

Perceptions of Accounting Staff on Sustainable Development Practices in Saudi Arabian Higher Education

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Abstract: - This study examines how Sustainable Development (SD) principles are integrated into the accounting education provided by Saudi Higher Education Institutions (HEIs). A quantitative approach, utilising a questionnaire as the data collection instrument, was employed to collect data from 90 accounting academics at universities across Saudi Arabia. The findings indicate that participants perceived SD as relevant and important; however, the integration of SD issues into accounting education remains insufficient due to various barriers. The findings further show differences in perceived barriers based on academic rank. This study contributes to the limited literature on SD integration within accounting education by presenting empirical evidence from Saudi Arabia, a context in which such investigations remain rare. The findings provide valuable insights for policymakers by emphasising the necessity for institutional reforms and providing role-specific support to overcome barriers and promote SD integration in accounting education through improving the accounting graduates' sustainability.

Key-words: - Sustainable development, Education for sustainable development, Higher education, Saudi Universities, accounting curriculum, Barriers to SD.

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1 Introduction

Sustainable development (SD) has recently emerged as a key focus of global attention. According to a report in 1987, the SD is “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”. [1] Generally, SD focuses on three main dimensions: social, environmental, and economic [1]. The overarching aim of SD, which begins with education, as suggested by UNESCO, is to address the pressing global challenges, including poverty,

inequality, climate change, environmental degradation, peace, and justice. Education is not only explicitly referenced in the SDGs, particularly Quality Education (SDG), but it also intersects with other goals, such as poverty alleviation, health and well-being, gender equality, the promotion of effective governance, the assurance of decent work and economic growth, the encouragement of responsible consumption and production, the

mitigation of climate change, and nurturing of peace, justice, and robust institutions [2].

Higher education institutions (HEIs), particularly universities, are endowed with considerable resources and bear a greater responsibility to drive and advance the transition towards SD in comparison to other organizations [3]. This is attributed to the critical role that HEIs play in shaping the intellectual and moral fabric of our future leaders. Universities are instrumental in advancing SD through their educational methods, research initiatives, governance structures, organizational culture, and community leadership initiatives [4]. The education for sustainable development can adopt on universities, which adopt the SD principles in effectively integrating the education process, to improve students' understanding of SD and make students' decisions [3].

The Vision 2030 of Saudi Arabia affirmed the importance of aligning educational strategies with international goals of sustainability. Higher education institutions play an important role in achieving this alignment by providing future professionals with the skills and knowledge that are needed to deal with sustainability issues. In this context, legitimacy theory offers a useful lens through which to examine how the incorporation of SD principles into HEIs contributes to the preservation of social trust. By incorporating sustainability into accounting courses, universities not only achieve national and global objectives but also strengthen their reputation as socially responsible institutions.

The Education 2030 Framework for Action emphasizes the necessity of educational reform to ensure that education is aligned with the SD imperatives. It could be reasonably argued that business, and particularly accounting, should stand at the forefront of ESD. Accountants are central to SD, as they are responsible for measuring, evaluating, and disclosing the corporate progress regarding SD [5]. Accounting education must undergo significant reform if we are to witness any tangible results regarding SD. Teaching 'typical' accounting competencies to students seems inadequate in light of the present pressing global challenges. To contribute to SD, accounting students around the globe should be able to apply the accounting concepts, tools, and theories to the field of SD [6]. Nevertheless, empirical evidence from previous studies, which were conducted in different parts of the world, suggests that the extent to which SD is currently integrated into accounting education falls short of what is required [7], [8], [9], [10], [11],

[12], [13]. A systematic review suggested that the integration of SD into the accounting curricula around the world lags that in other disciplines [10]. For example, the Australian university's inclusion of SD issues in business schools and concluded that such inclusion is scarce [7]. Further, highlighted the absence of sustainability issues from the contents of accounting and finance modules in a UK business school [8]. In the context of Saudi universities, the extent to which SD is integrated into accounting education is with a great emphasis on the curriculum [13]. concluded that the poor integration of SD issues into the accounting curricula in Saudi Arabia produced various results, such as a low level of SD understanding [13]. However, it is important to note that [13] study adopted the perspective of the accounting students themselves.

