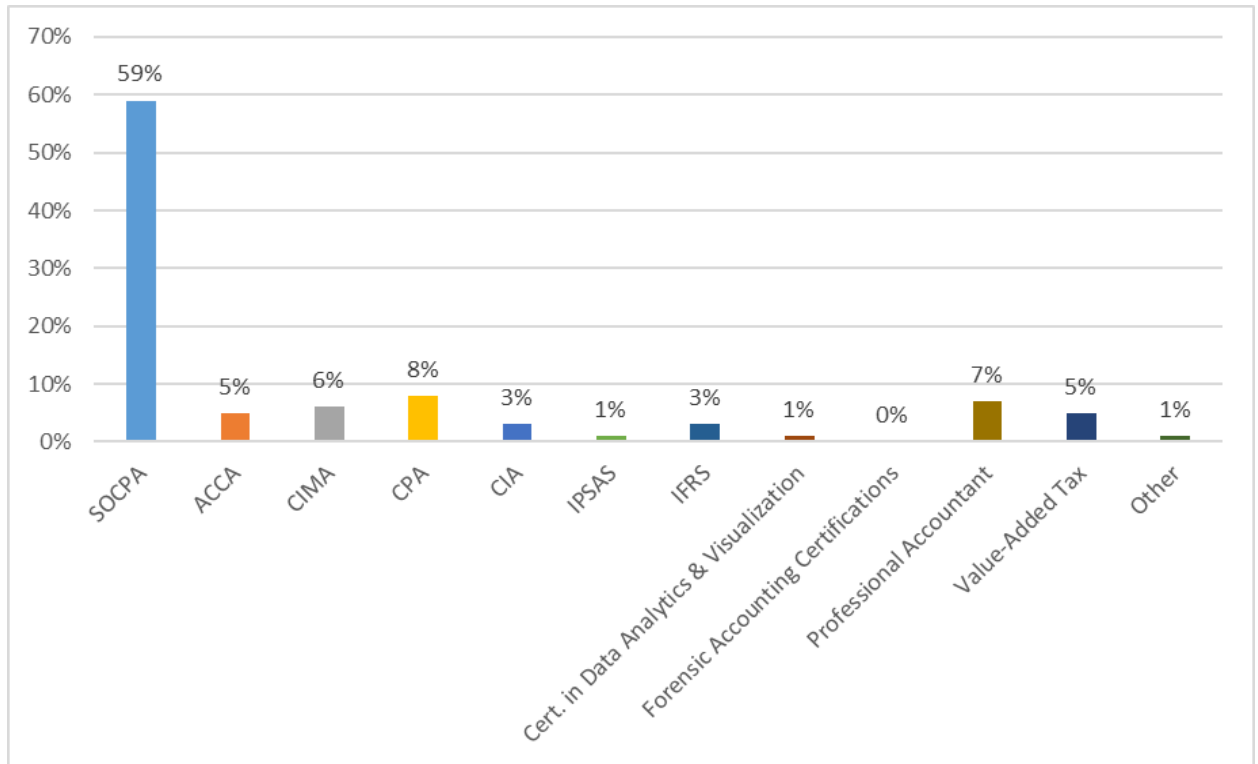


TABLE 1
Program Structure (aligned with IFAC/IES TCAs and PCAs Framework)

