Data Article

Dataset for integration of sustainability education into the accounting curricula of tertiary education institutions in Jordan

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A R T I C L E   I N F O

Article history:
Received 25 February 2022
Revised 20 April 2022
Accepted 25 April 2022
Available online 1 May 2022

Dataset link: Dataset for integration of sustainability education into the accounting curricula of tertiary education institutions in Jordan (Original data)

Keywords:
Accounting education
Sustainability education
Jordan

A B S T R A C T

This paper presents a survey data to understand the perceptions of relevant stakeholders in Jordan about the integration of sustainability education into the accounting curricula of tertiary education institutions in the country. Pursuant to this aim, the Stakeholder Theory is adopted as the underpinning theory in the study. The study developed a questionnaire survey based on prior literature for gathering data regarding 5 elements of sustainability education integration into accounting curricula in the context of Jordan, with the elements being: (1) the potential role of sustainability accounting education (SAE), (2) potential SAE usefulness, (3) suitability of SAE in tackling the objectives of the higher education institutions in Jordan, (4) the most applicable methods of SAE integration and (5) the most suitable SAE topics to be integrated into the curricula. Collection of data was conducted from 5 varying salient stakeholders in Jordan, namely accounting educators, accounting students, accounting professionals in the industry, government employees, and the accounting profession. The sampling method used in this

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https://doi.org/10.1016/j.dib.2022.108224
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The study is convenience and snowballing. A total of 702 questionnaire surveys were retrieved manually and found useable for analysis following the distribution of survey copies. The analysis used on data included descriptive analysis, t-test, one-way ANOVA, and LSD post-hoc analysis. The gathered data was gauged on a Likert scale and was considered to be re-useable to use for differentiating between the educators and students’ answers in the private and public universities in Jordan. Added to this, data was found useful to gain evidence regarding the SAE importance in the context of emerging economies, like Jordan. Data has significant implications to policymakers, accounting educators, government representatives, accountants working in the industry, and professional accountants in Jordan in their quest to develop education solutions through the SAE incorporation for a higher value and eventually, advancements in the industry and the economy.

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Specifications Table

| Subject | Accounting education, |
|---------|----------------------|
| Specific subject area | Sustainability accounting education of tertiary institutions in a developing country. |
| Type of data | Tables, Excel file |
| How data was acquired | The administrated questionnaire survey was distributed to participants and collected manually. |
| Data format | Raw, Analysed |
| Parameters for data collection | Data on the questionnaire elements of sustainability accounting education was collected in 5 months’ period in 2021 and from the distributed questionnaires, 815 were retrieved, and following a review of responses content. 113 were dropped because of lack of information/missing data, which leaves a total of 702 questionnaires suitable for statistical analysis. A copy of the survey is provided in the supplementary material. |
| Description of data collection | The questionnaire survey was distributed to a wide group of stakeholders including accounting educators, accounting students, accountants working in the industry, governmental employees, and the accounting profession. Participants were sampled randomly and, in some cases, purposively (i.e., government employees). A snowballing sample technique was used to determine and reach the most knowledgeable from the government employees. |
| Data source location | Region: Middle East |
| Country | Jordan |
| Data Accessibility | Repository name: Mendeley Data. Title of the dataset: Dataset for integration of sustainability education into the accounting curricula of tertiary education institutions in Jordan. DOI: 10.17632/nsj38szgwd.1 Direct URL: https://data.mendeley.com/datasets/nsj38szgwd/1. |
| Related research article | Al-Hazaima, H., Low, M. and Sharma, U. (2021). "Perceptions of salient stakeholders on the integration of sustainability education into the accounting curriculum: a Jordanian study", Meditari Accountancy Research, Vol. 29 No. 2, pp. 371–402. https://doi.org/10.1108/MEDAR-02-2020-0708 |
Value of the Data

