SEISENSE Journal of Management
Vol 6 No 1 (2023): DOI: https://doi.org/10.33215/sjom.v6i1.853 , 39-57
Research Article

Organizational Learning Process, CEO Values and Sustainability Performance of Manufacturing Firms in Uganda

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Article History
Received 2022-10-18
Revised 2022-11-28
Revised 2022-12-24
Accepted 2022-12-25
Published 2023-01-01

Keywords
Organizational learning process
CEO
Openness to change
Self-Transcendence
Sustainability Performance

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Abstract

Purpose- The paper aims to examine the moderating effect of CEO personal values on the relationship between organizational learning process and sustainability performance.

Design/Methodology- An explanatory cross-sectional design was used to obtain quantitative data from managerial staff of 256 medium and large manufacturing firms in Uganda. A survey instrument was used to collect data.

Findings- Organizational learning process and CEO personal values have a significant positive direct effect on sustainability performance. Further, CEO personal values significantly moderate the relationship between organizational learning process and sustainability performance.

Practical Implications- Strategies such as training, teamwork, consultancy engagements, and research facilitate learning processes of knowledge acquisition, sharing, interpretation and storage which in turn improve sustainability performance. In addition, firms that hire CEOs whose personal value system is inclined towards change and self-transcendence are more likely to foster a culture of continued organizational learning which improves sustainability performance.

Introduction

The global quest to attain Sustainability Development Goals (SDGs) has intensified stakeholders' pressure for firm sustainability performance (Haleem et al., 2022). As a result, firms need to strike a balance between social, environmental, and economic goals. The simultaneous achievement of these goals improves business-stakeholder trust, minimizes social and environmental regulatory disturbances, increases resource efficiency, employee morale, competitiveness, and firm revenue (Horak et al., 2018; OECD, 2020). Over the past two decades, business firms in developed countries have made significant strides towards improving sustainability performance initiatives, and as a result, stakeholder grief towards social and environmental degradation has progressively reduced in such countries (Sachs et al., 2022).

On the contrary, business firms in developing counties are still reluctant to embrace sustainability performance mechanisms. For instance, in Sub-Saharan Africa, manufacturing firms contribute considerably to social degradation, natural resources depletion, pollution, and improper disposal of toxic waste material (Hira et al., 2022; Abdul-Rashid et al., 2017). Such practices accelerate global warming, food shortage, unexpected floods, heavy rains, and outbreak of diseases, which result in loss of life, property, and disruption of economic productivity (United Nations Environmental Programme(UNEP), 2020; Omisore, 2018). In Uganda, it is estimated that about 39.3% out of every 7,989 registered death or illness are related to social and/or environmental degradation arising out of manufacturing activity (World Health Organization(WHO), 2018; National Environment Management Authority (NEMA) Annual Corporate Report, 2018).

Inspite of the detrimental social and environmental impacts, manufacturing firms provide substantial opportunities for economic growth and development especially in developing countries (UNCTAD Annual Report, 2021). They provide employment to thousands of the young growing population, sustain production for domestic consumption, supply industrial inputs to other sectors of the economy, pay taxes that improve government domestic revenue, as well as enhance the country's GDP (MoFPED, 2019a). The economic benefits withstanding, scholars and policymakers call upon manufacturing firms to strike a balance between economic prosperity, social welfare, and environmental conservation (; UNCTAD Annual Report, 2021). In light of this global call, the central question we raise in this study is, "What management-led strategies are essential for enhancing manufacturing sustainability performance in developing countries such as Uganda where legislation and enforcement of social welfare and environmental protection is still weak (Sserwanga et al., 2022)?".

Existing studies show that organizational learning drives sustainability performance operations in the manufacturing sector. For instance, Battistella et al. (2020) identified organizational learning characteristics that supported sustainability practices among three food and beverage companies in Italy. Similarly, Vihari et al. (2018) in their study among pharmaceutical companies in India found that organizational learning has a significant positive effect on sustainability performance. These studies affirm that learning as an intangible resource enable organizations to generate information (knowledge competences) relevant to understanding and addressing stakeholder interests and ethical claims. Accordingly, managers of manufacturing firms need to embrace organizational learning as a precursor to sustainability performance.