Beyond the accounting field, and in the context of Saudi Arabia, several studies have examined different aspects of SD [14], [15], [16], [17]. For example, discussed the SD integration into the curricula of Saudi private university in the faculty members' perspective, who were from outside the Management School [15]. They referred that the faculty members lacked a clear consensus on what sustainability means within the higher education context. Further suggested that future research might expand the sample to include numerous universities across Saudi Arabia, a gap this paper seeks to address [15]. Our study aims to contribute to the understanding of SD from the perspective of accounting staff members in Saudi HEIs, offering insights for policymakers and educators to strengthen SD integration within accounting education. Pointed out that accounting as a discipline covers the broader social and environmental responsibility in addition to the financial functions [18], [19]. While accounting educators are the ones responsible for designing and implementing curricula, it is vital to understand their perceptions and insights to integrate SD principles effectively. Therefore, our study aims to examine the perception of accounting staff on SD, the integration of SD within accounting curricula, and the potential barriers to incorporating SD in education practices with Saudi HEIs to facilitate effective integration of SD in the accounting discipline, thereby equipping future professionals with the necessary skills to professionally contribute to sustainability practices in their careers. Furthermore, the study investigates how demographic factors such as qualifications, gender, years of experience, and academic rank influence these three theme areas. Hence, we seek to address the following research questions:

1. What are the perceptions of the accounting teaching staff at Saudi universities about SD and its integration into accounting education?
2. What are the potential barriers to impact SD integration?
3. How do demographic factors such as qualifications, job title, years of experience, and gender influence the perceptions and perceived barriers?

This paper is structured as follows. The next section is a review of literature, after which the, the methodological procedures are outlined. Then, the findings and discussion are presented, followed by the conclusion of the paper.

2 Literature Review

2.1. Sustainable Development in Saudi Arabia's Higher Education

The Ministry of Education oversees 29 public universities and 16 private universities in Saudi Arabia. It has demonstrated its commitment to SD [20]. This commitment is focused on the social, economic, and environmental pillars of SD. The Ministry of Education has set objectives for achieving the SD, including ensuring access to quality education, enhancing continuing learning, conserving the environment, and promoting equitable and sustainable growth of sustainability. For achieving these goals, the Ministry of Education has launched some initiatives as A programme of promoting scientific research. Further, it has supported the Vision 2030, that include SD as a key part. Recently, Saudi Arabia has launched a huge number of initiatives and programs that are linked closely with SD. For example, the Saudi Green Initiative aims to reach net zero emissions by 2060. Through Vision 2030, the Saudi government emphasized using universities as catalysts for promoting the country's SD and economic diversification [16]. Saudi universities are centrally placed to address the SD awareness gap and promote SD, which is aligned with the country's broader national goals [13].

The integration of SD into HEIs is essential for legitimacy reasons. Legitimacy theory is “*a generalized assumption or perception where the entity's activities must be proper, appropriate and desirable according to definitions, beliefs, values and norms that have been established through a socially constructed system*” [21]. Legitimacy is a key factor that influences the adoption (or abandonment) of sustainability within the HEI

context. Incorporating SD issues into accounting education may enable the management schools to maintain and enhance their legitimacy at both the societal and governmental levels [18]. The ESD adopted in the management college responds to the societal demands and references of addressing the social, environmental, and economic obstacles. In Saudi universities, they need to align their educational strategies with the SD principles to enhance the strong commitment to sustainability in governments [22]. This alignment is crucial for not only meeting the national sustainability objectives but also reinforcing the universities' roles as key contributors to the broader societal and environmental objectives that are outlined in the government policies. Saudi universities can play a substantial role in advancing the country's sustainability scheme in integrating SD with curricula, which might help enhance their legitimacy and relevance. While HEIs play a substantial role in enhancing sustainability, limited research discusses how accounting academics' perspectives on SD. Understanding their perceptions is essential, given their influence on future professionals.

2.2. Integrating Sustainable Development into HEIs

Universities play a fundamental role in educating future leaders about the importance of sustainability [23]. The importance of ESD stems from the fact that it can produce responsible future leaders who will promote ethical business practices [24]. Business schools bear a pivotal responsibility regarding ESD, as these institutions are tasked with preparing the future managers who must operate in a more socially and ethically responsible manner. Notably, there has been a rising trend in recent years of recognizing the necessity to integrate sustainability and associated concerns into the curriculum for accounting students [13]. The current significance of SD demands that universities produce graduates who are equipped with substantial knowledge about SD concepts and issues [25]. This compels universities to integrate the principles of SD across all disciplines, including the accounting field. Consequently, it is essential to highlight and understand the perceptions of the accounting staff, who design and deliver the accounting curricula.

In a different field to accounting, exploring the views of researchers and educators who are closely associated with sustainability to determine whether the participants hold a holistic view and where the three dimensions of SD interconnect [26]. A holistic view is crucial for achieving SD. The researchers

suggest that their participants tended to recognize the economic and social aspects of SD more than its environmental aspect. They conclude that their participants understand SD in varying ways, which might have huge implications for the process of SD implementation. On the other hand, investigated the perception of 32 faculty members about ESD competencies using an online questionnaire and found that the participants perceived ESD primarily as education that centres around the natural environment, rather than adopting a holistic view that combines its social, environmental, and economic aspects [27]. In a more recent study, a systematic literature review on ESD found a lack of knowledge with reference to the role that education can play in SD [28].