IFAC/IES FRAMEWORK	MAPPING ACCOUNTING COURSES
TECHNICAL COMPETENCY AREAS (TCAs)	
TCA1: Financial Accounting and Reporting	Foundation in Financial Accounting (Foundation level) Financial Reporting I Financial Reporting II Advanced Financial Reporting Government and Nonprofit Accounting
TCA2: Management Accounting	Foundation in Managerial Accounting (Foundation-level) Strategic Cost Analysis Managerial Control and Decision Making
TCA3: Finance and Financial Management	Finance and Financial Management Financial Statement Analysis
TCA4: Taxation	Tax Accounting Value Added Tax Advanced Cases in Tax International Taxation
TCA5: Audit and Assurance	Auditing and Assurance Services Principles of Internal Auditing Digital Auditing
TCA6: Governance, Risk Management and Internal Control	Ethics and Professional Accountants Principles of Internal Auditing Sustainability Accounting and Governance
TCA7: Business Laws and Regulations	Business Regulations Corporations Law
TCA8: Information and Communication Technology	Introduction to Digital Accounting Big Data and Artificial Intelligence
TCA9: Business and Organizational Environment	Business environment and organizational behavior International Business
TCA10: Economics	Economics
TCA11: Business Strategy and Environment	Strategic Management Managerial Control and Decision Making
PROFESSIONAL COMPETENCY AREAS (PCAs)	
PCA01: Intellectual Skills (Critical thinking and problem-solving)	Advanced-level courses and higher-level competencies
PCA02: Interpersonal and Communication Skills (Teamwork)	Internship in Accounting All advanced-level courses
PCA03: Personal Skills (Attitudes and Behavior)	Ethics and Professional Accountants Internship in Accounting
PCA04: Organizational (Time management, people management and leadership)	Work Integrated Learning (Internship in Accounting)
PCA05: Ethical principles, professional values and Integrity)	Business Ethics Ethics and Professional Accountants

TABLE 2
Profile of Focus Group Participants and Topics

Event date	Participants and numbers	Key areas for discussion
April 5, 2021	All heads of the Saudi universities' accounting departments were invited to attend a virtual event.	<ul style="list-style-type: none"> ▪ The preliminary draft framework ▪ Developing the research instruments
August 19, 2021	13 accounting and auditing firms, including BIG Four in KSA	<ul style="list-style-type: none"> ▪ Developing an accounting curriculum, ▪ New skills and competencies required in today's competitive business environment
August 19, 2021	Nine professional members representing five international professional bodies (IFAC, ICAEW, ACCA, IMA, and AICPA)	<ul style="list-style-type: none"> ▪ Professional certifications for accounting graduates, ▪ How professional certifications can enhance the employability of graduates, ▪ Incorporation of professional certification and competencies in the accounting curricula, ▪ Accounting topics that should be incorporated into the accounting curricula ▪ Developing partnerships with universities to make learning more effective and developing market-driven curricula
September 30, 2021	Nine officials representing six governmental authorities and organizations (the Ministry of Finance, the Ministry of Education, the Ministry of H.R., the Ministry of Investment, the Ministry of Commerce, and the National Center for Academic Accreditation and Evaluation-NCAAA)	<ul style="list-style-type: none"> ▪ The situation of females in the accounting profession, localizing the accounting profession in the context of Saudi Vision 2030, ▪ Incorporation of professional certifications in accounting education, ▪ Employability issues of fresh accounting graduates, identifying the various skills required by entry-level employees, ▪ Redevelopment of the accounting curriculum and their roles therein
October 20, 2021	14 accounting alums from 9 Saudi universities	<ul style="list-style-type: none"> ▪ Determine accounting topics that should be incorporated into the accounting curriculum and interpersonal and technological skills that accountants should possess.

Appendix 1 International Universities considered in the study for benchmarking

International	
Harvard University	USA
Stanford University	USA
University of Pennsylvania ^a	USA
Massachusetts Institute of Technology	USA
University of California, Berkeley	USA
Yale University	USA
University of Chicago	USA
New York University ^a	USA
The University of Washington, Seattle ^a	USA
The University of Illinois at Urbana-Champaign ^a	USA
The University of Denver ^a	USA
University of Toronto ^a	Canada
University of British Columbia ^a	Canada
London School of Economics & Political Science ^a	UK
Oxford University	UK
University of Edinburgh ^a	UK
King's College London ^a	UK
Erasmus University	Netherlands
United Arab Emirates University ^a	UAE
American University of Sharjah ^a	UAE
American University of Beirut ^a	Lebanon
American University in Cairo ^a	Egypt
Tsinghua University ^a	China
Peking University ^b	China
National University of Singapore ^b	Singapore

The University of Tokyo ^b	Japan
The University of Hong Kong ^a	Hong Kong
University of Melbourne ^a	Australia
University of Sydney ^a	Australia
University of Auckland ^a	New Zealand

^aThe university has an undergraduate accounting program.

