

The extent of compatibility of accounting education in Saudi universities with the second standard of the international education standards (IES 2)

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Abstract: This study aims to find out the compatibility of accounting education in Saudi universities with the second standard of international education standards (IES2) issued by the International Accounting Education Standards Board (IAESB). This standard focuses on the technical competencies of a professional accountant at the initial development level. The study population consists of 26 Saudi public universities that offer a Bachelor's program in accounting. The research is based on a descriptive approach by analyzing the content of learning outcomes in syllabus and course descriptions of courses for the accounting departments in Saudi universities. The learning outcomes of these departments are compared with those required in the IES2, and the level of proficiency required is measured using a table describing the mastery levels for the learning outcomes and the technical competence for the IES2 in order to test the study hypotheses. The results show that accounting education in Saudi universities complies with the IES2 in the courses of accounting and financial reports, management accounting, auditing and assurance, the law of regulations and business, and economics. Moreover, it aligns to some extent with the IES2 in tax courses, information technology, finance and financial management, business management and strategy, governance and risk management, and internal control. However, accounting education in Saudi universities does not comply with the IES2 in the courses of business and regulatory environment.

Keywords: accounting education, international standards of education, Saudi universities, professional accountant, International Accounting Education Standards Board

مدى توافق التعليم المحاسبي بالجامعات السعودية مع المعيار الثاني من المعايير الدولية للتعليم IES2

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المستخلص: تهدف هذه الدراسة إلى معرفة مدى توافق تعليم المحاسبة في الجامعات السعودية مع المعيار الثاني لمعايير التعليم الدولي الصادرة عن مجلس معايير تعليم المحاسبة الدولي (IAESB). يركز هذا المعيار على الكفاءات الفنية للمحاسب المحترف في مستوى التطوير الأولي. يتكون مجتمع الدراسة من 26 جامعة حكومية سعودية تقدم برنامج البكالوريوس في المحاسبة. يعتمد البحث على المنهج الوصفي من خلال تحليل محتوى منهجيات الخطط الدراسية لأقسام المحاسبة في الجامعات السعودية من خلال مقارنة مخرجات التعلم فيها مع مخرجات التعلم المطلوبة في معيار IES2، وقياس مستوى الكفاءة المطلوبة باستخدام جدول يصف مستويات إتقان نتائج التعلم والكفاءة الفنية لمعيار IES2 من أجل اختبار فرضيات الدراسة. وأظهرت النتائج أن تعليم المحاسبة في الجامعات السعودية يتوافق مع

معيار IES2 في مناهج المحاسبة والتقارير المالية والمحاسبة الإدارية والتدقيق والتأكيد وقانون اللوائح والأعمال والاقتصاد. بينما يتوافق إلى حد ما مع IES2 في المناهج الضريبية، وتكنولوجيا المعلومات، والتمويل والإدارة المالية، وإدارة الأعمال والاستراتيجيات، والحوكمة وإدارة المخاطر والرقابة الداخلية، من ناحية أخرى، لا يتوافق تعليم المحاسبة في الجامعات السعودية مع معيار IES2 في مناهج بيئة الأعمال والبيئة التنظيمية.

الكلمات المفتاحية: التعليم المحاسبي، IES، الجامعات السعودية، المحاسب المهني، المحاسبة، IAESB.

1. Introduction:

The International Federation of Accountants (IFAC) is concerned with the development of accounting education and established the International Accounting Education Standards Board (IAESB), which in turn established the foundational principles for accounting education and created the International Standards for Accounting Education (IES). In order to provide the scientific underpinning for accounting education, as well as its globalization and unification across member nations, the IAESB has been interested in developing IES and authorizing its implementation in the IFAC member-states. Terminology and definitions are provided by the IAESB. The core principles of accounting education, as well as the development of necessary procedures or inputs, all contribute to the creation and support of learning outcomes from the point of entry into professional accounting education programs through professional development, competence, ethics, and training up until practical experience. Previous research highlighted the necessity to follow worldwide standards for education established by IAESB. Al-Harbi (2018) proposes that institutions should implement approaches and practices in accounting education that take into account the significance of meeting the IES requirements. Arab (2014) noted that the IES has the main concepts used to minimize the gap between academic study and professional action in the workplace.

The technical competencies of the professional accountant are covered by the second International Education Standard (IES2), which also addresses information and communication technology, governance, control, electronic commerce, and other topics, including financial and management accounting, reporting, taxation, and auditing. The previous areas are in continuous development in the Kingdom of Saudi Arabia, especially taxes, after the Kingdom's government imposed a value-added tax, as well as information and communication technology, which has developed rapidly with the Kingdom's trend towards digital transformation, especially after the crisis of the Corona pandemic and the transformation of many fields to distance working and digital transactions and others. Through the foregoing, the importance of these competencies for a professional accountant in the Kingdom appears, as well as the extent to which students and graduates in accounting departments need to learn these technical competencies in order to advance the profession and perform it as required.

2. Study Problem

Looking at the accounting departments and according to previous studies of accounting education in the Kingdom of Saudi Arabia regarding the application of international standards (e.g., Arab, 2014; Al-Mutairi, 2014), Saudi universities do not follow IES as a whole. Arab (2014) stated that Saudi universities do not have sufficient use of computer programs and ready-made accounting programs in their curricula and do not include electronic commerce systems, networks, and electronic transformation. In addition, Al-Shuaiman (2021) noted that the Kingdom of Saudi Arabia's accountants have insufficient knowledge and experience in light of recent developments in the business environment. Furthermore, according to Malik (2018), Saudi Arabian accounting programs do not equip their graduates with the skills needed in the industry.

The International Requirements for Accounting Education, released by the IAESB, provide descriptions of these aptitudes, competencies, and ethical standards. The IES2, which covers information and communication technologies, governance, control, electronic commerce, and other subjects, also covers the technical abilities of the professional accountant in disciplines that include reporting, taxes, auditing, and financial and managerial accounting.

This study attempts to answer the following key question:

Are Saudi institutions' accounting programs compliant with the second international education standard (IES2)?

A number of sub-questions emerge from this question:

- 1- Are accounting department graduates at Saudi institutions able to demonstrate technical competence in IES2-compliant courses in management accounting, auditing and assurance, taxes, and information technology?
- 2- Do graduates of accounting departments in Saudi universities acquire technical competencies in the courses of finance, financial management, business strategies and management, governance, internal control, and risk management, in accordance with IES2?
- 3- Do graduates of accounting departments in Saudi universities acquire technical competencies in the courses of economics, environment, commercial regulations, and business laws, in line with IES2?