The contribution of existing studies withstanding, empirical literature on manufacturing sustainability performance in the developing economic context is still minimal (Sserwanga et al., 2022; Bananuka et al., 2021). Besides, organizational learning as the main predictor of sustainability performance has predominantly been operationalized following a capabilities and/or a characteristics perspective (e.g Battistella et al., 2020; Vihari et al., 2018) and limited knowledge exists on how organizational learning process is associated with sustainability performance, which is suggested in the literature of Van Mierlo and Beers (2020), North and Kumta (2020) and Martínez-Costa et al. (2019). Further still, a number of existing empirical studies assume a direct link between

organizational learning and sustainability without paying attention to other internal contextual factors that could affect this relationship (Haleem et al., 2022, Hayes, 2018). For instance, CEO personal values have been found to impact firm strategic choice and performance outcomes (Lichtenstein and Higgs, 2022; Hoffmann & Meusburger, 2018). However, the contextual role CEO personal values play in the link between organizational learning and sustainability performance is less examined in existing corporate sustainability literature. CEOs are human beings who hold certain personal values. Given their structural position as leaders of both the top management team and the entire firm, their personal values/desires are more likely to be imprinted onto the kind of strategic choices the firm will pursue (Altarawneh et al., 2020).

Accordingly, this study contributes to present corporate sustainability literature by testing the direct effect of organizational learning as a process of knowledge acquisition, distribution, interpretation and storage on sustainability performance, as well as tests whether CEO personal value of openness-to-change and self-transcendence moderate the relationship between organizational learning process and sustainability performance. Medium and large manufacturing firms in Uganda provided the testing ground. The subsequent sections of the paper cover; literature review, methodology, results, discussion, conclusion, implications, and limitations of the study.

Literature Review

Theoretical foundation

The stakeholder theory is utilized in this study as the focal theory to explain the criterion variable of sustainability performance. The theory postulates that an entity such as a manufacturing firm is a constituent of stakes held by various stakeholders, and each stake-holder is affected and can affect the operations of the firm (Freeman et al., 2010). Therefore, all stakeholders are entitled to some form of consideration in the strategy formulation process due to the value they bring to the firm and the risks they bear for the firm to attain its economic objectives (Schaltegger et al., 2019). Stakeholder interests are broadly categorized as economic, social, and environmental in nature (Jum'a et al., 2022). Thus, managers need to work towards satisfying simultaneously the economic needs of the minority shareholders while ensuring that the social and environment welfare needs of the majority stakeholders are not compromised (Haleem et al., 2022).

In addition, the upper echelons theory is introduced to explain the contribution of CEO personal values towards enhancing the effect of organizational learning on sustainability performance. The theory holds that the unique experiences, values, and personalities of executive managers have an effect on the company's strategy, structure, and performance outcomes (Hambrick, 2007). A CEO being the leader of both the executive management team and the entire organization is most likely to impress his/her personal values onto the strategy, structure or culture of the organization, which in turn affects its performance (Lichtenstein and Higgs, 2022; Berson et al., 2008). Accordingly, CEO personal values may support or hamper the creation of a learning culture which has been shown in previous studies to improve organizational sustainability performance (Battistella et al., 2021; Pedersen et al., 2018).

Hypotheses development

Organizational learning process and sustainability performance

Organizational learning has emerged a key resource that drives organizational success in the contemporary un-stable knowledge-based environment (Oh and Han, 2020). Through learning, organizations create knowledge competences that improve organizational processes and outcomes. Essentially, learning enable organizations to interact with both the internal and external environment. From this interaction, knowledge about the changing environment, market, and stakeholder demands is created, acquired, shared, integrated, and utilized to enhance organizational value (North & Kumta, 2020; Martínez-Costa et al., 2019;). For instance, organizational learning

is reported to improve organizational innovativeness (Oh & Han, 2020), disaster planing and management (Bhaskara & Filimonau, 2021), competitiveness (North & Kumta, 2020), strategic renewal (Herbane, 2019).

Recent research streams link organizational learning to sustainability performance practices (Battistella et al., 2021; Bull & Fokuhl, 2020; Van-Mierlo & Beers, 2020; Kowuttiphong & Fongsuwan, 2019; Vihari et al., 2018). The scholars indicate that learning provides an opportunity for the organization to proactively generate information relevant to understanding and addressing stakeholders' ever-changing economic, social, and environmental claims simultaneously. The information obtained through learning is utilized in pursuing strategies and policies that address sustainability performance demands (Battistella et al., 2021). To this end, the relevance of organizational learning in predicting sustainability performance cannot be questioned.