Furthermore, the views of academic staff about sustainability in a Saudi Private University, focusing on research and the curriculum [15]. They conducted a comparative analysis of 41 academic staff's responses from three schools within the private university (the College of Computing, the College of Engineering, and the College of Humanities). The faculty members in the higher education context lacked a comprehensive definition of sustainability. Similarly, found that the participants demonstrated a limited understanding of SD, even though they were all accounting students [13]. There is limited information on whether this reflects limitations in faculty expertise or program design. We think it is vital to address this issue from the perspective of the academic accounting staff for several reasons. First, the academic staff play a significant role in shaping the students' knowledge and interests in a way that can foster SD. Second, by demonstrating a commitment to SD, the academic staff can function as role models and inspire the students to consider SD in their accounting careers. More importantly, the academic staff can influence the accounting curricula and include SD concepts and issues, which might prove effective in fostering SD.

A questionnaire was used to analyse the alignment of Saudi public universities with SD, focusing on five dimensions, including the curriculum [14]. They concluded that surveyed to less than half of the surveyed universities had failed to integrate the SD in teaching aspects. Furthermore, examined the integration of sustainability into the curricula of Imam Abdulrahman bin Faisal University in Saudi Arabia [17]. The focus was on studying how different academic disciplines incorporate sustainability concepts into their courses. They observed that the university's courses, except for the Engineering and Architecture College, demonstrate a lack of engagement with

sustainability issues. Furthermore, stated that the five necessary courses for students across all majors do not include any concepts related to sustainability [17]. As a result, suggested that Imam Abdulrahman bin Faisal University should integrate at least one sustainability course in all programs' curricula, in accordance with Vision 2030's aims [17].

According to previous studies, the integration of SD issues into HEIs' curricula remains limited [17], [29]. To promote SD, HEIs should integrate sustainability principles across all levels of their academic programs, encompassing both the undergraduate and graduate curricula, as well as including them within the scope of the graduate research training initiatives [30], [31]. Surveying 209 experts in HEIs across 65 countries [29], reported that, while the faculty members have voluntarily updated their curriculum to incorporate SD issues to some extent, this self-directed curriculum reform appears less prevalent in formal courses. In the accounting discipline, the integration of SD issues into the curricula seems to have been slower compared to other disciplines [10]. For example, a survey of 326 accounting students at levels 7 and 8 in four Saudi Universities and concluded that the poor integration of SD issues into the accounting curricula in Saudi Arabia had led to a limited understanding of SD [13]. Drawing on the success of Nottingham Trent University in terms of integrating SD into education [32], it is essential to conduct a comprehensive review of the existing accounting curricula to understand the curriculum's current standing and ease the formulation of appropriate policies to improve ESD integration in the accounting field [32]. Our study explores the current setting of SD integration within the accounting curricula from the perspective of accounting staff who are responsible for designing and the development of curriculum.

2.3. Barriers to SD Implementation in HEIs:

Despite growing attention to sustainability, the integration of SD in HEIs faces various challenges. Overall, there seems to be a dearth of papers regarding the barriers to implementing SD in Saudi Arabian HEIs. Common barriers to implementing SD in HEIs are a lack of planning, the absence of environmental committees, a lack of innovation, a lack of administration support, and change resistance [23]. Further, specified that a lack of financial support, a lack of people experienced in SD, and the difficulty of changing the general policies also serve as barriers to implementing SD within HEIs [33]. Additionally, suggested that a lack

of awareness and resistance to cultural change may be significant barriers to implementing SD into HEIs [34].

As noted above, the curricula should include SD issues, which is not the case most of the time. This may be due to the bureaucratic organizational structure of the HEIs [35], which proves to be another barrier. This structure discourages the academic staff from developing curricula that are reflective of SD. Further, provided internal and external sets of barriers. The internal barriers centre around the culture and structure of the university, including the administrative, educational, research, and operational functions [36]. Thus, searching for substantial barriers to the implementation of the SD in Saudi HEIs, from the view of those tasked with designing the accounting curricula, is essential.

3 Research Methodology

Incorporating SD concepts into accounting education is crucial for preparing graduates and future managers to promote transparency and accountability within sustainable practices by allowing them to respond effectively in a socially and ethically responsible manner. For this study, a quantitative research method was employed to investigate the participants' perceptions of SD, its integration, and potential barriers to integrating SD into accounting teaching practices. The cross-sectional survey method was used to gather data from academic accounting staff at a single point in time. The study adopts a purposive sampling technique, where all members have direct experience in accounting education [37], and the sample consisted of 90 academic accounting staff members at Saudi HEIs. Table 1 (Appendix) displays the demographic details of the participants.