^bNot available.

Appendix 2

Description of Accounting Course Competencies

Foundation in Financial Accounting

This introductory course is designed to provide students with a broad knowledge of financial accounting concepts. It introduces basic accounting concepts, the operation of the accounting system, and the interpretation of financial statements in business firms. Topics include the need for accounting information, concepts underlying the preparation of financial statements in business firms, the accounting cycle, and other measurement and disclosure issues.

Foundation in Managerial Accounting

This course is an introduction to managerial accounting and cost concepts. In addition to studying the accounting cycle of manufacturers, it emphasizes recording business transactions relating to the manufacture of inventory and preparing financial statements. Emphasis is also placed on analyzing cost behavior, budgeting concepts, standard cost systems, variance analysis, and using accounting information to make decisions.

Introduction to Digital Accounting

Digital accounting refers to creating, representing, and transferring financial information electronically. It shows how accounting transactions and bookkeeping can be conducted in an electronic environment. Thus, this course introduces the use of accounting software for analyzing financial and managerial accounting transactions. It helps students better manage an entity's financial processes.

Financial Reporting I

This course aims to provide students with a thorough understanding of the conceptual framework of financial reporting in the light of the IFRS framework. The student will be well-versed in the basic concepts underlying the preparation and reporting of financial statements, along with the reporting of impairment of Assets, including current assets, non-current assets, intangible assets, and the treatment of leasing. In this course, the necessity of proper disclosure is emphasized. The students will be able to prepare financial statements, including cash flow statements in line with the IFRS framework. This course will make them market-ready, as KSA has adopted IFRS for financial reporting.

Financial Reporting II

This course is a sequel to Financial Reporting I. In this course, students will receive an in-depth understanding of the concepts of IFRS, including provisions, contingent liability, financial instruments, revenue recognition, accounting for employee benefits, taxation, foreign exchange rate fluctuations, etc. This course will support students seeking higher positions in any organization in the Kingdom with expertise in IFRS.

Strategic Cost Analysis

This course focuses on accounting for a firm's costs and other financial variables. This is a highly technical course on costing. It revolves around costs, cost measurement, cost allocation, cost management, cost analysis, and other cost-related topics. This course aims to train and prepare students for a career in accountancy. Its primary objective is to teach and prepare effective cost accountants in the community and region. More specific cost management topics help students develop useful skills and techniques and gain an appreciation for accounting in general.

Advanced Financial Reporting

This course aims to introduce various advanced issues such as business combinations that corporations might be interested in participating in to create synergy and competitive advantages. It exposes students to the application of relevant international financial reporting standards in preparing the consolidated financial statements for a group of companies. This course strengthens students' understanding of the companies' financial performance to provide meaningful interpretation and analysis to account users. It also emphasizes students' role as accountants and the importance of becoming highly ethical and maintaining professionalism when performing their duties.

Tax Accounting

This course introduces the relevant laws governing income taxation in KSA. It includes training on how to prepare Tax returns. In addition, this course introduces practical knowledge of the Value Added Tax (VAT) legislation to understand the principles of VAT and the application of its framework as being applied in KSA. This course also introduces the application and calculation of other types of taxes, such as withholding taxes, excise tax, and real estate transaction tax, as applied in KSA. Moreover, it provides the core knowledge of the underlying principles and major technical areas of taxation affecting individuals' and businesses' activities. It should also explain the basis of tax liabilities' calculations, the application of tax planning techniques for individuals and companies, and the identification of the compliance issues for each major tax through various business and personal scenarios and situations.

Principles of Internal Auditing

This course aims to introduce students to the internal audit profession and the internal audit process. Topics that will be included in this course are the definition of internal auditing, The IIA's International Professional Practices Framework (IPPF), risk, governance and control issues, conducting internal audit engagements, and more.

Auditing and Assurance Services

This course introduces the International Standards on Auditing (ISAs) on a standard-by-standard basis, covering the principles, applications, and how to use ISAs in practice. The course covers ISA 200 – ISA 700.

