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Demographics and Economic Sustainability Consciousness for Sustainable Development in Higher Education Institutions: Study of Tanzania

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Abstract: Sustainable Development (SD) in Africa is on-going including Tanzania. However, the UNDP report of 2023 highlights the need to speed up efforts so that Africa achieves the global goals by 2030. In view of this, it is critical to explore adaptation for SD in the context of Tanzania's Higher Education Institutions (HEIs) including Open and Distance Learning (ODL) institutions. Hence, this paper's purpose is to explore demographics and economic Sustainability Consciousness (SC) for SD . Specifically, this study examines age and economic SC awareness for SD in Tanzania. Quantitative method is deployed in this study and a sample size of 119 staff from selected universities in Tanzania provided the quantitative data that was subjected to descriptive statistics whereas qualitative data collected from 15 face to face interviews were analyzed using Nvivo. The findings revealed that most staff in relation to economic SC were between 30 to 40 years old (44.54%). In terms of economic SC awareness, the findings indicate that most of the staff strongly agree that elimination of poverty globally is necessary for SD (70.94%) and that SD requires companies to act responsibly towards their employees, customers and suppliers (61.54%). This paper implies that the economic practitioners including Monitoring, Evaluation and Learning (MEL) experts should consider that the most of the middle-aged staff in HEIs have economic SC awareness in terms of the need to reduce poverty as well as companies to act with responsibilities not only to the employees but also customers and suppliers for SD.

Keywords: demographics, economic sustainability consciousness, sustainable development, SDG, higher education institutions, open and distance learning, ODL, Tanzania

Highlights

What is already known about this topic:

- SC questionnaire that was specifically sampled on students.
- Issues such as university-community partnership and collaboration are critical to attain effective practices in university-led sustainability projects.

What this paper contributes:

- Explore demographic and economic sustainability consciousness for SD.
- In examining age and economic sustainability consciousness awareness for sustainable development in HEIs of Tanzania.

Implications for theory, practice and/or policy:

- Economic practitioners including M&EL experts should consider that most of the middle-aged staff in HEIs including an ODL institution have economic SC awareness in terms of the need to reduce poverty.
- Practical implication is for Economic practitioners to consider the opinion of staff that companies to act with responsibilities not only to the employees but also customers and suppliers for SD.

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Introduction

In Africa, sustainable development is on-going to achieve Sustainable Development Goals (SDGs). Importantly, Matinda (2025) noted that most of the respondents (91%) agreed that Open and Distance Learning (ODL) is the path to achieving SDGs in Tanzania. However, the UNDP report of 2023 highlights that there is a need to speed up efforts so that Africa including Tanzania achieves the global goals by 2030. A study by Moreno and Cueto (2022) has classified some African countries such as Angola, Botswana, Egypt, Mozambique, Sierra Leone, South Africa, and Tanzania in terms of economic Sustainability Consciousness (SC) as progress but with rating 0.67 which is slow and means that there are major challenges in achieving SDGs while the trend showed 1.67 which signifies a moderate improvement in SDGs. To further understand the SC, the study by Gericke et al. (2019) applied the dimensions of attitude, behaviour and knowingness to measure SC and thus created a SC questionnaire that was specifically sampled on students of Sweden. This paper customized the questionnaire by Gericke et al. (2019) to the context of Tanzania by sampling university staff.

In addition, Omotosho et al. (2025) asserted that on a worldwide scale, there is the need for effective practices in university-led sustainability projects by giving priority to issues such as university-community partnership. Again, on a worldwide scale, there is also the concern of generative Artificial Intelligence (AI) in education as evident in the study by Bozkurt and Sharma (2025) which advocates for educational sovereignty. Following the study by Omotosho et al. (2025), existing literature on university-community partnership regarding the current state of Tanzanian universities is also documented by scholars such as Ndimbo and Mkwabi (2025), Mkwizu and Mtae (2021) and Sima (2010). For instance, Ndimbo and Nkwabi (2025) focused on university-society relationships and found that there are some challenges on roles and missions of university and these include work overloads for academics. Similarly, Mkwizu and Mtae (2021) emphasized the need to engage the community categories (individuals, institutions and the government) for a better ODL experience. Likewise, Sima (2010) had suggested that in order to achieve community empowerment then university-community research partnership should be engaged in planning and conducting research that focuses on bottom-top model which emphasizes on community members to provide explanations to their problems for solutions.