Data were collected using an online self-completed questionnaire created with Microsoft Forms. This method is suitable for large samples and facilitates the collection of factual, quantifiable information [37]. The questionnaire survey comprised five key sections. The first section aims to examine participants' general understanding of the SD concept [38], [39], [15]. Section 2 explores the perception of academic staff about the importance of SD, using five items adapted from prior studies [39], [13], [40], [22]. Section 3 discussed the integration of SD into the accounting curriculum using seven items, five of which build on prior studies [41], [39], [15], [13], and two developed based on the results of [29]. Section 4 explored the staff's perceived barriers to SD using seven items built from prior studies [39], [23].

Section 5 collected participants' demographic information, including gender, qualifications, job title, and years of experience.

The questionnaire was evaluated by ten experts in the field to ensure the quality and applicability of the questionnaire. After incorporating the experts' feedback, the questionnaire was finalised and distributed to the targeted participants. Participants were invited by email with a link to the study and a cover letter stating the study's purpose, confidentiality, and emphasis on voluntary participation. The questionnaire has received ethical approval from the Ethics Committee at Jouf University (No. HAPO-13-S-001, dated 07 May 2025), and informed consent has been obtained from all participants. The initial call received 46 responses, and a follow-up reminder received 44 more responses [37], totalling 90 completed usable responses.

To assess reliability, Cronbach's α , a measure of internal consistency, was used on the collected data, revealing a satisfactory reliability level of above 0.7 [42], [43], as shown in Table 2 (Appendix).

The wave method was used to detect any non-response bias by comparing the early and late respondents for all of the relevant questions, using the non-parametric Mann–Whitney U test [44]. There were no significant differences between early ($n=46$) and late ($n=44$) responses for any of the factors examined, with a two-tailed p-value greater than 0.05 [45]. This implies that there is sufficient confidence that the obtained results are generalisable to the target group. Statistical Package for the Social Sciences (SPSS) software was used, which enabled the identification of the patterns and trends within the participants' responses.

4 Results and Discussion

4.1 Understanding the Concept of Sustainability

Integrating sustainability into education is crucial for fostering awareness and enabling sustainable business practices [46], [38]. Participants rated their understanding of sustainability through Table 3 (Appendix), which examined the respondents' feedback by job titles. Notably, 82% of staff members rated their understanding as reasonable or above, while only 3.3% reported limited understanding. This is in accordance with [15], who indicated high levels of sustainability awareness among 41 faculty members in Saudi universities. Furthermore, 90% of the respondents regarded sustainability as "Very Important", indicating

widespread acknowledgment of its importance across academic roles.

Despite this awareness, 76% of participants proclaimed that they had not received any sustainability-related training or education, consistent with the result of [39] that SD awareness and understanding often develop in the absence of any formal university education. Further, while 72.2% affirmed their university's commitment to sustainability in a vision/mission statement, 61.1% noted the absence of a dedicated sustainability office. Sustainable offices are seen as efficient institutional tools for coordinating SD practices, raising awareness among students and staff, and supporting the adoption of sustainable measures [47]. Establishing dedicated sustainability offices could significantly enhance the implementation and attainment of SD goals within Saudi universities.

4.2 Perceptions, Integration, and Barriers to SD Among Accounting Staff Members:

To examine the first research question, participants were asked to assess the extent to which they agree with five statements about their perceptions of SD, seven statements on the integration of SD into the accounting curriculum, and seven statements on barriers that hinder the successful integration of SD practices. Using a five-point Likert scale ranging from 1, indicating "strongly disagree", to 5, indicating "strongly agree". The results were summarised in Table 4 (Appendix), Table 5 (Appendix) and Table 6 (Appendix).

4.2.1 The Perceptions of SD Among Accounting Staff Members

The perception that adopting SD practices enhances the university's image and reputation achieved the highest mean score (Mean= 4.20). This highlights participants' strong conviction of the positive impact of adopting SD initiatives on the institution's overall standing. These results align with [39], who found that maintaining image and reputation is a key driver for universities to adopt sustainable policies. Similarly, a strong willingness to integrate SD concepts into daily practices was observed (Mean= 4.06), suggesting a shared commitment among accounting staff to incorporate SD principles into their professional responsibilities. This result aligns with [28], who indicated that educators had a positive attitude towards SD. Participants emphasised the perceived motivational role of SD practices in the academic setting (Mean= 4.03). Furthermore, the recognition of SD as a core element in the function of the accounting staff members (Mean= 3.74). Unlike [40], who