3. The Limitations of the Study

The spatial limits of the study are as follows: The study is limited to 19 Saudi public universities (King Abdulaziz University, King Saud University, Princess Noura University, Qassim University, Taibah University, Al Baha University, Jizan University, Najran University, Umm Al-Qura University, King Faisal University, Imam Muhammad University Ibn Saud, Imam Abdulrahman University, Taif University, King

Khalid University, Hail University, Tabuk University, Majmaah University, King Fahd University, and Saudi Electronic University).

The time limits of the study are as follows: The study dealt with the IES2 for the 2017 version instead of the 2019 version because the changes to the IES2 were only implemented from January 1, 2021, and the majority of universities in the sample had the last update of their description of courses and syllabuses in 2019-2020.

4. Theoretical framework and Hypothesis

4.1 The reality of accounting education in Saudi universities

Accounting education plays a significant role in Saudi Arabia's higher education system and is one of the key disciplines in business institutions (Arab, 2014)., the field of administration, business, and law, which includes the accounting department, had the highest percentage of students enrolled in higher education in 2019 (31.2%), while the proportion of newcomers to the field was 24.1% in the same year. An investigation (Al-Mutairi, 2014) found that there are more female students than male students, which has led to a rise in the number of accounting students overall. There are roughly 26 state institutions and 16 private universities that provide a Bachelor's degree in accounting, and several of them also offer a Master's degree.

The plans of Bachelor's programs in accounting in most universities require the student to complete about 122 to 147 hours divided into 8 levels, which the male or female student finishes in approximately 4 academic years (Arab, 2014). These hours are divided into compulsory hours that include general subjects for all university departments (university requirements), the requirements of the college (business and economics) to which the accounting department is affiliated, and specialized subjects only for the accounting department. The second part of the hours represents optional hours from the accounting department or from the affiliated college.

Each university offers study materials aimed at providing the student with the accounting knowledge and skills necessary to practice the profession and providing the student with personal and ethical skills to keep pace with the business environment. As mentioned previously, the credit hours for accounting programs are divided into university requirements, such as Islamic culture courses and English language, and college requirements, such as principles of management, financial management, and economics.

As for the requirements of the accounting department, they are divided into compulsory courses, which include the most important basic subjects in accounting, such as intermediate accounting and advanced accounting, as well as the analysis of financial reports, management accounting, cost accounting, auditing, and assurance, and elective courses, such as contemporary issues in accounting and internal auditing. Also, some universities may introduce tax courses within the elective courses. In most

universities, when completing 90% of the required hours, the student can join the cooperative training, which usually covers 6 credit hours. Table 2 shows the number of hours in accounting programs in some public universities and the percentage of accounting courses in them.

Table 1: The number of hours of the accounting program study plan and the percentage of hours of accounting courses therein.

University	Total credit hrs	Total accounting hrs	Percentage of accounting hrs%
King Fahad University	127	42	33
King Saud University	134	48	36
Al-Imam Muhammad ben Saud	145	51	35
King Khalid University	125	60	48
Princess Noura University	123	81	65
Saudi Electronic University	133	45	34
Taif University	129	54	42
Qassim University	129	66	51

4.2 Objectives of Accounting Education in Saudi Universities

Most Saudi universities are similar in the courses and knowledge they provide to the Bachelor's program in accounting, and therefore they provide almost the same learning outcomes. Through the researcher's review of the goals of accounting education in most Saudi universities, it was found that the most important goals of the accounting departments in Saudi universities are as follows:

- Clarify the basic concepts and principles of accounting and its sciences.
- Demonstrate an understanding of the financial system and be able to use a set of financial tools in solving accounting problems.
- Graduate eminent professional accountants in the accounting sector who are technically and professionally qualified in accordance with the demands of the Saudi labor market.
- Provide the capacity to reason critically, examine situations, resolve issues, and reach judgments.
- Become familiar with professional and ethical responsibilities and required professional conduct.
- Obtain the technical and professional competencies necessary for the accounting profession.

4.3 The second international standard for accounting education:

The learning outcomes of technical competence that aspiring professional accountants must obtain by the conclusion of their initial professional development are outlined in the IES2 addressed to the IFAC member organizations (IPD). In addition, this standard is useful for scientific and governmental institutions and stakeholders to determine the necessary technical competence for students enrolled in

accounting education programs. This standard focuses on several technical competencies required of the professional accountant, which are integrated with professional skills as well as values, ethics, and professional attitudes to produce the professional competence necessary for the professional accountant (IAESB, IES, 2019).

Technical competence includes several areas:

- Accounting: It includes the areas of accounting and financial reports, management accounting, taxation, auditing, and assurance. These areas require an intermediate level of proficiency
- Business and financial expertise: It covers governance , internal control , risk management ,business strategy and management, finance, and financial management. These areas require an intermediate level of proficiency.
- Business laws , organizational environment and regulations: It includes commercial law, business and organizational environment. These areas require an intermediate level of proficiency
- Economics : principles of economics, and statistics. These areas require an foundation level of proficiency.
- Information and communication technology: It includes general knowledge of information technology, and accounting and management information systems. These areas require an intermediate level of proficiency.

The International Accounting Standards Board (IAESB) developed the learning outcomes for these areas in 2015, and they were also approved in the IES edition in 2017. and The addition and renewal of some outputs in 2019 for some areas such as auditing and assurance, information and communication technology, as well as in business laws and regulations, and finally in governance, Internal control and risk management. These learning outcomes represent the technical proficiency needed for a professional accountant at the conclusion of initial professional development

The IES define specific proficiency levels for the learning outcomes required in technical proficiency, which are three levels of proficiency. Each level shows what its learning outcomes focus on, as well as the percentage of complexity and ambiguity. As the levels of proficiency were defined in the conceptual framework of international education standards, the levels of proficiency for learning outcomes specified for each field of specialization are those at which learning outcomes are expected to be achieved at the end of the initial professional development. The level of proficiency depends on the extent of ambiguity, complexity, and uncertainty in the work environment.

Foundation: which in short means is the ability to interpret and explain the basic principles and theories in relevant areas of technical competence and solve simple problems in work environments of low complexity and ambiguity.