However, Bacci et al. (2024) recommended that to validate the use of the sustainability consciousness questionnaire for the three dimensions then more research is needed in other countries. Therefore, in view of the comments by Bacci et al. (2024), the motive of this paper is to explore adaptation for sustainable development in the context of Tanzania's higher education institutions. This paper considers the economic pillar of sustainable development to examine sustainability consciousness. This study fills the literature gap in the Tanzanian context through the main objective of exploring demographic and economic SC for sustainable development. Specifically, this study examines age and economic SC awareness for sustainable development in HEIs of Tanzania.

Literature

Demographics

The term demographics has been used in many studies to describe unit of analysis. For instance, Uleanya et al. (2024) used demographics in terms of age, gender, and level of qualifications to describe the characteristics of the respondents who were students of selected universities within South Africa. The importance of considering demographics as a variable in a study helps to explain topics of interest such as motivation as the case for a study by Kara and Mkwizu (2020). The study by Kara and Mkwizu (2020) concentrated on demographic factors with results indicating that age, gender and family size significantly influenced travel motivations for both local and international leisure tourists. Similarly, this study considers demographic as an important variable to explain the economic SC awareness in universities. Therefore, in this paper, the demographics will focus on the age of the sampled staff in the selected HEIs within Tanzania.

Economic Sustainability Consciousness

Economic is a pillar of Sustainable Development (SD) and has been used as a dimension of SC in studies like Gericke et al. (2019), Mohamed et al. (2024) and Moreno and Cueto (2022). According to Bacci et al. (2024), Sustainability Consciousness (SC) is described as the intended overall concept of awareness. On the other hand, Gericke et al. (2019) included the dimension of economic as a variable to measure SC. Hence, this study adopts the definition SC from Bacci et al. (2024) but also the economic dimension of SC from Gericke et al. (2019). However, with the need to connect economic and SC, this study further refers to economic SC as the economic awareness related to SD among the staff as internal stakeholders of the university. Furthermore, the economic sustainability issues that are referred in this study are those which include elimination of poverty, companies acting responsibly towards employees, customers and suppliers.

Theoretical Frame

Theory of Planned Behaviour (TPB) is adopted for this study in order to specifically examine the demographic of staff in relation to economic SC in the dimensions of behaviour, attitude and knowingness. Furthermore, the reason for selecting TPB is because of the need to understand the opinions of the staff in terms of their behaviours, attitudes and knowingness on their awareness of sustainability from an economic pillar of SD. In addition, the origins of TPB is traced to Ajzen (1985, 1991) with the assumption that human behaviours can be predicted using the constructs of attitudes and behaviours with subjective norms and perception. Examples of TPB's previous practices in the context of SC or sustainability include Ayar and Gurbuz (2021), Pai et al (2024), and Phang and IIham (2023).

Phang and IIham (2023) applied TPB when investigating the environmental pillar of SD in sustainability within Malaysia. The findings indicated that the university students' environmental attitude, subjective norm and perceived behavioral control significantly impacted their intention to adopt the pro-environmental behavior. Similarly, this study adds to the knowledge of TPB application by examining the economic pillar of SD to understand the SC awareness of university staff. Equally, the study by Ajzen (2011) has confirmed that TPB is been widely used by scholars in studying behaviours and by 2010 there were 4550 journal articles that have cited TPB. For example, the study Ajzen and Driver (1991) used TPB to predict behaviours related to leisure participation. Importantly, there is also the need for establishing the relationship between the age variable and the dimensions of economic SC which include behaviour and attitude that are underpinned in the TPB. Hence, the application of TPB in understanding the age groups of staff and their awareness of economic SC in the university setting.

Demographics and Economic Sustainability Consciousness for Sustainable Development in Higher Education Institutions

Demographics in studies relation to HEIs been documented. Examples of such studies include Badruddin (2024). The study by Badruddin (2024) conducted research on the impact of demographic profile on sustainability learning among management education students. Badruddin (2024) used a survey approach and found that the demographics of students in terms of age and gender had significantly affected their cognitive learning. While Badruddin (2024) was limited to the application of demographics in relation to students' sustainability learning, this study expands the application of demographics for the staff in HEIs in relation to economic SC.