documented that educators did not perceive SD as core to their functions, and that educators' resistance hindered SD incorporation. This signifies that there exists a collective understanding among the staff members in Saudi HEIs that SD is integral to their roles within academia. The economic benefits were rated lowest (Mean= 2.33), referring that respondents disagree with the idea that adopting sustainability initiatives is only worthwhile if it saves money. This aligns with [39], who showed that sustainability remains important regardless of financial considerations, even though financial and reputational dimensions may impact institutional strategies. This nuanced understanding of the staff's perceptions describes valuable insights for educational administrators and policymakers aiming to foster a culture of sustainability within HEIs and suggests a promising foundation for broader integration into academic practices.

4.2.2 The Integration of SD in the Accounting Curriculum:

Previous studies have highlighted that accounting discipline has been slower than other fields to incorporate SD issues into its curriculum [7], [8], [9], [10], [11], [12], [13]. To examine this, respondents evaluate seven statements about the SD integration into the accounting curriculum. Responses were summarized in Table 5 (Appendix).

The results refer to a significant gap in the current curriculum. The mean score for the statement "Current accounting education system provides enough information about SD" (Mean = 2.82) suggests that current curricula lack adequate SD coverage. This contrasts with participants' recognition of SD's importance, as indicated by the high mean scores for "Integration of SD into your courses is essential" (Mean = 4.07) and "It is imperative for accounting students to receive education about SD" (Mean = 4.18). The notable agreement for the mandatory SD course for the accounting curriculum (Mean = 4.01) suggests that there exists a shared belief among the respondents with various job titles that providing education about SD is crucial for accounting students. These results are consistent with previous studies, which found that no courses were designed for SD, and SD integration was low within the Imam Abdulrahman bin Faisal University's curricula [17]. Additionally, found that students at Saudi universities perceive a lack of SD integration in accounting programs [13]. Similarly, found that, despite positive perceptions of sustainability, academics often lack the institutional engagement and support required for effective SD integration [39]. Furthermore, a majority of

respondents (63 of 90 respondents) reported that SD principles are not explicitly articulated in their course aims. This gap shows an urgent need to revise course documentation to explicitly incorporate SD principles and objectives, ensuring alignment with the sustainability imperative to promote clearer integration.

4.2.3 Barriers to Implementing SD in HEIs

Participants responded to seven statements related to the potential barriers that hinder the successful integration of SD practices as outlined in Table 6 (Appendix).

The results explored that a lack of sufficient organizational funding is perceived as a significant barrier to the implementation of SD within Saudi universities (Mean = 3.38). This is in accordance with [40] and [35], who indicated a lack of funding to be a major barrier for universities around the world. Further, a lack of governance and regulatory frameworks (Mean = 3.27), as well as an absence of social pressure (Mean = 3.23), were also perceived as a potential obstacle. This is consistent with [39] and [36], who highlighted these factors as external barriers to the implementation of SD. Other notable barriers include an overcrowded curriculum (Mean = 3.24), confusion about the SD practices in teaching (Mean = 3.12), and lack of time to participate in SD initiatives as being barriers to the implementation of SD in HEIs (Mean = 3.03). Interestingly, student resistance is perceived as the least significant barrier (Mean = 2.56).

The finding reveals that staff members strongly value SD, as shown in Table 4 (Appendix). However, institutional obstacles include weak governance frameworks, insufficient fundings and overcrowded curricula, as illustrated in Table 6 (Appendix), which prevent this positive outlook from translating into practical integration. This discrepancy underscores the urgent need for institutional reforms that link this outlook to practical outcomes. Institutional supports are crucial for integrating sustainability into higher education programs [35], [28].

1.3 The Impact of Demographic Factors on Perceptions, Integration, and Perceived Barriers:

This section investigates how demographic factors such as qualifications, gender, Job title, and years of experience influence the perceptions, integration, and perceived barriers.

4.3.1 Gender and Qualifications

The study participants comprised males (73%) and females (27%). 18.9% have a master's degree, while

81.1% have a PhD. An independent sample of t-test findings showed no significant differences in perceptions, SD integration, and barriers based on gender or qualifications ($p > 0.05$). Female participants reported a higher mean score (Mean = 3.74, SD = 0.53), integration (Mean = 3.76, SD = 0.65), and barriers (Mean = 3.14, SD = 0.64) compared to males (Mean = 3.65, SD = 0.76; Mean = 3.65, SD = 0.85; Mean = 3.11, SD = 0.78). Similarly, PhD holders scored slightly higher in perceptions (Mean = 3.72, SD = 0.71), integration (Mean = 3.75, SD = 0.84), and barriers (Mean = 3.11, SD = 0.80) than master's holders (Mean = 3.51, SD = 0.70; Mean = 3.41, SD = 0.58; Mean = 3.17, SD = 0.49). However, these differences were small and statistically insignificant. This lack of significant difference indicates that gender and qualifications may not play a crucial role in shaping perceptions, integration, and barriers to SD implementation. The t-test summary statistics are demonstrated in Table 7 (Appendix).