Intermediate: which in short means is the ability to independently apply and analyze basic principles and theories, apply values and ethics, solve problems, and make decisions in moderately complex work environments.

Advanced: refers to choosing and integrating concepts and ideas from multiple technical skill areas to manage and lead projects and job activities. Develop answers to complicated challenges and issues in extremely complex and confusing corporate contexts by evaluating, researching, and solving complex problems. IAESB, IES2 (2019).

4.4 Hypotheses of the Study

Given the importance of the IES2 in accounting education and with the rapid professional and technological development, it was necessary to re-test the compatibility of accounting education in Saudi universities with the second standard because of a conflict between the results of previous studies. Based on that and also based on what was mentioned in previous studies, the following are the hypotheses of the study.

Accounting education in Saudi universities does not comply with the second international standard for education (IES2).

This hypothesis is divided into 3 hypotheses:

first: Graduates of accounting departments in Saudi universities do not acquire technical competencies in the courses of accounting and financial reports, management accounting, taxation, auditing and assurance, and information technology in accordance with the IES2.

second: Graduates of accounting departments in Saudi universities do not acquire technical competencies in the courses of finance and financial management, governance, risk management, internal control, and business management and strategy in accordance with the IES2.

third: According to the IES2, graduates of accounting programs in Saudi institutions develop technical competence in the courses on labor laws and regulations, the business environment, and the regulatory environment.

5. Study Methodology

The descriptive analytical strategy was used in this study because it is appropriate for its nature. The researcher collected data and information relevant to the study problem and understood the link between the study variables through hypotheses and research questions. By performing a content analysis of the learning outcomes of the courses included in the plans of the accounting program in Saudi universities and comparing them with the learning outcomes required in the IES2, the study's data was analyzed and interpreted in order to ascertain the degree to which the accounting education provided by Saudi universities is compatible with the IES2. After that, the researcher used the statistical analysis tools

that fit the nature of the study data, namely, the arithmetic mean and standard deviation, in addition to the three-way Likert scale, to give the appropriate interpretation and results for the study problem.

5.1 Data Collection Tool

The method of content analysis was applied to the learning outcomes of the accounting departments' courses in Saudi universities, using the table of learning outcomes required in the IES2 according to the courses for each hypothesis, comparing them with the learning outcomes in Saudi universities, and knowing the level of proficiency required for each category through the table of proficiency levels listed in the international standards for education as follows:

- 1- List the required fields in the IES2 that are to be tested, choose the appropriate courses for each field, whether it is one course or several courses.
- 2- Use the table of learning outcomes required in the IES2 and determine the level of proficiency required in each of the areas mentioned in the standard
- 3- Use the table of the levels of proficiency mentioned in the international standards for accounting education to know how to determine the required level by looking at work environments and levels of ambiguity, complexity, and uncertainty in them and also through indicative words that guide the reader or researcher to the level of proficiency, for example, analysis, interpretation comparison, application, evaluation, explanation, and so on.
- 4- Divide the levels of proficiency into three levels, and give a number for each level as follows:
 - number (1) for lack of proficiency, which means non-compliance with the IES2,
 - number (2) for the foundational level, which means the technical competencies with which the student can explain and interpret basic principles and theories, solve simple problems, and refer complex ones to supervisors or those with experience in low-complexity and ambiguity work environments,
 - number (3) for the intermediate level, which is intended for the student's ability to analyze, apply, and compare principles and theories independently, combine technical skills and professional attitudes, apply values and ethics, and make decisions, where the environment is moderate in ambiguity and complexity.
 - For the advanced level, number (4) refers to choosing and integrating concepts and ideas from multiple technical skill areas to manage and lead projects and job activities. Develop answers to complicated challenges and issues in extremely complex and confusing corporate contexts by evaluating, researching, and solving complex problems. Since this study is only applicable to Bachelor's degrees, which typically only handle the foundational and intermediate levels, we shall limit ourselves to the intermediate level as a maximum.

- 5- Compare the learning outcomes required in the IES2 for each field separately with the learning outcomes of courses in Saudi universities that cover this field, according to the level of proficiency required in each field, consider whether these universities have achieved the required level for the field, and give the appropriate number for the level of mastery for each paragraph of the learning outputs in the specified field.

5.2 Statistical Methods Used in the Study

The following statistical techniques were employed in order to fulfil the study's aims and evaluate its hypotheses after examining the procedures and learning results of the accounting departments in Saudi universities:

1. The mean and standard deviation to find the average proficiencies in Saudi universities for the level of proficiencies required for learning outcomes in the IES2.
2. Three-way Likert scale to measure the level of mastery of accounting departments in Saudi universities for the learning outcomes required in the IES2. Table 9 shows the levels of proficiency according to the Likert scale.

Table 2: The Likert scale

Likert scale	Interval	Difference	Description
1	1–1.66	0.66	Lack of mastery
2	1.67–2.33	0.66	Foundation
3	2.34–3	0.66	Intermediate

6. Study Results Analysis

6.1 First Hypothesis

H: Graduates of accounting departments in Saudi universities do not acquire technical skills in the courses of accounting and financial reports, management accounting, taxation, auditing and assurance, and information technology in accordance with the IES2.

The first hypothesis of the study contains five different areas of accounting, namely: accounting and financial reports, management accounting, taxation, auditing and assurance, and information technology. Therefore, this hypothesis has been divided into five sub-hypotheses, each sub-hypothesis represents one field, and this field is taught in one course or a number of related courses.

To test the first hypothesis more clearly, it is divided into sub-hypotheses:

6.1.1 The First Sub-Hypothesis

H0: Graduates of accounting departments in Saudi universities do not acquire technical competencies in the courses of accounting and financial reporting curricula in line with the IES2.

This hypothesis is related to financial accounting and financial reports. There are six courses that specialize in this subject in undergraduate programs, for example, financial accounting, intermediate accountant 1,2, advanced accounting, international accounting, and financial statement analysis

Table 3: The statistical analysis of the learning outcomes for accounting and financial reporting courses.