Other studies like Omotosho et al. (2025) on SD and in particular, the aspect of sustainability have applied a bibliometric and systematic literature review to investigate trends in university sustainability projects. The findings from the study by Omotosho et al. (2025) revealed that issues such as university-community partnership and collaboration are critical to attain effective practices in university-led sustainability projects. Another study by Omotosho et al. (2023) examined sustainability in HEIs but the

focus was on climate change. Hence, to connect this study and previous studies on the issue of sustainability then this paper focuses on sustainability in HEIs among the staff within Tanzania universities.

Furthermore, within Africa, literature on SC exists but limited. For example, Uleanya et al. (2024) conducted a study on SC of selected university students in South Africa. The study used quantitative approach with a sample of 1591 students and found that majority of the students were aged 31 years old or older (40%) and that generally, there is a need for country-specific contextual issues when promoting SC of students (Uleanya et al., 2024). This paper adds to the literature by concentrating on economic SC of staff in selected universities in the context of Tanzania. Furthermore, the specific objective of this paper is to examine age and economic SC awareness for SD in HEIs.

Methodology

A quantitative method is deployed in this cross-sectional study for purposes of generalization. Among the sampled Higher Education Institution (HEIs) for this paper is an Open and Distance Learning (ODL) institution. The selection criteria ensured that these HEIs are sampled from different regions of Tanzania. Furthermore, the sampled staff for this study was obtained from 5 universities which are The Open University of Tanzania (OUT) as ODL institution with presence in every region of Tanzania, St. Augustine University of Tanzania (SAUT) in Mwanza region, University of Dodoma (UDOM) in Dodoma region, Mbeya University of Science and Technology (MUST) in Mbeya region, and Nelson Mandela African Institute of Science and Technology (NM-AIST) in Arusha region. This study used a purposive sampling through staff leaders who then informed other staff to fill in the questionnaire and thus applied a snowballing sampling technique. To reduce potential bias, the questionnaire was sent to both leaders and academic staff and therefore, the study limitations was on leaders and academic staff. Additionally, a mixed method was adopted to get more information from the participants, therefore, a total sample size of 119 staff for quantitative data and 15 face to face interviewed (8 leaders and 7 academic staff) for qualitative data was achieved and deemed fit for analysis.

Economic SC statements in the survey questionnaire were adapted from Gericke et al. (2019) and experts checked to confirm applicability of the questions in the context of Tanzania. The dimensions to measure economic SC are attitude, behaviour and knowingness but to fit into the economic SC then elements such as reducing poverty and company responsibilities are integrated in the statements. In this mixed methods approach, the qualitative data was collected and recorded and later transcribed for analysis. The qualitative data in this study supplements the quantitative results. A QuestionPro was used to create the online survey questionnaire which was shared and made accessible to the sampled respondents using a link. The analysis for quantitative data applied descriptive statistics and cross-tabulation analysis assisted by Statistical Package for Social Sciences (SPSS) version 25. Using SPSS, the scale test for reliability shows a Cronbach's alpha for economic SC with 9 items is 0.842 and this value is acceptable since it is above 0.70 as supported in the study by Taber (2018). On the other hand, Nvivo 14 software was used to analyze the collected qualitative data to provide the themes to supplement the quantitative findings. Furthermore, the qualitative data was entered in the Nvivo 14 software then coded and summarized to avail core themes that addressed the objective of this study.

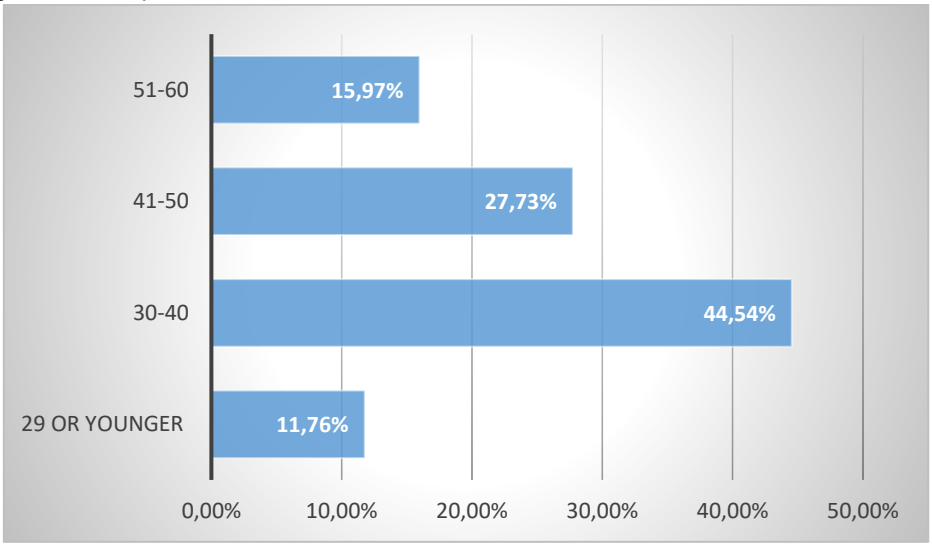
Limitations

The sample was focused on staff who were leaders and academic staff as respondents. For this particular paper, it means that generalizability is limited to staff only.