4.3.2 Job Title

ANOVA was conducted to compare the mean scores of perceptions, integration, and barriers across job titles (Lecturers, Assistant Professors, and Professors/Associate Professors). There were no statistically significant differences observed in perceptions ($p = 0.21$) or integration ($p = 0.18$). However, a significant difference emerged for barriers ($p = 0.03$) as shown in Table 8 (Appendix). Levene's test confirmed the homogeneity of variance assumption for all three dependent variables ($p > 0.05$). Post-hoc comparisons using Tukey's HSD regression showed a significant difference in barriers between Assistant Professor and Professor/Associate Professor (mean difference = 0.50, 95% CI: 0.04 to 0.97, $p = 0.03$). The difference between Lecturers, Professors, and Associate Professors (mean difference = 0.55, $p = 0.06$) was only slightly significant. This finding may suggest that Professors/Associate Professors perceive higher barriers than Assistant Professors and Lecturers. This could highlight potential differences in experience across different professional levels, as professors/associate professors might be attributed to a broader institutional responsibility.

4.3.3 Years of Experience

Analysis of covariance (ANOVA) was performed to analyse differences in perceptions, integration, and barriers based on years of experience (less than 5 years, 5–10 years, 10–15 years, and more than 15 years). Table 9 (Appendix) indicates no significant

differences in employee perceptions, integration, and barriers ($p > 0.05$). However, participants who had less than five years of experience perceived somewhat higher barriers (Mean = 3.02) compared to those with more than 15 years of experience (Mean = 2.89). This suggests that individuals with less experience might be less exposed to the institutional barriers associated with SD practices within Saudi HEI. In line with the results related to academic job titles, as shown in Table 8 (Appendix), it appears that academic role may exert greater influence than experience alone. Senior faculty members, as professors and associate professors, are more likely to face institutional challenges due to the expansion of their responsibilities, which may explain their heightened perception of barriers. These findings are consistent with the study by [47], who noted that higher-ranking staff often bear the brunt of obstacles. These results show the importance of providing role-specific support and tailored interventions to effectively address barriers, particularly among early-career faculty members.

5 Conclusions

This paper explores the perceptions of accounting staff regarding SD practices in accounting departments in Saudi Arabian HEIs. Our paper incorporates the staff's perspective into the analysis, an aspect that has been frequently neglected in previous studies addressing SD in the accounting context. Investigating the issue through the lens of the staff's perspective is vital, as they are the primary agents of any potential shift toward ESD. This paper highlights the staff's perceptions towards SD, integration of SD in accounting curricula, and potential barriers to integrating SD into accounting education. A quantitative research method was employed, using an online questionnaire administered to academic staff in the accounting department at Saudi Arabian universities. The analysis was applied to 90 completed responses using SPSS software.

The findings demonstrate a substantial awareness and perceived importance of SD among academic participants, despite a lack of formal training in this area. The study emphasises the importance of incorporating SD principles within the accounting curriculum, highlighting an existing gap in the field. Although participants highlight their willingness to integrate SD into their courses and professional activities, the study notes that present accounting education falls short of adopting SD concepts, a significant gap that impedes students' preparation for the profession's changing demands in the context

of sustainability. The analysis also reveals that a lack of sufficient funding, confusion about SD practices in teaching, time constraints, and overcrowded curricula are seen as the key internal obstacles preventing the integration of SD into accounting education, while a lack of governance and regulatory frameworks, as well as the absence of social pressure, are perceived as external barriers. The results emphasise the importance of addressing these barriers if SD principles are to be properly integrated into accounting education, hence better preparing students for their future careers in alignment with the best sustainability practices, given that student persistence is found to be the least potential barrier. The results showed no statistically significant differences in perceptions, integration, or barriers based on gender or qualifications. However, differences based on academic position show that professors and associate professors perceive more institutional barriers than assistant professors and lecturers, likely due to their increased administrative and leadership responsibilities.