Governmental and Nonprofit Accounting

This course offers a broad introduction to financial reporting for public sector entities. IPSAS standards were developed to improve the quality of general-purpose financial reporting by public sector entities, leading to better-informed assessments of government resource allocation decisions, thereby increasing transparency and accountability. This course will equip students with relevant understanding and knowledge about financial reporting in the public sector. It is essential for students planning to work with the government or any public sector entities as the Kingdom may adopt IPSAS for its governmental reporting, as the standards are considered good practice to ensure effective resource allocation for governmental decision-making.

Financial Statement Analysis

This course aims to introduce students to financial accounting from both the perspective of users and preparers. The students will get involved in preparing the actual financial statements and their analysis and interpretation so that they can better understand and analyze real financial reports. It also strengthens the students' level of understanding of the financial performance of the companies in order to provide meaningful interpretation and analysis to the users of accounts.

Sustainability Accounting and Governance

This is an advanced course that addresses issues related to sustainability in accounting. In this course, students will understand that corporations have a responsibility beyond generating shareholder wealth. Corporations must be accountable for prospering financially and maximizing their environmental, social, and governance (ESG) performance. As such, this course helps to identify, quantify, communicate, and analyze these sustainability factors that affect a company's value.

Managerial Control and Decision Making

This advanced course addresses issues related to the production and reporting of accounting information for managerial purposes. Discussion covers short—and long-term decision-making, financial and operating control, methods to face competition, compensation issues, and management accounting control system design.

Value Added Tax

This course emphasizes in-depth practical knowledge of VAT legislation and a clear understanding of the principles of VAT and the framework as they apply in Saudi Arabia. Upon completing this course, students may apply for the VAT Compliance Diploma exam from the Association of Taxation Technicians (ATT), UK.

International Taxation

This course provides the core knowledge of the underlying principles and major technical areas of taxation as they affect the activities of individuals and businesses. It should also enable the computation of tax liabilities, explain the basis of their calculations, apply tax planning techniques for individuals and companies, and identify the compliance issues for each major tax through various business and personal scenarios and situations.

Advanced Cases in Tax

This course emphasizes gaining an in-depth practical knowledge of tax legislation and a clear understanding of the principles of taxes and their relevant application to cases in Saudi Arabia. Upon completion, students will gain proficiency in tax calculation.

Big Data and Artificial Intelligence in Accounting

This course introduces big data and data analytics tools and techniques to leverage data effectively and make informed, real-time, data-driven business decisions. The focus is on analytic decision-making techniques and examining “big data” involving accounting information. Firsthand experiences will develop skills with selected software tools used in data analytics for accounting purposes. In addition, this course provides an overview of artificial intelligence and how it can impact accounting. This course is highly interactive and based on the problem-based learning philosophy.

Forensic Accounting and Cybersecurity

This course provides fundamental knowledge about forensic accounting. Topics include the professional standards for forensic accounting, legal systems, managing forensic engagement, gathering information, discovery, and reporting. It also covers some cybersecurity topics, such as cyberattacks and data protection.

Digital Auditing

This course examines audit functions in a computerized environment. It focuses on the guidelines for performing IT audits and building automated audit functions. Topics include risks associated with the dynamic area of IT auditing, auditing IT governance controls, security concerns, Computer-Assisted Audit Tools and Techniques (CAATTs), and the automation of audit functions.

Professional Practices and Ethics in Accounting

The course explores a range of employability skills that will enhance students' future transition to professional life and assist in career planning. It will also provide opportunities for students to consider the professional skills needed within a work environment and to develop the employability skills required for future career progression.

Internship in Accounting

Students work around 100 hours for each credit hour under this course. Normally, 3-credit hours are registered for part-time interns who work around 20 hours a week for one semester for an employer while also taking other classes. Full-time interns may satisfy the 3-credit hours by working 300 hours full-time during the summer. The student must have an excellent academic record, complete 90 credit hours, including Financial Reporting II and Professional Practices and Ethics in Accounting, and be approved by the Department of Accounting.

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