Findings and Discussions

The findings revealed that majority of the staff in relation to economic SC were mostly between 30 to 40 years old (44.54%) as indicated in Figure 1. This suggests that most of the staff in the selected universities for this study are middle aged. The findings of this study show that in the context of Tanzania as a country when examining economic SC, the age group is mostly middle aged. This supports the statement by Uleanya et al. (2024) for the need to promote SC based on country specific context.

Figure 1. Age of the respondents.



In terms of economic sustainability consciousness awareness, the findings in Table 1 indicate that most of staff strongly agreed that elimination of poverty globally is necessary for sustainable development (70.94%), it is important to reduce poverty (69.23%), sustainable development requires that companies act responsibly toward their employees, customers and suppliers (61.54%) and that sustainable development requires fair distribution of goods and services amongst people in the world (56.41%). These findings suggest that most of the staff strongly agreed that at a global level there is the need to reduce poverty and that SD requires companies to act responsibly and a fair distribution of goods and services. Furthermore, these results suggest that the staff awareness of economic SC is higher in knowingness compared to attitude and behaviour.

Table 1. Economic Sustainability Consciousness staff.

Variable	SD (%)	D (%)	N (%)	A (%)	SA (%)	DK (%)
Elimination of poverty globally is necessary for sustainable development (E1, K)	2.56	0.85	0.00	25.64	70.94	0.00
Sustainable development requires that companies act responsibly toward their employees, customers and suppliers (E2, K)	4.27	0.00	2.56	30.77	61.54	0.85
Sustainable development requires fair distribution of goods and services amongst people in the world (E3, K)	3.42	0.85	7.69	30.77	56.41	0.85
I think it is important to reduce poverty (E4, A)	2.56	0.00	0.85	26.50	69.23	0.85
Companies in rich countries should give employees in poor nations the same working conditions (E5, A)	1.71	8.55	9.40	30.77	48.72	0.85
Companies have a responsibility to reduce the use of packaging and disposable articles (E6, A)	0.85	1.71	11.97	39.32	44.44	1.71

I do things which help poor people. (E7, B)	1.77	0.85	12.82	45.30	39.32	0.00
I avoid buying goods from companies with a bad reputation for looking after their employees and the environment (E8, B)	2.56	4.27	27.35	29.91	28.21	7.69
I often purchase second-hand goods over the internet or in a shop (E9, B)	5.98	17.95	30.77	23.93	21.37	0.00

Note: Strongly Disagree (SD), Disagree (D), Neutral (N), Agree (A), Strongly Agree (SA), Do not Know (DK)

Further analysis in using crosstabulation between the age groups and economic SC of knowingness are presented. The dimension of knowingness in economic SC is displayed in Table 2a, Table 2b and Table 2c. In Table 2a, the findings show that those who are 29 years old or younger strongly agreed in the elimination of poverty globally is necessary for SD (92.90%) compared to other age groups. These findings suggest that the staff who are 29 years old or younger indicate a higher percentage level of knowingness regarding economic SC than other age groups in the elimination of poverty globally is necessary for SD.

Table 2a. Age and Elimination of poverty globally is necessary for SD.