A critical review of extant literature linking organizational learning and sustainability performance shows that organizational learning as a predictor variable has predominantly been operationalized following a capabilities perspective (Battistella et al., 2021; Oh and Han, 2020; Vihari et al., 2018), and less as a process variable suggested in the literature of Van Mierlo and Beers (2020), North and Kumta (2020), and Martínez-Costa et al. (2019). Accordingly, there is need to increase researchers understanding on how learning as a process of knowledge acquisition, distribution/sharing, interpretation, and storage is related to firm sustainability performance (Huber, 1991). The sociological perspective emphasizes that learning as process occurs where individuals construct knowledge through observation and/or experience. This knowledge is shared, interpreted, and integrated at group level to inform new organizational policies, structures, systems, routines, and performance (North and Kumta, 2020).

Taking a corporate sustainability view, it is suggested that the learning process highlighted in the literature of Huber (1991) enables organizations to generate information about the changing stakeholders' economic, social, and environmental demands. Equipped with such knowledge resources, managers and employees collectively review the present performance framework and adopt a more inclusive framework that simultaneously addresses the economic, social, and ecological interests of the various stakeholder groups. Thus, the following hypothesis was proposed;

H1. Organizational learning process is associated with sustainability performance

CEO personal values and sustainability performance

The upper echelons theory postulates that top managers' demographic characteristics, personality traits, values, and experiences impact organizational culture, structure, and performance (Hambrick, 2007). To date, several empirical findings support this theoretical view. For instance, top management team's gender diversity, foreign exposure, and political connection were found to significantly affect firm financial distress (Shahab et al., 2018), top management team's age, tenure, education, functional background, and gender difference were found to significantly affect firm organizational virtue orientation (Evert et al., 2018), and Yun et al.'s (2020) study among mega projects in China also revealed that top management team's age, gender, management experience, education background have a significant positive relationship with project performance.

Based on existing literature, it is clear that the demographic characteristics of the top management team are important in shaping organizational life (Yun et al., 2020; Shahab et al., 2018; Evert et al., 2018). However, empirical researchers have devoted less attention to analyzing the personal values of executive managers and their impact on firm processes and outcomes, yet the upper echelons theory identifies values among the distinctive attributes of executive managers that impact strategic decision making processes (Hambrick, 2007). Human values act as guiding principles in one's life (Arieli et al., 2020). Values demonstrate the degree of importance an individual attaches to something deemed desirable in life. In other words, values bring out individual differences in thinking, judgement, and behavior (Schwartz, 1992).

Hambrick (2007) observed the need for future upper echelons researchers to dis-aggregate Chief Executive Officers (CEOs), also referred as Managing Directors (MDs) from other members of top management. CEOs occupy a unique position in the management structure. They are not only the overall leader of the organization but also dominant members of the top management team (Altarawneh et al., 2020). In situations of limited supervisory control, and higher executive discretion, CEOs rely on their cognitive orientations (e.g values) to determine the kind of decisions to be implemented within a given organizational situation (Ng & Sears, 2020). For instance, studies show that the value of openness-to-change and self-transcendence drive CEOs towards supporting policies, strategies, structures, and systems that promote flexible corporate strategy making processes (Hoffmann & Meusburger, 2018), financial decision making (Vitale & Cull, 2018), innovative culture (Berson et al., 2008), and corporate performance (Agle et al., 1999).

Similarly, literature indicates that CEO personal values and corporate sustainability performance are significantly related (García-Sánchez et al., 2021; Bhattacharyya, 2016). In essence, CEOs who score high on the value of openness-to-change are more likely to support sustainability-oriented innovations that facilitate improvements in firm products, process, and systems (Berson et al., 2008; Globocnik et al., 2020). Such innovations are reported to contribute simultaneously to the economic, social and environmental performance of the firm (Globocnik et al., 2020). On the other hand, CEOs who score high on the value of self-transcendence are likely to show greater concern for the welfare of those they frequently get into contact (Hoffmann & Meusburger, 2018). Such CEOs advocate for inclusive business practices that uphold business ethics and responsibility without endangering society or the environment (García-Sánchez et al., 2021). In light of the reviewed literature, the following hypotheses were proposed;

H2a. CEO value of openness-to-change is associated with sustainability performance

H2b. CEO value of self-transcendence is associated with sustainability performance

The moderating effect of CEO personal values

Past studies show that organizational learning is significantly associated with sustainability performance (Battistella et al., 2021; Oh and Han, 2020). This suggests that learning enables firms to interact with both the internal and external environment. From such interactions, firms sense and seize opportunities relevant to addressing market needs and stakeholder demands. Similarly, CEO values have been reported to significantly affect corporate sustainability (Hoffmann & Meusburger, 2018; García-Sánchez et al., 2021). CEOs who value change and are concerned with the well-being of others are more likely to advance ideas that support policies, strategies and activities geared towards social equity, environmental protection, and economic viability. Thus, organizational learning and CEO values are antecedents of firm sustainability performance.