Learning outcomes	N	Mean	Std. deviation statistic	Std. error mean
Accounting rules should be applied to transactions and other occurrences.	19	3.00	.000	.000
To transactions and other occurrences, apply international financial reporting standards (IFRSs) or another pertinent standard.	19	3.00	.000	.000
Examine if the accounting procedures utilized to compile the financial statements are appropriate.	19	3.00	.000	.000
Financial accounts, particularly consolidated financial statements, should be prepared.	19	3.00	.000	.000
Financial statements and related disclosures should be understood.	19	3.00	.000	.000
Reports with non-financial facts and information should be interpreted.	19	1.00	.000	.000
The overall average for accounting and financial reporting.	19	2.6667	.000	.000

To find out the extent to which graduates have acquired the technical skills related to this hypothesis, the researcher compared the learning outcomes of the courses in the field of accounting and financial reports with the learning outcomes of the IES2, taking into account the level of mastery required for this hypothesis.

When looking at the table of statistical analysis of the outputs, it becomes clear to us that the previous five outputs had a mean of 3. According to the Likert scale, which determines the range for each level of proficiency, the level of proficiency for these outputs is the average level, which is the highest level for the study. This means that graduates of accounting departments in Saudi universities are able to independently apply and analyze basic principles and theories, apply values and ethics, solve problems,

and make decisions in moderately complex work environments. This means that these outputs achieve the required level in the IES2.

As for topics related to non-financial reports, such as sustainability reports, it is clear through content analysis that all universities have not achieved this variable. This is confirmed by the statistical analysis of this variable, which obtained a value of 1 according to the Likert scale, which means lack of mastery, meaning that graduates of accounting departments did not acquire the technical skills of this variable. This reflects incompatibility with the IES2.

When looking at the mean proficiency in the previous table, we find that the general average of learning outcomes for accounting and financial reporting courses equals 2.6667, meaning that it corresponds to the level required in the IES2.

Thus, we reject the null hypothesis, H0, so we accept the alternative hypothesis, H1: graduates of accounting departments in Saudi universities acquire technical competencies in the courses of accounting and financial reporting in accordance with the IES2.

6.1.2 The Second Sub-Hypothesis

H0: Graduates of accounting departments in Saudi universities do not acquire technical competencies in the courses of managerial accounting in accordance with the IES2.

This hypothesis concerns management accounting and cost accounting courses. This statement requires intermediate competency, which is symbolized by the number 3. Some Saudi universities have offered management accounting methodologies or courses that include two approaches to management accounting (management accounting principles + advanced management accounting) and two approaches to cost accounting (cost accounting 1,2), whereas other universities were content with just one comprehensive approach to management accounting and one comprehensive approach to cost accounting.

Table 4: Results of the statistical analysis of the learning outcomes for management accounting courses.

Learning outcomes	N	Mean	Std. deviation statistic	Std. error mean
Assemble information and statistics to aid the management's decision-making on issues, such as cost management, quality control, performance measurement, and comparative analysis.	19	3.00	.000	.000
Utilize tools to support managerial decision-making, including budgeting, forecasting,	19	3.00	.000	.000

Learning outcomes	N	Mean	Std. deviation statistic	Std. error mean
inventory management, and product costing and variation analysis.				
Analyze cost behavior and the factors that influence costs using appropriate quantitative methodologies.	19	2.9474	.22942	.05263
Analyze facts and data to aid in management decision-making.	19	3.00	.000	.000
Analyze the effectiveness of the various company sectors and goods.	19	3.00	.000	.000
Overall average of management accounting	19	2.9895	.04588	.01053

While we find that Saudi universities have obtained a score of 2.947 in the application of appropriate quantitative methods for analyzing cost behavior and cost drivers, according to the Likert scale, it represents the average level of proficiency. It is the highest level for this study and is required in the IES2.

As for the general average of management accounting learning outcomes, it appeared equal to 2.9895, which according to the Likert scale represents the average level, the level required in the IES2. This means that the graduates of accounting departments in Saudi universities have obtained technical skills compatible with all the learning outcomes required in the IES2, which are related to management accounting, meaning that they are able to analyze, apply, and compare all basic theories and principles independently and are also able to solve problems and make decisions in a moderate work environment.

Thus, we reject the null hypothesis, H0, and accept the alternative hypothesis, H1: graduates of accounting departments in Saudi universities acquire technical competencies in the courses of management accounting in accordance with the IES2.

6.1.3 The Third Sub-Hypothesis

H0: Graduates of accounting departments in Saudi universities do not acquire technical competencies in the courses of tax in accordance with the IES2.

This hypothesis is related to tax approaches, and this topic is often presented in one course with the courses of zakat. It should be noted that some universities may offer a tax course as an independent course on zakat, and it may be one of the elective courses of the department, which the student chooses to study or not. The required level in this hypothesis is the average level of proficiency referred to in no. 3.

Table 5: Results of the statistical analysis of the learning outcomes for tax courses.

Learning outcomes	N	Mean	Std. deviation statistic	Std. error mean
Describe the national tax filing and compliance processes.	19	2.8947	.45883	.10526
Make direct and indirect tax calculations for people and businesses.	19	2.6842	.67104	.15395
Why are tax planning, tax avoidance, and tax evasion different?	19	2.0000	.94281	21630
Analyze the taxation issues associated with noncomplex international transactions.	19	1.5789	.90159	.20684
Overall average of taxation	19	2.2895	.43512	.09982

As for explaining national tax compliance and filing requirements, Saudi universities obtained a mean of 2.89, which according to the Likert scale is between 2.34 and 3, which represents the level required in the IES2. We also find that concerning the preparation of direct and indirect tax accounts for individuals and institutions, the level of proficiency varied between universities in the sample, which affected the mean to be 2.68. According to the Likert scale, this value represents the required level of proficiency. On the other hand, we discover that Saudi universities only explain the differences between tax planning, tax avoidance, and tax evasion to a fundamental level, or a mean competency of 2. According to the Likert scale, this determined the foundational level between 1.67 and 2.33.

Finally, the content analysis showed that the majority of Saudi universities got the number 1, that is, lack of proficiency in the analysis of tax issues related to uncomplicated international transactions, and the mean compliance appeared in the statistical analysis at 1.57. Based on the Likert scale, it obtains a lack of proficiency, that is, non-compliance with the IES2.

The general mean proficiency of the learning outcomes for tax courses was 2.2895, which represents the foundational level according to the Likert scale, which determines the extent of proficiency levels. That is, for tax courses, graduates of accounting departments are able to explain and interpret basic principles and theories, solve simple problems, and refer complexity to supervisors or experts in work environments of low complexity and ambiguity, meaning that it did not meet the standard to the required level. This means it is somewhat compliant with the IES2. It is possible that the reason for the shortcomings in the decisions related to taxes is the recent imposition of taxes in the Kingdom of Saudi Arabia.