• Dataset is found to be valuable as it describes the significance of sustainability education to the accounting curriculum and its integration requirement as well as the sustainability expectations of the stakeholders from the accounting curriculum.
• Dataset is found to be valuable to conduct comparisons in future studies surrounding sustainability accounting education, particularly in the context of emerging economies.
• Dataset is found to be useful in shedding light and paving the director towards sustainability knowledge integration in business and accounting curricula.
• Data is useful to be re-used in investigating the differences between the educators and students’ answers in universities (public and private) on the significance of SAE.
• The outcome of the dataset can be useful for tertiary institutions and the relevant stakeholders to comprehend the proper integration of sustainability education into the accounting curriculum in tertiary education. Such understanding would open the doors for accountants and business executives in strengthening competencies of responding in a way that is resourceful and resilient towards business changes, particularly in areas highly susceptible to societal and environmental changes. Data is found to hold the potential to be useful to policymakers, tertiary education institutions, practitioners, and government entities.

1. Data Description

Data were collected concerning the sustainability education integration into the tertiary education institutions’ accounting curricula in a span of 5 months (January 2021–May 2021) from 5 various groups of stakeholders in the country (i.e., accounting educators, accounting students, professional accountants in the industry, government employees and accounting professionals). The primary tool for collecting data was the questionnaire survey manually distributed to the randomly chosen participants. Out of the distributed questionnaire copies, 815 were retrieved, of which 113 were deleted owing to missing data, making the remaining useable copies to be 702 – these were found to be valid to be exposed to statistical analysis. Prior to the actual data gathering, the questionnaire was developed in English and Arabic as both languages are considered to be formal languages in the universities in Jordan in the accounting faculty [1,2].

The study sample comprised of a group of individuals who held knowledge and are experienced in English and Arabic, which did not need the consultation of a panel of experts. In particular, they constituted accounting lecturers who were knowledgeable and experienced in the field of sustainability accounting. They were categorized and coded based on their workplace and occupations. The final questionnaire contents covered an introduction, socio-demographic information, and the measurement of constructs, the last of which were measured by items gauged on a 5-point Likert scale. The obtained raw data using the original questionnaire can be accessed in Mendeley data at https://data.mendeley.com/datasets/nsj38szgwd/1. In the dataset file, the first column “Name” refers to the workplace name of the respondents.

The study respondents were selected using convenience and snowball sampling methods, this approach is used in the majority of similar studies. The researchers visited all Jordanian universities and distributed the questionnaire survey manually (face to face) on all available accounting educators and waited for them to fill in the survey. The researchers also asked some educators who teach advanced accounting courses for help in finding out groups of third- and fourth-year accounting students to participate in the study. The researchers believed that third- and fourth-year accounting students are more knowledgeable and they have been exposed to most courses in the accounting curriculum compared to first- and second-year students. The researchers also visited the industrial companies in Jordan and asked accountants working there to fill in the questionnaire survey and to help in finding out the most knowledgeable accountants to participate in the study. Usually, the number of accountants working in industrial companies is not big and it can be easily considered in the sample. Thus, this study has considered most accoun-
tants working the industrial sector. In addition, the researchers visited different ministries in Jordan that are more related to sustainability issues and using the snowballing method, the researchers were able to reach the most relative governmental employees who can help enrich the study with useful information. These governmental employees have different majors including accounting, economics, environment, education, engineering and medical doctors. This variety in their academic major is due to the nature of their work in the targeted ministries as clarified in Table 1. The last group of participants in this study was taken from the accounting profession in Jordan. The researchers visited two Jordanian accounting associations and asked professional accountants working there to participate in the study. Table 1 shows details on the samples and sampling method of this study.

The profile of the respondents is tabulated in Table 2, within which, it is clear that male participants constituted the majority of the respondents (67.7%) and they were categorized into five major university stakeholder types (i.e., university educator, university student, accountants in the industry, governmental employees, and accountants professionals in the associations). Based on the comparison among categories, the top represented category is university student (52.0%), while the lowest represented category are accountants at the accounting associations (6.8%). Also, the majority of the respondents held no working experience being that they were still students. The majority of the student category (55.9%) were in their 4th year of studies, covering a proportion of 29.1% of the whole sample. The next major proportion comprised of Ph.D. holders (23.4%), while the Master’s degree followed with 7.0%. Based on their major, many of the respondents had an accounting degree (93.2%), while the least of them held a major in economics (0.6%).