Accordingly, existing studies have examined organizational learning and CEO values as independent predictors of firm sustainability performance. However, the interplay between these two predictor variables has received modest attention in existing corporate sustainability literature (see Battistella et al., 2021; Bull & Fokuhl, 2020; García-Sánchez et al., 2021; Bhattacharyya, 2016). Yet studies conducted by Benischke et al. (2019), Tang et al. (2017), and Liden et al. (2016) demonstrate that CEO personal attributes (such as values, personality, and gender) play a contingent role in influencing firm processes and outcomes. Such literature provide evidence on the importance of CEO personal values in influencing what takes place in the organization (Hambrick, 2007). Drawing on such insight, the researchers in this study suggest that CEO personal values could enhance the contribution of organizational learning toward firm sustainability performance. In particular, CEOs who score high on the value of openness-to-change and self-transcendence are more likely to promote a work culture where managers and staff have the freedom to engage in on-going learning which in turn enhances firm sustainability performance (García-Sánchez et al., 2021; Hoffmann & Meusburger, 2018). This suggests that companies headed by CEOs who value change and the well-being of others are more likely to promote a

learning culture that has been reported to improve simultaneously the economic, social, and environmental performance of the business. Hence, the following hypotheses were proposed;

H3a. CEO value of openness-to-change moderates the relationship between organizational learning process and sustainability performance

H3b. CEO value of self-transcendence moderates the relationship between organizational learning process and sustainability performance

In light of the reviewed literature, the model presented in Figure 1 was developed to guide this study.

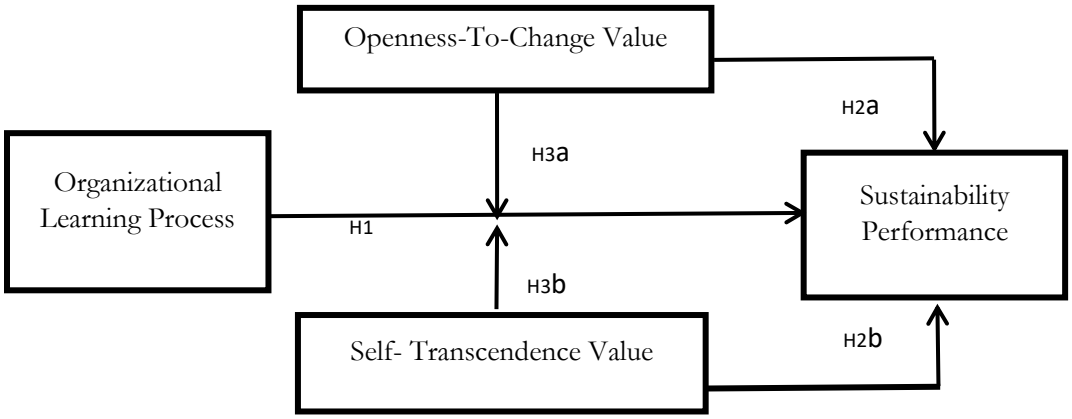


Figure 1: Conceptual model

Methodology

Medium and large manufacturing firms in Uganda provided the testing ground. According to Uganda Micro, Small and Medium Enterprise Policy (2015), a medium-sized firm employs between 50-100 permanent staff while a large-sized firm employs above 100 permanent staff. These firms engage in the production of both food and non-food products (Ecuru et al., 2014). Comparatively, the manufacturing sub-sector is the second largest contributor to the country's GDP (MoFPED, 2019a). For instance, in FY 2019/2020 the sector contributed up to 26.0% to the country's GDP and about 31% of the total labour-force earn a living from the manufacturing sector (UBOS, 2020). Despite such economic benefits, medium and large manufacturing firms in Uganda are a threat to the environment and human health through natural resources depletion, excessive pollution, poor waste management, and unsafe working conditions (NEMA Annual Corporate Report, 2018; WHO, 2018). The Government of Uganda through NEMA continues to enact and amend laws in an effort to curb social and environmental degradation arising out of manufacturing activities (Bananuka et al., 2021). But weaknesses in regulatory enforcement continues to undermine the relevance of such laws, leaving social welfare and environmental management at the discretion of business managers/owners (Sserwanga et al., 2022; Namagembe et al., 2016). With an estimated annual population growth of 3% from the 34.6% reported in 2014 (UBOS, 2020), the demand for industrial products will keep growing. Accordingly, manufacturing firms will triple their production capacities, and this is likely to worsen industrial impact on social and environmental welfare (Bananuka et al., 2021). This study therefore set out to investigate whether the interplay between the learning process and CEO values could enhance the sustainability performance of medium and large manufacturing firms in Uganda.