From the above, we reject the null hypothesis, H₀, and accept the alternative hypothesis, H₁: graduates of accounting departments in Saudi universities acquire technical competencies in the courses of tax in accordance with the IES2 to some extent.

6.1.4 The Fourth Sub-Hypothesis

H0: Graduates of accounting departments in Saudi universities do not acquire technical competencies in the courses of audit and assurance in line with the IES2.

This hypothesis requires an intermediate level of proficiency, and this field covers audit and assurance courses. Some Saudi universities offer audit and assurance courses as an integrated courses that includes external audit and internal audit, while some universities separate courses as independent courses, a special course for external audit, and a course for internal audit. In some universities, the internal audit course may be an optional course for the department.

Table 6: Results of the statistical analysis of the learning outcomes for the audit and assurance courses.

Learning outcomes	N	Mean	Std. deviation statistic	Std. error mean
Describe the goals and procedures involved in doing a financial statement audit.	19	2.9474	.22942	.05263
Utilize the quantitative techniques utilized in audit engagements.	19	2.9474	.22942	.05263
Analyze the likelihood of a substantial financial statement misstatement and its effect on the audit strategy.	19	2.2105	.97633	.22399
Apply pertinent rules and regulations, as well as appropriate auditing standards (such as international auditing standards) to a financial statement audit.	19	3.00	.000	.000
Describe the essential components of assurance engagements and the relevant applicable standards.	19	3.00	.000	.000
Overall average of audit and assurance	19	2.8211	.23939	.05492

It is clear through the statistical analysis that Saudi universities have complied with the IES2 with the level of proficiency required in describing the objectives and stages used in auditing financial statements, as well as in the application of quantitative methods in audits, where the mean compliance appears with a value of 2.95, which represents the level required in the IES2.

On the other hand, the degree of proficiency differed amongst institutions, and the mean was found to be 2.21 when identifying the risks of substantial misstatement in the financial statements and taking into account their influence on the audit approach. This means that the level of proficiency here is

the foundational level because it lies between 1.67 and 2.33. That is, they did not achieve the IES2 at the required level.

In the application of international standards for auditing or related standards, and also in clarifying the main elements in the assurance processes and the applicable standards that are relevant to operations, all Saudi universities have mastered the required average level, and the results of the statistical analysis have appeared with a mean proficiency equal to 3, that is, the proficiency of the required level according to the IES2.

The audit and assurance had a mean proficiency equal to 2.8211. When looking at the Likert scale, we find that the mean is between 3 and 2.34, meaning that it is within the level of mastery required for the standard. That is, Saudi universities comply with the IES2 in the field of auditing and assurance, which means that graduates of accounting departments in Saudi universities are able to analyze, apply, and compare principles and theories independently, combining technical skills and professional attitudes, applying values and ethics, and making decisions in environments of moderate ambiguity and complexity.

Through the foregoing, we reject the null hypothesis, H0 and H1: graduates of accounting departments in Saudi universities acquire technical competencies in the courses of audit and audit in accordance with the IES2.

6.1.6 The Fifth Sub-Hypothesis

H0: Graduates of accounting departments in Saudi universities do not acquire technical competencies in the courses of information technology in accordance with the IES2.

Saudi universities offer accounting information systems courses and accounting applications to cover information technology topics. The level of mastery required in this hypothesis is the intermediate level, which is the highest for this study.

Table 7: Results of the statistical analysis of the learning outcomes for information technology courses.

Learning outcomes	N	Mean	Std. deviation statistic	Std. error mean
Describe the role that information technology plays in decision-making and data analysis.	19	2.9474	.22942	.05263
Utilize business analytics to use information technologies to help decision-making.	19	2.9474	.22942	.05263
Examine if applicable application controls and general information technology controls are adequate.	19	1.00	.000	.000
Overall average of information technology	19	2.2982	.10510	.02411

with regard to the use of information technology to support decision-making through business analysis as well as demonstrate how information technology contributes to data analysis and decision-making. The mean of the first two variables appeared with a value of 2.94, which indicates the required level of proficiency on the Likert scale. This conforms to the IES2 in the sense that graduates of accounting departments in these two variables are able to analyze, apply, and compare principles and theories independently, combine technical skills and professional attitudes, and apply values, ethics, and decision-making in moderately ambiguous and complex work environments.

Regarding the examination of the effectiveness of the general controls for information technology and associated application controls, Saudi universities have average compliance of 1. According to the Likert scale, the averages between 1 and 1.66 represent a lack of proficiency, that is, the failure to achieve the required on the IES2.

In information technology, we find that the general average is equal to 2.2982, meaning that it is within the level of the foundational proficiency level, which means that Saudi universities comply with the IES2, with insufficient or relatively weak compliance in information technology. This means the ability of the graduate to explain and interpret basic principles and theories, solve simple problems, and refer complexity to supervisors or experts.

From the above, we reject the null hypothesis, H0 and accept the alternative hypothesis, H1: graduates of accounting departments in Saudi universities acquire the technical competencies needed in the courses of information technology in accordance with the IES2 to some extent.

In light of the findings of the study's sub-hypotheses, we reject the null hypothesis of the first hypothesis in the courses of accounting and financial reporting, management accounting, auditing, and assurance, and we reject it to some extent in the courses of tax and information technology methodologies. Thus, we can state the following: Graduates of accounting departments in Saudi universities acquire technical competencies in the courses of accounting and financial reporting, management accountant, auditing, and assurance, in accordance with the IES2, while graduates of accounting departments in Saudi universities acquire the technical competencies necessary in the courses of tax and information technology, in accordance with the IES2 to some extent.

6.2 The Second Hypothesis

H0: Graduates of accounting departments in Saudi universities do not acquire technical competencies in the courses of finance and financial management, governance, risk management, internal control, business management, and strategy in line with the IES2.

To test the first hypothesis more clearly, it is divided into sub-hypotheses:

6.2.1 The First Sub-Hypothesis

Graduates of accounting departments in Saudi universities do not acquire technical competencies in the courses of finance and financial management in line with the IES2.

includes financial management materials and principles of financial management, as well as an introduction to finance and investment. All universities in the sample offer some or all of these courses with different names and also at different levels. This hypothesis requires the average level of proficiency (which is the highest for this study), meaning that the average proficiency in Saudi universities must be between 2.34 and 3.