Part one of the questionnaire survey is concerned with the sample’s demographic information, while parts 2–6 are concerned with the potential role of sustainability accounting education (SAE), SAE potential usefulness, SAE suitability in tackling the higher education objectives in Jordan, the suitable techniques of SAE integration, and the most suitable topics of SAE to be incorporated into the tertiary education curricula.

Table 1
Population, sample and sampling method.

| Population | Criteria for sample selection | Criteria for selecting the individual respondents |
|------------|-------------------------------|--------------------------------------------------|
| 29 Universities | All universities | All accounting educators who have PhD; A number of third and fourth-year accounting students taken from universities considering the estimated population and a level of significance 5% |
| 10 Industrial Subsectors Listed on the Amman Stock Exchange (ASE) | The hazardous industries; all companies in the chemical subsector and all companies in the mining and extraction subsector; total companies 23 | All accountants working in these companies |
| 25 Ministries | Seven ministries that relate best to the research topic i.e., Higher Education, Environment, Industry and Trade, Health, Energy and Mineral Resources, Agriculture, and Water and Irrigation | Individuals selected from each ministry based on their positions and experience; based on the snowballing method |
| 2 Accounting Associations | Jordan Association of Certified Public Accountants and Jordan Association of Management Accountants | All professional accountants working in these associations as both are relatively small |
Table 2
Respondents’ profile.

| Demographic variables       | Category                              | Frequency | (%) |
|-----------------------------|---------------------------------------|-----------|-----|
| Gender                      | Male                                  | 475       | 67.7|
|                             | Female                                | 227       | 32.3|
| Type of participants        | University educator                   | 157       | 22.4|
|                             | University student                    | 365       | 52.0|
|                             | Accountants at industrial organisations| 80        | 11.4|
|                             | Governmental employees                | 52        | 7.4 |
|                             | Accountants at accounting associations| 48        | 6.8 |
| Work experience             | No work experience                    | 365       | 52.0|
|                             | Fewer than 5 years                    | 67        | 9.5 |
|                             | 5 to 10 years                         | 146       | 20.8|
|                             | More than 10 years                    | 124       | 17.7|
| Level of education          | Third-year accounting student         | 161       | 22.9|
|                             | Fourth-year accounting student        | 204       | 29.1|
|                             | Bachelors’ degree                     | 119       | 17.0|
|                             | Masters’ degree                       | 49        | 7.0 |
|                             | PhD                                   | 169       | 23.4|
| Major at university         | Accounting                            | 654       | 93.2|
|                             | Economics                             | 4         | 0.6 |
|                             | Environment                           | 11        | 1.6 |
|                             | Education                             | 6         | 0.9 |
|                             | Engineering                           | 18        | 2.6 |
|                             | Medical doctor                        | 9         | 1.3 |

2. Experimental Design, Materials and Methods

The questionnaire survey-gathered data was exposed to analysis including means (M), standard deviations (SD), t-test, one-way ANOVA, and LSD post-hoc to determine the answers to the research questions in relation to sample demographics (part 1). The significant differences between the male and female respondents’ responses were examined to develop major themes, using t-test analysis. According to Norman [3,4], t-test analysis is employed for the determination of the presence of any significant differences between the two groups (male and female respondents) answers. Specifically, the t-test comprises of p-value, which needs to be lower than the alpha value to highlight significant differences. In social science, alpha value is generally at 5%. The t-test analysis results indicated no significant differences in the means of both gender’s responses for the entire major part of the questionnaire survey, with the p-value of each part exceeding the alpha value (5%).

Additionally, the significant differences among the groups (educators, students, industry professionals, government, and accounting profession) were analyzed using one-way ANOVA [3], constituting f-value (squared t-test) and Sig. (less than 5% alpha value) for the significant differences to be nil [5]. The analysis showed significant differences in the means of the responses concerning the questionnaire survey parts. The ANOVA results show that there are significant differences in the means of the responses based on their occupation variables (f = 14.719, 18.573, 2.500, 16.955, and 23.432, respectively, with Sig. lower than 5%). Table 3 shows the results of one-way ANOVA for all parts of the questionnaire survey based on the occupation variable.