			Elimination of poverty globally is necessary for SD				
			Strongly Disagree	Disagree	Agree	Strongly Agree	Total
Please indicate your age:	29 or younger	Count	0	0	1	13	14
		% within Please indicate your age:	0.0%	0.0%	7.1%	92.9%	100.0%
		% within Elimination of poverty globally is necessary for sustainable development	0.0%	0.0%	3.3%	15.7%	12.0%
		% of Total	0.0%	0.0%	0.9%	11.1%	12.0%
	30-40	Count	3	0	18	31	52
		% within Please indicate your age:	5.8%	0.0%	34.6%	59.6%	100.0%
		% within Elimination of poverty globally is necessary for sustainable development	100.0%	0.0%	60.0%	37.3%	44.4%
		% of Total	2.6%	0.0%	15.4%	26.5%	44.4%
	41-50	Count	0	1	6	25	32
		% within Please indicate your age:	0.0%	3.1%	18.8%	78.1%	100.0%
		% within Elimination of poverty globally is necessary for sustainable development	0.0%	100.0%	20.0%	30.1%	27.4%
		% of Total	0.0%	0.9%	5.1%	21.4%	27.4%
	51-60	Count	0	0	5	14	19
		% within Please indicate your age:	0.0%	0.0%	26.3%	73.7%	100.0%
		% within Elimination of poverty globally is necessary for sustainable development	0.0%	0.0%	16.7%	16.9%	16.2%
		% of Total	0.0%	0.0%	4.3%	12.0%	16.2%
Total		Count	3	1	30	83	117
		% within Please indicate your age:	2.6%	0.9%	25.6%	70.9%	100.0%
		% within Elimination of poverty globally is necessary for sustainable development	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	2.6%	0.9%	25.6%	70.9%	100.0%

For Table 2b, the findings show that those who are between 41 to 50 years old strongly agreed on SD requires that companies act responsibly toward their employees, customers and suppliers (75%) compared to other age groups. These findings suggest that the staff who are between 41 to 50 years

have a higher knowingness of economic SC than other age groups in the aspect of SD requiring companies to act responsibly toward their employees, customers and suppliers.

Table 2b. Age and SD requires that companies act responsibly toward their employees, customers and suppliers.

			SD requires that companies act responsibly toward their employees, customers and suppliers					Total
			Strongly Disagree	Neutral	Agree	Strongly Agree	Don't Know	
Please indicate your age:	29 or younger	Count	1	0	7	6	0	14
		% within Please indicate your age:	7.1%	0.0%	50.0%	42.9%	0.0%	100.0%
		% within SD requires that companies act responsibly toward their employees, customers and suppliers	20.0%	0.0%	19.4%	8.3%	0.0%	12.0%
		% of Total	0.9%	0.0%	6.0%	5.1%	0.0%	12.0%
	30-40	Count	4	3	16	28	1	52
		% within Please indicate your age:	7.7%	5.8%	30.8%	53.8%	1.9%	100.0%
		% within SD requires that companies act responsibly toward their employees, customers and suppliers	80.0%	100.0%	44.4%	38.9%	100.0%	44.4%
		% of Total	3.4%	2.6%	13.7%	23.9%	0.9%	44.4%
	41-50	Count	0	0	8	24	0	32
		% within Please indicate your age:	0.0%	0.0%	25.0%	75.0%	0.0%	100.0%
		% within SD requires that companies act responsibly toward their employees, customers and suppliers	0.0%	0.0%	22.2%	33.3%	0.0%	27.4%
		% of Total	0.0%	0.0%	6.8%	20.5%	0.0%	27.4%
	51-60	Count	0	0	5	14	0	19
		% within Please indicate your age:	0.0%	0.0%	26.3%	73.7%	0.0%	100.0%
		% within SD requires that companies act responsibly toward their employees, customers and suppliers	0.0%	0.0%	13.9%	19.4%	0.0%	16.2%
		% of Total	0.0%	0.0%	4.3%	12.0%	0.0%	16.2%
Total		Count	5	3	36	72	1	117
		% within Please indicate your age:	4.3%	2.6%	30.8%	61.5%	0.9%	100.0%
		% within SD requires that companies act responsibly toward their employees, customers and suppliers	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	4.3%	2.6%	30.8%	61.5%	0.9%	100.0%

Findings in Table 2c indicate that those who are between 51 to 60 years old strongly agreed that SD requires fair distribution of goods and services amongst people in the world (68.4%) compared to other age groups. These findings suggest that the staff who are between 51 to 60 years have a higher

knowingness of economic SC than other age groups in the aspect of SD requires fair distribution of goods and services amongst people in the world.

Table 2c. Age and SD requires fair distribution of goods and services amongst people in the world.