Overcoming these barriers requires effective leadership, which is crucial to support the transformation process [48]. Leadership plays a vital role in driving institutions towards implementing SD practices by setting institutional priorities and establishing a clear direction. Leaders can align their institutions' vision with SD principles, developing strategic plans to operationalise institutional vision, and ensuring the allocation of resources required for introducing and sustaining transformative efforts. Furthermore, collaboration with stakeholders and encouraging collaboration could be an important aspect in overcoming the barriers [49], [28]. Such collaboration is critical for bridging the gap between theoretical knowledge and real-world issues. Implementing such cooperative schemes in educational contexts could entail allowing students to work on actual initiatives related to SD with interested stakeholders [50]. These partnerships have the potential to accelerate the transition to an education system that prioritises SD. The findings highlight the importance of implementing institutional reforms, such as establishing sustainability offices, reviewing policies, and providing personalised support to accounting staff members. These measures would help better integrate SD into accounting education and contribute to a more responsible and ethical sustainable business environment.

This study contributes to the literature. First, it addresses the serious absence of accounting research on SD in higher education, as noted by [18], [19]. Second, the study covers a significant gap by

including the views of accounting staff, who play critical roles in advancing ESD, a feature that has been disregarded in previous research. Third, by investigating faculty perspectives of SD, its incorporation into accounting curriculum, and implementation barriers, the study provides useful insights into the current situation of SD in higher education in Saudi HEIs. Finally, our findings provide a key foundation for designing policies to support the transition to ESD, particularly in the context of Saudi Arabia and in line with Saudi Vision 2030.

This study suffers from important limitations. First, the data was collected from a single country, Saudi Arabia, at a specific point in time, limiting the applicability of the findings to other cultural and institutional contexts. Second, the cross-sectional methodology limits the study's ability to capture dynamic changes or trends in education and sustainable development practices that arise in response to global and local factors. Third, the absence of interviews limits the generation of more in-depth information from participants. To address these limitations, future research might encompass more diverse geographic locations in different regions of the world and use longitudinal designs to capture changes and trends over time, and also to conduct interviews to dig deep and extract additional potential overlooked themes from participants, thus delivering a more comprehensive and globally relevant understanding of the integration of SD in accounting education within the context of HEIs.

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Alshammari, K., contributed to the development of ideas and the formulation or evolution of the overarching research aims. Otaibi, F. reviewed the literature and was responsible for the preparation, creation, and presentation of the published work, specifically writing the initial draft. Alkhataybeh, I. contributed to the development and design of the methodology and wrote the findings. Alkhataybeh, A., made the statistical analysis and applied the techniques to analyze or synthesize the study data.

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Conflict of Interest

The authors have no conflicts of interest to declare.

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APPENDIX

Table 1: Participants' Demographics

Item	Category	Frequency	Percentage (%)
Qualification	Master's degree	17	18.9
	PhD Degree	73	81.1
	Total	90	100
Job title	Lecturer	18	20
	Assistant Professor	54	60
	Professor and Associate Professor	18	20
	Total	90	100
Experience	Less than 5 years	8	8.9
	5- 10 years	35	38.9
	10- 15 years	19	21.1
	More than 15 years	28	31.1
	Total S	90	100
Gender	Male	66	73
	Female	24	27
	Total	90	100

Source: created by the authors

Table 2: Value of Cronbach- α for perceptions, integration, and barriers items

Domain	Number of Items	Value
General Perceptions Towards SD	5	.75
Integration of SD Concepts with Curriculum	7	.89
Barriers to SD Implementation Among Teaching Staff	7	.82
Total Items	19	.86

Source: created by the authors

Table 3. Understanding the Sustainability Concept Among Staff by Job Title.

Respondents feedback	Lecturer	Assistant Professor	Professor and Associate Professor	Total (%)
Understand the Concept				
Understand a little	0	3	0	3(3.3)
Understand somewhat	8	5	0	13 (14.4)
Reasonably understand	10	29	11	50 (55.6)
Understand a lot	0	17	7	24 (26.7)
Importance of the Concept				
Low Importance	3	3	3	9 (10)
Very Important	15	51	15	81 (90)
Total	18	54	18	90 (100)

Source: created by the authors

Table 4. The Perceptions of Staff Members

	N	Mean	Std. Deviation	Minimum	Maximum
Adopting SD practices improves the university's image and reputation.	90	4.20	1.07	1.00	5.00
Willing to integrate SD concepts into daily practices.	90	4.07	0.91	1.00	5.00
Adopting SD inspires my students and colleagues.	90	4.03	0.95	1.00	5.00
SD is a core to your functions.	90	3.74	0.95	1.00	5.00
It is only worth doing environmentally friendly initiatives if it saves money	90	2.33	1.07	1.00	5.00