Moreover, LSD post-hoc analysis was conducted to determine the differences among the stakeholder groups where applicable. The findings show that there are significant differences based on the occupation variable of the participants. Table 4 shows these differences.

The results from Table 4 indicate that government employees appeared to be the top proponents of sustainability accounting education in Jordan in comparison to the entire participant groups (M = 4.32, compared to the rest, M = 4.04, 3.74, 3.98 and 3.84). The least proponent group of the role of sustainability accounting education are the students (M = 3.74, compared
to the rest, $M = 4.04, 3.98, and 4.32$). The results also show that university educators are more convinced of the role of sustainability accounting education ($M = 4.04$) in comparison to the accountants employed in accounting associations ($M = 3.84$).

Government employees were found to be the strongest proponents of the importance of SAE owing to their potential usefulness in the Jordanian context ($M = 4.20$), while university students were the least proponents based on the same ($M = 3.59$). The student group is the least interested in sustainability issues and it appears that they have low motivation to study accounting for sustainability, compared to the remaining participant groups, as a consequence, the willingness of students to study new topics like sustainability becomes a crucial challenge to the educators in the accounting field. Based on the statistical results, students’ willingness may be promoted by their educators as they did not completely disregard the importance of integrating sustainability education into the accounting curriculum despite their hesitance.

It is evident that the results above indicate that among the examined groups, government employees and university educators are top advocates compared to students when it comes to the importance of SAE in meeting the objectives of higher education institutions in Jordan ($M = 3.88$ and 3.78, respectively, compared to 3.62). This is an expected result considering the objective of higher education in Jordan can be met through SAE, if it has a major role and con-

### Table 3
One-way ANOVA results based on participants’ occupation.

| Parts of questionnaire survey | Occupation                          | N  | Mean | SD  | F     | Sig |
|-------------------------------|-------------------------------------|----|------|-----|-------|-----|
| **Roles of SAE in Jordan (Part 2)** | University educator                  | 157| 4.04 | 0.57| 14.719| 0.000|
|                               | University student                  | 365| 3.74 | 0.66|       |     |
|                               | Accountants at industrial organizations | 80 | 3.98 | 0.57|       |     |
|                               | Governmental employees               | 52 | 4.32 | 0.63|       |     |
|                               | Accountants at accounting associations | 48 | 3.84 | 0.51|       |     |
| **Usefulness of SAE in Jordan (Part 3)** | University educator                  | 157| 3.95 | 0.47| 18.573| 0.000|
|                               | University student                  | 365| 3.59 | 0.66|       |     |
|                               | Accountants at industrial organizations | 80 | 3.89 | 0.61|       |     |
|                               | Governmental employees               | 52 | 4.20 | 0.61|       |     |
|                               | Accountants at accounting associations | 48 | 3.82 | 0.63|       |     |
| **The suitability of SAE in addressing the aims of Higher Education in Jordan (Part 4)** | University educator                  | 157| 3.78 | 0.62| 2.500 | 0.041|
|                               | University student                  | 365| 3.62 | 0.76|       |     |
|                               | Accountants at industrial organizations | 80 | 3.76 | 0.70|       |     |
|                               | Governmental employees               | 52 | 3.88 | 0.74|       |     |
|                               | Accountants at accounting associations | 48 | 3.76 | 0.71|       |     |
| **Methods of integrating sustainability education into the accounting curricula (Part 5)** | University educator                  | 157| 3.82 | 0.57| 16.955| 0.000|
|                               | University student                  | 365| 3.36 | 0.81|       |     |
|                               | Accountants at industrial organizations | 80 | 3.63 | 0.72|       |     |
|                               | Governmental employees               | 52 | 3.99 | 0.65|       |     |
|                               | Accountants at accounting associations | 48 | 3.75 | 0.76|       |     |
| **Proposed sustainability accounting topics (Part 6)** | University educator                  | 157| 4.01 | 0.47| 23.432| 0.000|
|                               | University student                  | 365| 3.59 | 0.62|       |     |
|                               | Accountants at industrial organizations | 80 | 3.80 | 0.57|       |     |
|                               | Governmental employees               | 52 | 4.20 | 0.60|       |     |
|                               | Accountants at accounting associations | 48 | 3.93 | 0.66|       |     |
Table 4
LSD post hoc analysis to explore places of differences in participants’ answers based on the occupation variable.