Table 8: Results of the statistical analysis of the learning outcomes of finance and financial management courses.

Learning outcomes	N	Mean	Std. deviation statistic	Std. error mean
Compare the many funding options that a business has, such as bank loans, financial instruments, bond stock markets, and treasury .markets	19	2.00	.90749	.21390
Analyze an organization's cash flow and working capital requirements.	19	2.8947	.45883	.10526
Analyze the current and future financial position of an organization, using techniques including ratio analysis, trend analysis, and cash flow analysis.	19	2.9474	.22942	.05263
Evaluate the appropriateness of the components used to calculate an organization's cost of capital.	19	1.7368	.87191	.20003
Apply capital budgeting techniques in the evaluation of capital investment decisions.	19	1.9474	.91127	.20906
Explain how income, asset-based, and market valuation methods are used to make investment decisions, develop businesses, and .manage long-term finances	19	1.3158	.67104	.15395
Overall average of finance and financial management(intermediate)	19	2.1439	.39206	.08994

We find in the statistical analysis of the variables that, in Compare the many funding options that a business has, such as bank loans, financial instruments, bond stock markets, and treasury markets, in the

first output, the mean proficiency of the universities have obtained a value of 2, which means, according to the Likert scale, that the level of mastery of Saudi universities for this variable is the foundational level, meaning that the graduate of the accounting departments is able to explain and interpret basic principles and theories, solving simple problems only in different environments of low complexity and ambiguity. This does not fully comply with what is required by the IES2.

All of the universities in the sample satisfied the criteria for compliance when examining an organization's cash flow and working capital needs, as well as its present and projected financial status, utilizing techniques including ratio analysis, trend analysis, and cash flow analysis. The mean values were, respectively, 2.9474 and 2.8947. This means that Saudi public universities achieve this variable of learning outcomes.

The degree of the mean of universities differs when it comes to assessing the adequacy of the elements used to determine the cost of capital for the institution. This variable has a mean of 1.7368. According to the Likert scale, it does not represent the required level, but it falls within the foundational level range, which means compliance with the standard at a level below the required level.

We also find that the mean compliance of Saudi universities of using capital budgeting methodologies to assess capital investment decisions is found to be 1.9474, which means that the level of proficiency is the foundational level.

The mean of an understanding of the explanation of the income and asset assessment technique and market evaluation utilized in investment decisions, company planning, and long-term financial management is 1.3158 that's mean the majority of sample lacked on compliance of the IES2

Looking at the mean proficiency of Saudi universities in finance and financial management, we find that the mean has obtained a value of 2.14. This means that graduates of accounting departments in Saudi universities possess the technical skills to explain and interpret basic principles and theories, solve simple problems, and refer complex ones to supervisors or those with experience in low-complexity and ambiguous work environments. This corresponds to a poor level in relation to what is required in the IES2.

Due to the above, we reject the null hypothesis, H_0 and accept the alternative hypothesis, H_1 : graduates of accounting departments in Saudi universities acquire the necessary technical competencies in the courses of finance and financial management in accordance with the IES2 to some extent.

6.2.2 The Second Sub-Hypothesis

H_0 : Graduates of accounting departments in Saudi universities do not acquire technical competencies in the courses governance, risk management and internal control in line with the IES2

This hypothesis requires an intermediate level of proficiency. Universities often provide these topics under internal audit courses, and there are no separate courses for these topics, but some Saudi universities provide a special approach to governance among the optional courses. In order to verify this

claim, the researcher examined the substance of the learning outcomes for the governance, risk management, and internal control courses

Table 9: Results of the statistical analysis of governance, risk management, and internal control courses.

Learning outcomes	N	Mean	Std. deviation statistic	Std. error mean
The rights and responsibilities of owners, investors, and those in charge of governance, as well as the role of stakeholders in governance, conflicts of interest, and transparency standards, should all be explained.	19	2.1579	.83421	.19138
Examine the structure for governance in a company.	19	1.8947	.80930	.18567
Use a risk management framework to analyze the possibilities and hazards faced by a business.	19	2.1579	.76472	.17544
Examine the internal control elements connected to financial reporting.	19	2.4737	.77233	.17718
Overall average for internal control, risk management, and governance	19	2.1711	.62390	.14313

The mean proficiency of Saudi universities with a value of 2.1579 appears in explaining the principles of good governance, including the rights and responsibilities of owners, investors, and those in charge of governance, and the role of stakeholders in the requirements of governance, disclosure, and transparency because the level of proficiency of universities in the sample is different.

When looking at the statistical analysis of the analysis of the components of the governance framework in the institution, we find that the mean proficiency for Saudi universities is 1.8947, meaning that the universities in the sample achieved a level of proficiency less than what is required in this variable, as the level of proficiency for them is the foundational level. The situation was the same in analyzing the risks and opportunities of the institution using the risk management framework. The majority of the universities in the sample had mastered at the foundational level, through content analysis. The mean proficiency of the sample according to the statistical analysis was 2.1579.

Finally, the statistical analysis of this variable revealed that Saudi universities complied with the IES2 when looking at the internal control elements connected to financial reporting. This variable obtained a score of 2.4737, which represents the required level for the IES2.

The mean proficiency in governance, risk management, and internal control is equal to 2.1711, According to the Likert scale, the mean appeared at the foundational level, which is between 1.66 and 2.33 .This indicates that graduates of accounting programs at Saudi institutions are capable of interpreting and explaining fundamental concepts and ideas, as well as handling straightforward issues in professional settings with little ambiguity and complexity. In other words, Saudi universities comply with a less than required rate of the IES2.

Therefore, we reject the null hypothesis, H0 and accept the alternative hypothesis, H1: graduates of accounting departments in Saudi universities acquire technical competencies in governance, risk management, and control courses in line with the IES2 to some extent.

6.2.3 The Third Sub-Hypothesis

H0: Graduates of accounting departments in Saudi universities do not acquire technical competencies in the courses of business administration and strategy in line with the IES2.

This hypothesis focuses on general business management and business strategies. Saudi universities offer a number of courses that meet the important points in these topics. For example, Saudi universities offer courses on management principles, organizational behavior, business strategy, operations management, human resources, and other related topics concerned with administration. These courses are often compulsory courses of the college requirements that the student usually finishes in the first two years of the Bachelor's program. The topic "Strategy and Business Management" also requires mid-level compliance to comply with the IES2.