			SD requires fair distribution of goods and services amongst people in the world						
			Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Don't Know	Total
Please indicate your age:	29 or younger	Count	0	0	2	3	8	1	14
		% within Please indicate your age:	0.0%	0.0%	14.3%	21.4%	57.1%	7.1%	100.0%
		% within SD requires fair distribution of goods and services amongst people in the world	0.0%	0.0%	22.2%	8.3%	12.1%	100.0%	12.0%
		% of Total	0.0%	0.0%	1.7%	2.6%	6.8%	0.9%	12.0%
	30-40	Count	4	0	4	19	25	0	52
		% within Please indicate your age:	7.7%	0.0%	7.7%	36.5%	48.1%	0.0%	100.0%
		% within SD requires fair distribution of goods and services amongst people in the world	100.0%	0.0%	44.4%	52.8%	37.9%	0.0%	44.4%
		% of Total	3.4%	0.0%	3.4%	16.2%	21.4%	0.0%	44.4%
	41-50	Count	0	0	1	11	20	0	32
		% within Please indicate your age:	0.0%	0.0%	3.1%	34.4%	62.5%	0.0%	100.0%
		% within SD requires fair distribution of goods and services amongst people in the world	0.0%	0.0%	11.1%	30.6%	30.3%	0.0%	27.4%
		% of Total	0.0%	0.0%	0.9%	9.4%	17.1%	0.0%	27.4%
	51-60	Count	0	1	2	3	13	0	19
		% within Please indicate your age:	0.0%	5.3%	10.5%	15.8%	68.4%	0.0%	100.0%
		% within SD requires fair distribution of goods and services amongst people in the world	0.0%	100.0%	22.2%	8.3%	19.7%	0.0%	16.2%
		% of Total	0.0%	0.9%	1.7%	2.6%	11.1%	0.0%	16.2%
Total		Count	4	1	9	36	66	1	117
		% within Please indicate your age:	3.4%	0.9%	7.7%	30.8%	56.4%	0.9%	100.0%
		% within SD requires fair distribution of goods and services amongst people in the world	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
		% of Total	3.4%	0.9%	7.7%	30.8%	56.4%	0.9%	100.0%

The findings have shown that other age groups have low knowingness in the three statements of economic SC. Among the reasons for the other groups having low knowingness of economic SC can be due to funds or grants to facilitate awareness as one of the interviewed Staff mentioned that:

> *"Economically, it is a challenge because the traditional methods we rely on are declining, like funding and grants"*

Alternatively, for those age groups that rated with high percentage of knowingness in the statements of economic SC may be supported by some degree on the focus of financial sustainability of the institution as stated by one of the interviewed staffs who commented that:

> "*Economically, we focus on the financial sustainability of the institution and how it will sustain itself in the coming years*"

Although past studies like Omotosho et al. (2023, 2025) studied sustainability in HEIs but the difference is on the methodological approach whereby this study applied mixed methods approach as well as sampled staff. The results further show that in terms of the TPB, the dimensions of behaviour and attitude did not scores high compared to knowingness among the staff in the context of Tanzania's HEIs.

Conclusion and Suggestions

This paper aims to explore demographic and economic SC for SD. To address the aim of this study, the specific objective examines age and economic SC awareness for SD in Tanzania. The findings have shown that generally, the majority of the staff are middle aged and that their economic SC is higher in knowingness compared to attitude and behaviour. This implies that the dimension of knowingness in the context of staff in their awareness of economic SC is high whereas it is low in attitude and behaviour dimensions. Furthermore, the age groups reflect different levels of economic SC awareness in terms of attitude, behaviour and knowingness. For instance, most of the middle-aged staff and their economic SC awareness scored high on the statements of elimination of poverty globally is necessary for SD and also SD requires companies to act responsibly toward their employees, customers and suppliers. The outcome of these findings has practical implications.

Implications

This outcome of this study has practical implication. The practical implication is for economic practitioners particularly M&EL experts to consider that most of the middle-aged staff in the selected HEIs of which one of the HEIs is an ODL institution have economic SC awareness. The economic SC awareness is in terms of the need to reduce poverty as well as companies to act with responsibilities not only to the employees but also customers and suppliers for SD. On policy implication, authorities in HEIs and policy makers should note that the staffs' knowingness as a dimension of economic SC is higher compared to attitude and behaviour dimensions guided from TPB and this is due to the opinion on the need to focus on financial sustainability.

Suggestions for further studies

Future studies may expand the unit of analysis in other sectors such as health and mining. In addition, future studies may explore a longitudinal design. Similarly, efforts should be made for future research to also explore a similar study in other government institutions.

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Sustainable Development Goals (SDGs)

This study is linked to the Quality education (SDG 4).

Data Accessibility Statement

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Ethics and Consent

Ethical approval was obtained for the work described in this article.

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