| Occupation          | Mean | University educator | University student | Accounts at industrial organizations | Governmental employees | Accounts at accounting associations |
|---------------------|------|---------------------|--------------------|--------------------------------------|-------------------------|------------------------------------|
| Educator            | 4.04 | 0.30249*            | 0.06706            | 0.28169*                             | 0.20790*                |                                    |
| Student             | 3.74 |                    |                    |                                      |                         |                                    |
| Industry            | 3.98 |                    |                    |                                      |                         |                                    |
| Government          | 4.32 |                    |                    |                                      |                         |                                    |
| Accounting Associations | 3.84 |                    |                    |                                      |                         |                                    |

Usefulness of SAE in Jordan (Part 3)

| Occupation          | Mean | University educator | University student | Accounts at industrial organizations | Governmental employees | Accounts at accounting associations |
|---------------------|------|---------------------|--------------------|--------------------------------------|-------------------------|------------------------------------|
| Educator            | 3.95 | 0.36274*            | 0.06029            | 0.24711*                             | 0.12821                 |                                    |
| Student             | 3.59 |                    |                    |                                      |                         |                                    |
| Industry            | 3.89 |                    |                    |                                      |                         |                                    |
| Government          | 4.20 |                    |                    |                                      |                         |                                    |
| Accounting Associations | 3.82 |                    |                    |                                      |                         |                                    |

The suitability of SAE in addressing the aims of Higher Education in Jordan (Part 4)

| Occupation          | Mean | University educator | University student | Accounts at industrial organizations | Governmental employees | Accounts at accounting associations |
|---------------------|------|---------------------|--------------------|--------------------------------------|-------------------------|------------------------------------|
| Educator            | 3.78 | 0.15333*            | 0.01249            | 0.09793                              | 0.02013                 |                                    |
| Student             | 3.62 |                    | 0.14084            | 0.25126*                             | 0.13320                 |                                    |
| Industry            | 3.76 |                    | 0.11042            | 0.35913*                             | 0.11875                 |                                    |
| Government          | 3.88 |                    |                    |                                      |                         |                                    |
| Accounting Associations | 3.76 |                    |                    |                                      |                         |                                    |

Methods of integrating sustainability education into the accounting curricula (Part 5)

| Occupation          | Mean | University educator | University student | Accounts at industrial organizations | Governmental employees | Accounts at accounting associations |
|---------------------|------|---------------------|--------------------|--------------------------------------|-------------------------|------------------------------------|
| Educator            | 3.82 | 0.46365*            | 0.19359            | 0.16554                              | 0.07484                 |                                    |
| Student             | 3.36 |                    | 0.27006*           | 0.62920*                             | 0.38881*                |                                    |
| Industry            | 3.63 |                    | 0.35913*           | 0.37532*                             | 0.11875                 |                                    |
| Government          | 3.99 |                    |                    |                                      |                         |                                    |
| Accounting Associations | 3.75 |                    |                    |                                      |                         |                                    |

Proposed sustainability accounting topics (Part 6)

| Occupation          | Mean | University educator | University student | Accounts at industrial organizations | Governmental employees | Accounts at accounting associations |
|---------------------|------|---------------------|--------------------|--------------------------------------|-------------------------|------------------------------------|
| Educator            | 4.01 | 0.42189*            | 0.20431*           | 0.19620*                             | 0.07987                 |                                    |
| Student             | 3.59 |                    | 0.21758*           | 0.61809*                             | 0.34202*                |                                    |
| Industry            | 3.80 |                    |                    | 0.40051*                             | 0.12444                 |                                    |
| Government          | 4.20 |                    |                    |                                      |                         | 0.27607*                          |
| Accounting Associations | 3.93 |                    |                    |                                      |                         |                                    |

tributes towards it. Nevertheless, the students' perception towards the role and usefulness of SAE in Jordan is the least promising compared to the other groups of respondents.