Table 10 Results of the statistical analysis of the learning outcomes for business administration courses.

Learning outcomes	N	Mean	Std. deviation statistic	Std. error mean
Describe the many organizational structures and designs that exist.	19	2.5789	.69248	.15887
Describe the functions and significance of the various operational and functional areas of organizations.	19	2.1579	.76472	.17544
Analyze the external and internal variables that might affect an organization's strategy.	19	1.9474	.91127	.20906
Describe the procedures that may be utilized to create and carry out an organization's plan.	19	2.4737	.77233	.17718

Learning outcomes	N	Mean	Std. deviation statistic	Std. error mean
Describe how organizational behavior theories may be applied to improve the effectiveness of the person, the team, and the organization.	19	2.2632	.93346	.21415
Overall average of business strategy and management	19	2.2842	.44380	.10181

The results of the statistical analysis of the mastery of Saudi universities for the explanation of the different ways in which organizations can be designed and organized has a mean of 2.5789 and falls in the middle-level range according to the Likert scale. This means that Saudi universities comply with the IES2

Regarding elucidating the objectives and significance of various functional and operational domains within organizations ,the statistical analysis shows a mean proficiency of 2.1579, which means that it is proficiency at a foundational level, achieving the IES2 but at a level less than the required level.

On the other hand, the examination of external and internal elements that could have an impact on the organization's strategy also fell short of the necessary standard. Therefore, we find that the mean proficiency for Saudi universities is 1.9474, which is a foundational level that does not fully comply with the level required in the IES2. This means that the previous two variables of learning outcomes give the graduates of accounting departments the ability to analyze and interpret basic principles and theories and solve simple problems in a low-complexity work environment.

In explaining the processes that can be used to develop and implement the organization's strategy, the majority of universities in the sample showed compliance with the required average level according to the content analysis. We find a mean proficiency through statistical analysis with a value of 2.4737, meaning that Saudi universities comply with the required level in the IES2.

Additionally, in discuss how organizational behavior theories might be used to enhance team, individual, and organizational performance, the mean is 2.2632, that is the foundational level so this variable did not comply with the IES2 in this case.

With regard to business administration and its strategy, the mean proficiency in Saudi universities has appeared with a value of 2.2842, which is also considered according to the Likert scale as proficiency at a foundational level, which is the level of low-complexity work environments, in which the student can explain principles and theories, solve simple problems, and refer to supervisors and experts to solve complex problems. That is, it complies with a level lower than what is required in the IES2.

Thus, we reject the null hypothesis, H0 and accept the alternative hypothesis, H1: graduates of accounting departments in Saudi universities acquire the technical competencies in the courses of business administration and strategy in line with the IES2 to some extent.

It can be concluded from the foregoing that we do not accept the null hypothesis that graduates of accounting departments in Saudi universities acquire technical competencies in the courses of finance and financial management, governance, risk management, internal control, and business administration and strategy. We agree with the alternative that, to a certain extent, graduates of Saudi universities' accounting programs learn technical capabilities in the courses of governance, risk management, internal control, company administration, and strategy in line with the IES2.

6.3 The Third Hypothesis

H0: Graduates of accounting departments in Saudi universities do not acquire technical competencies in the courses of labor laws and regulations, business and regulatory environment, and economics in accordance with the IES2.

To test the first hypothesis more clearly, it is divided into sub-hypotheses:

6.3.1 The First Sub-Hypothesis

H0: Graduates of accounting departments in Saudi universities do not acquire technical competencies in the courses of business laws and regulations in line with the IES2.

All Saudi universities offer a commercial law course, while some of them also introduce the principles of Saudi commercial law or law. These courses are compulsory courses of the college requirements.

Table 11: Results of the statistical analysis of the learning outcomes for business laws and regulations decisions.

Learning outcomes	N	Mean	Std. deviation statistic	Std. error mean
Explain the laws and regulations that govern the different forms of legal entities.	19	2.8421	.50146	.11504
Explain the laws and regulations applicable to the environment in which professional accountants operate.	19	2.8421	.50146	.11504
Business laws and regulations (Intermediate)	19	2.8947	.31530	.07234

After comparing the learning outcomes of business laws and regulations courses with the learning outcomes of the IES2 through content analysis, the statistical analysis for the variables is shown that Saudi universities comply with the IES2, where the mean compliance of Saudi universities has a value of 2.8421, which is in the medium proficiency level according to the Likert scale, as required by the IES2.

The statistical analysis of the average proficiency of Saudi universities in the field of commercial laws and regulations shows that Saudi universities have mastered the average level in this field, where the mean appeared with a value of 2.8947, which on the Likert scale falls in the range of the medium level of proficiency. This means that graduates of accounting departments possess the technical competencies necessary to analyze, apply, and compare principles and theories independently, combine technical skills and professional attitudes, apply values and ethics, and make decisions in an environment of moderate ambiguity and complexity. Thus, it can be said that Saudi universities have complied with the IES2 regarding business laws.

That is, we reject the null hypothesis, H0 and accept the alternative hypothesis, H1: graduates of accounting departments in Saudi universities acquire the necessary technical competencies in the courses of business law in accordance with the IES2.

6.3.2 The Second Sub-Hypothesis

H0: Graduates of accounting departments in Saudi universities do not acquire technical competencies in the courses of the business and regulatory environment in accordance with the IES2.

This hypothesis requires an intermediate level of proficiency. Through the study, the researcher found that the majority of Saudi universities do not provide courses specific to the organizational and commercial environment or include their topics in other courses, with the exception of a few universities, where these topics are provided under the courses of business strategies or business administration. Also, a few universities may provide courses such as global business, entrepreneurship, or e-commerce.

Table 19: Statistical analysis of the learning outcomes of the business and regulatory environment methodologies courses.

Learning outcomes	N	Mean	Std. deviation statistic	Std. error mean
Describe the environment in which an organization operates, including the primary economic, legal, regulatory, political, technological, social, and cultural aspects.'	19	1.5263	.90483	.20758
Analyze aspects of the global environment that affect international trade and finance.	19	1.5263	90483	.20758
Identify the features of globalization, including the role of multinationals and emerging markets.	19	1.5789	.76853	.17631
Overall average of business and organizational environment	19	1.5439	.65932	.15126

The mean values of the learning outcomes for this hypothesis appear approximately with the same values, where the description of the environment in which the institution operates, including the basic economic, legal, regulatory, political, technological, social and cultural aspects, obtained average compliance of 1.5263. This means that there is no compliance in Saudi universities for this variable in accordance with the IES2.