Source: created by the authors

Table 5. The Perceptions of SD Integration in the Accounting Curriculum

	N	Mean	Std. Deviation	Minimum	Maximum
It is imperative for accounting students to receive education about SD.	90	4.18	0.91	1.00	5.00
Integration of SD into your courses is essential.	90	4.07	0.97	1.00	5.00
Mandatory courses on SD should be added to the accounting curriculum.	90	4.01	1.02	1.00	5.00
I intend to incorporate the best SD practices into my professional activities.	90	3.79	0.99	1.00	5.00
I intend to invite guest lecturers/ professors to discuss SD.	90	3.50	0.99	1.00	5.00
Your course(s) give students awareness about SD.	90	3.39	1.11	1.00	5.00
The current accounting education system provides enough information about SD	90	2.82	1.14	1.00	5.00

Source: created by the authors

Table 6. The Barriers to SD Integration in HEIs

	N	Mean	Std. Deviation	Minimum	Maximum
Lack of sufficient organizational funding.	90	3.38	0.87	1.00	5.00
Lack of governance and regulatory frameworks.	90	3.27	1.16	1.00	5.00
Overcrowded curriculum.	90	3.24	1.17	1.00	5.00
The absence of social pressure.	90	3.23	1.02	1.00	5.00
Confusion about the SD practices in teaching.	90	3.12	1.03	1.00	5.00
Lack of time to participate in SD initiatives.	90	3.03	1.19	1.00	5.00
Student resistance.	90	2.57	1.01	1.00	5.00

Source: created by the authors

Table 7. Differences in Perception, Integration, and Barriers based on Gender or Qualification

		Levene's Test for Equality of Variances				t-test for Equality of Means						
		Mean	SD	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
											Lower	Upper
Perception	Male	3.65	0.76	1.58	0.21	-0.53	88	0.60	-0.09	0.17	-0.43	0.25
	Female	3.74	0.53									
Integration	Male	3.65	0.85	0.59	0.45	-0.59	88	0.56	-0.11	0.19	-0.49	0.27
	Female	3.76	0.65									
Barriers	Male	3.11	0.78	1.18	0.28	-0.13	88	0.90	-0.02	0.18	-0.38	0.33
	Female	3.14	0.64									
Perception	Masters	3.51	0.70	0.01	0.92	-1.18	88	0.24	-0.22	0.18	-0.58	0.15
	PHD	3.72	0.71									
Integration	Masters	3.41	0.58	1.50	0.22	-1.65	88	0.10	0.20	-0.74	0.07	0.27
	PHD	3.75	0.84									
Barriers	Masters	3.17	0.49	4.61	0.03	0.30	88	0.77	0.19	-0.33	0.44	0.33
	PHD	3.11	0.80									

Source: created by the authors

Table 8. One-Way ANOVA for Perception, Integration, and Barriers by Job Title:

				Tests of Homogeneity of Variances	ANOVA		
	Job title	Mean	Std. Deviation	Levene Statistic	Sig.	F	Sig.
Perception	Lecturer	3.74	0.52	1.40	0.25	1.59	0.21
	Assistant Professor	3.74	0.66				
	Professor and Associate Professor	3.41	0.94				
Integration	Lecturer	3.49	0.61	2.18	0.12	1.75	0.18
	Assistant Professor	3.81	0.74				
	Professor and Associate Professor	3.48	1.06				
Barriers	Lecturer	3.26	0.48	1.72	0.19	3.76	0.03
	Assistant Professor	3.21	0.78				
	Professor and Associate Professor	2.71	0.72				
Group Differences							
Barriers		Mean Difference	Sig.	95% Confidence Interval			
				Lower Bound	Upper Bound		
	Lecturer - Assistant Professor	0.05	0.96	-0.42	0.52		
	Lecturer – Professor and Associate Professor	0.55	0.06	-0.02	1.13		
	Assistant Professor, Professor, and Associate Professor	0.50*	0.03	0.04	0.97		

Source: created by the authors

Table 9. One-Way ANOVA for Perception, Integration, and Barriers by Years of Experience:

				Tests of Homogeneity of Variances		ANOVA	
	Job title	Mean	Std. Deviation	Levene Statistic	Sig.	F	Sig.
Perception	Less than 5 years	3.73	0.38	2.96	0.04	0.36	0.78
	5- 10 years	3.76	0.53				
	10- 15 years	3.64	0.63				
	More than 15 years	3.58	0.98				
Integration	Less than 5 years	3.52	0.68	0.02	1.00	0.46	0.71
	5- 10 years	3.80	0.76				
	10- 15 years	3.58	0.77				
	More than 15 years	3.65	0.91				
Barriers	Less than 5 years	3.02	0.57	0.39	0.76	1.86	0.14
	5- 10 years	3.32	0.72				
	10- 15 years	3.14	0.72				
	More than 15 years	2.89	0.79				

Source: created by the authors