Furthermore, the results show that the highest support towards adopting sustainability education using the proposed integration methods comes from government employees, followed by accountants in the industry ($M = 3.99$ compared to $M = 3.63$, respectively). Students are the least supporters of integration of sustainability education using a proposed method compared to educators, accountants in the industry, government employees, and accountants in the accounting associations ($M = 3.36$, compared with the rest $M = 3.82, 3.63, 3.99, and 3.75$, respectively).

Finally, government employees are the top advocates of the importance of the proposed topics, when compared to the remaining participant groups ($M = 4.20$, compared to $M = 4.01, 3.59, 3.80, and 3.93$). The second supporting group of the importance of the proposed sustainability accounting topics is accounting educators ($M = 4.01$), followed by accountants within the accounting associations ($M = 3.93$). In comparison, the second to the last least support comes
from the accountants within the industrial organization group ($M = 3.80$), with the students being last ($M = 3.59$).

**Ethics Statement**

In this study, data collection met the ethical concerns by ensuring that information obtained from the respondents were used solely for the purpose of research, and was kept confidential throughout and after the completion of the research. The study obtained ethical approval from The Hashemite University; the ethical protocol number is 2200107/102. Informed consent was obtained from all participants in this study.

**Supplementary Materials**

The study's online version is accessible through https://data.mendeley.com/datasets/nsj38szgwd/1 for article-related supplementary materials.

**Declaration of Competing Interest**

The authors declare their absence of any competing financial interest or personal relationships/connections that could affect the study.

**Data Availability**

Dataset for integration of sustainability education into the accounting curricula of tertiary education institutions in Jordan (Original data) (Mendeley Data).

**CRediT Author Statement**

**Huthaifa Al-Hazaima:** Supervision, Software, Validation, Writing – original draft, Formal analysis; **Mohannad Obeid Al Shbail:** Supervision, Software, Validation, Writing – original draft, Formal analysis; **Hashem Alshurafat:** Investigation, Writing – review & editing, Resources; **Husam Ananzeh:** Conceptualization, Data curation; **Seif Obeid Al Shbeil:** Conceptualization, Visualization.

**Acknowledgments**

The authors extend their gratitude to the participants who participated and contributed their time and efforts towards the research completion.

**Supplementary Materials**

Supplementary material associated with this article can be found in the online version at doi: 10.1016/j.dib.2022.108224.
References

[1] H. Alshurafat, M.O. Al Shbail, W.M. Masadeh, F. Dahmash, J Al-Msiedeen, Factors affecting online accounting education during the COVID-19 pandemic: an integrated perspective of social capital theory, the theory of reasoned action and the technology acceptance model, Educ. Inf. Technol. 26 (2021) 6995–7013, doi:10.1007/s10639-021-10550-y.

[2] M.O. Al Shbail, H. Alshurafat, H. Ananzeh, J Al-Msiedeen, Dataset of factors affecting online cheating by accounting students: the relevance of social factors and the fraud triangle model factors, Data Brief 40 (2022) 107732, doi:10.1016/j.dib.2021.107732.

[3] G. Norman, Likert scales, levels of measurement and the “laws” of statistics, Adv. Health Sci. Educ. 15 (2010) 625–632, doi:10.1007/s10459-010-9222-y.

[4] T.M. Liddell, J.K. Kruschke, Analyzing ordinal data with metric models: what could possibly go wrong? J. Exp. Soc. Psychol. 79 (2018) 328–348, doi:10.1016/j.jesp.2018.08.009.

[5] W.D. Crano, M.B. Brewer, A. Lac, Principles and Methods of Social Research, 3rd ed., Routledge, 2014, doi:10.4324/9781315768311.