As for the analysis of the aspects of the global environment that affect international trade and finance in determining the features of globalization, the mean compliance of universities appeared with a value of 1.5263, which according to the Likert scale falls within the extent of lack of mastery. While identifying the features of globalization, the role of multinational companies and emerging markets appeared with a value of 1.5263, and according to the Likert scale, this variable is located within the lack of mastery, which also means that Saudi universities do not comply with this variable in accordance with the IES2.

The mean proficiency of Saudi universities in the field of commercial and organizational environment was 1.5439, and this value represents a lack of proficiency on the Likert scale. This means that accounting education in Saudi universities does not comply with the IES2 in this field. In other words, graduates of accounting departments in Saudi universities do not acquire the necessary technical competencies in the courses of the commercial and regulatory environment in accordance with the IES2. The researcher believes that the reason for this shortcoming is the lack of courses covering these topics, despite their importance in the current era.

Therefore, we accept the null hypothesis H0: graduates of accounting departments in Saudi universities do not acquire the necessary technical competencies in the curricula of the business and regulatory environment in accordance with the IES2.

6.3.3 The Third Sub-Hypothesis

H0: Graduates of accounting departments in Saudi universities do not acquire technical competencies in the courses of economics in accordance with the IES2.

Most universities offer the principles of macroeconomics and the principles of microeconomics, and these courses are compulsory courses of the college requirements that the student completes in the first two years of the Bachelor's program. The IES2 requires a foundational level for this premise.

Table 12: Results of the statistical analysis of the learning outcomes in economics courses.

Learning outcomes	N	Mean	Std. deviation statistic	Std. error mean
Describe the fundamental principles of microeconomics and macroeconomics.	19	1.9474	.22942	.05263

Learning outcomes	N	Mean	Std. deviation statistic	Std. error mean
Describe the effect of changes in macroeconomic indicators on business activity.	19	1.9474	22942	.05263
Explain the different types of market structures, including perfect competition, monopolistic competition, monopoly, and oligopoly.	19	1.8421	.37463	.08595
Economics (Foundation)	19	1.9123	.24450	.05609

The level of proficiency required for this hypothesis is the foundation. The statistical analysis of the first variable, which is, the description of the basic principles of microeconomics and macroeconomics appears with a proficiency mean of 1.9474, that is, a foundational level, which is required in this hypothesis in accordance with the IES2.

The average proficiency for describing the impact of changes in macroeconomic indicators on the business activity was 1.9474, which also represents the foundational level required in the IES2.

Finally, we find the mean proficiency of the different types of market structures, including perfect competition, monopolistic competition, monopoly, and oligopoly, to be equal to 1.9123, which according to the Likert scale represents the foundational level required in this field according to the IES2.

As for the economy, it obtained a mean of 1.9123, and this value lies in the foundational proficiency range between 1.66 and 2.33, which is the level required in the IES2. Graduates of the accounting departments in Saudi universities have acquired the necessary technical competencies in the field of economics, which means their ability to interpret and explain the basic principles and theories in economics and solve simple problems in work environments of low complexity and ambiguity in accordance with the compliance of Saudi universities with the IES2 in the field of economics.

Finally, for the third hypothesis of the study, we reject the null hypotheses of the first and third sub-hypotheses, while we accept the null hypothesis of the second sub-hypothesis. This means that graduates of accounting departments in Saudi universities acquire technical competencies in the curricula of business laws, regulations, and economics in accordance with the IES2, but they do not acquire technical competencies in the curricula of the commercial and regulatory environment, in accordance with the IES2.

7. Discussion

The results show that accounting education in Saudi universities complies with the IES2 in the courses of accounting and financial reports, management accounting, auditing and assurance, the law of regulations and business, and economics. It also aligns to some extent with the IES2 in the courses of tax courses, information technology, finance and financial management, business management and strategy, governance and risk management, and internal control. However, accounting education in Saudi universities does not comply with the IES2 in the courses of the business and regulatory environment.

The results also showed There are shortcomings in accounting education in Saudi universities with regard to technical competence related to non-financial reports, such as sustainability reports . Although accounting education in Saudi universities almost complies with the IES2 in technology and information courses, there is a shortcoming in the analysis of the adequacy of the general controls for information technology and related application controls

Also there is a lack of accounting education courses in Saudi universities in special technical skills as tax evasion, tax avoidance, and tax planning, in addition to the analysis of tax issues related to uncomplicated international transactions. Finance and financial management courses do not provide the technical competence to explain the approaches to income and asset valuation and market valuation used in investment decisions, business planning, and long-term financial management .There are no courses for governance or risk management, except in a very small number of universities, which are offered as an elective courses. Therefore, we find that the level of proficiency is less than the level required in the IES2.

Finally, the majority of Saudi universities do not provide courses related to the organizational and commercial environment, with the exception of a few universities, where these topics are provided in business administration courses, which led to the failure of graduates of accounting departments to acquire technical skills in this field.

8. Conclusion

This study dealt with the subject of the compatibility of accounting education in Saudi universities with the second standard of the International Standards for Accounting Education (IES2), which is concerned with the technical skills of graduates of accounting departments and the learning outcomes that provide these competences with the level of proficiency required, to graduate professional accountants able to fit in with the evolving work environment.

The study aimed to know the technical competencies provided by Saudi universities to graduates of accounting departments in line with the IES2, whose importance lies in understanding the role of Saudi universities and their effectiveness in developing and modernizing education and accounting programs in terms of professional knowledge related to accounting sciences, finance, and information technology. This

responds to international strategies for accounting education, especially in view of the Kingdom's adoption of international financial reporting standards.

The results show that accounting education in Saudi universities complies with the IES2 in the courses of accounting and financial reports, management accounting, auditing and assurance, business laws and regulations, and economics. Also, it aligns to some extent with the IES2 in the courses of tax, information technology, finance and financial management, business management and strategy, governance and risk management, and internal control. However, accounting education in Saudi universities does not comply with the IES2 in the curricula of the business and regulatory environment

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