Research design, population, and sampling

A mixed method design that follows a longitudinal time-frame would have offered an in-depth inquiry into the study variables and their relationships (Creswell & Plano, 2018; Liden et al., 2016). However, due to time and budget constraints, this study employed an explanatory design where cross-sectional survey quantitative data was obtained to facilitate hypotheses testing. Moreover, this design is consistent with similar studies that have examined the sustainability performance phenomenon (e.g Vihari et al., 2018; Globocnik et al., 2019; Kowuttiphong & Fongsuwan, 2019). The study population included 1,221 medium and large firms registered with Uganda Manufacturers' Association (UMA) as of July, 2019. A sample of 301 medium and large firms was considered adequate based on Yamane's formula cited in Mafabi et al. (2012). 29 firms however choose not to take part in the study due to Covid restrictions. Structured questionnaires were distributed to managerial staff in each of the participating firms. Managerial staff were purposively chosen to respond to the survey questionnaire on grounds that they are in a better position to give more precise and consistent data on firm-wide variables (Mafabi et al., 2012). 755 questionnaires were collected from February-August, 2020. Out of these, 17 were largely incomplete and discarded from further processing. To allow for variability in results, we considered at least two complete questionnaires per firm (Byukusenge & Munene, 2017). Hence, the 16 firms where only one complete questionnaire was obtained were also removed from the final sample used. Consequently, 722 questionnaires from 256 firms were found usable. The sample characteristics are presented in appendix 1.

Measurement of variables

Measures developed and validated in previous studies were used for all the study variables. However, some items were slightly modified to suit the Ugandan manufacturing context.

Sustainability performance was operationalized as a multidimensional variable. Elkington's (1997) TBL framework was used to operationalize this construct; economic performance, social performance, and environmental performance. We aimed to obtain data on the extent to which the sampled firms have performed economically, socially, and in terms of environmental management in the past five years. The 14 items used to measure this variable (see appendix 2) were adapted from the literature of Chow and Chen (2012), and Pedersen et al. (2018). All measurement items were anchored on a seven point Likert scale ranging from a small extent (1) to a larger extent (7). To ensure validity and reliability, we subjected the measurement scale to Confirmatory Factor Analysis (CFA) in Structural Equation Modeling. Results in Appendix 2 indicate that all items had loadings >0.5, composite reliability (CR) of 0.92, an overall average variance extracted (AVE) score of 0.55 and the values of all fit indices were within the acceptable parameters (Hair et al., 2010). This confirmed that the measurement model used for sustainability performance was reliable and valid.

Organizational learning process was operationalized as a multidimensional construct based on the literature of Huber (1991). Organizational learning as a process included: knowledge acquisition, knowledge distribution, knowledge interpretation, and knowledge storage. We sought information on the extent to which the sampled firms engaged in learning processes. The 13 items used to measure this variable (see appendix 3) were adapted from the literature of López et al. (2005), Nevis et al. (1995), and Huber (1991). All measurement items were anchored on a seven point Likert scale ranging from a small extent (1) to a larger extent(7). To ensure validity and reliability, we subjected the measurement scale to Confirmatory Factor Analysis (CFA) in Structural Equation Modeling. Results in Appendix 3 indicate that all items had loadings >0.5, composite reliability (CR) of 0.93, an overall average variance expected (AVE) score of 0.59, and the values of all fit indices were within the acceptable parameters (Hair et al., 2010). This confirmed that the measurement model used for organizational learning process was reliable and valid.

CEO personal values was operationalized as a two-dimension variable (Schwartz, 1992). CEO values constituted the value of openness-to-change and self-transcendence drawn from Schwartz's Short Value System Scale (SVSS). The 12 items used to measure these values (see appendix 4) were adapted from the literature of Schwartz (1992), Berson et al. (2008), Tang et al. (2017), Liden et al. (2016), and Aktas et al. (2011). All measurement items were anchored on a seven point Likert scale ranging from a small extent(1) to a larger extent(7). To ensure validity and reliability, we subjected the measurement scale to Confirmatory Factor Analysis (CFA) in Structural Equation Modeling. Results in Appendix 4 indicate that all items had loadings >0.5, composite reliability (CR) of 0.93, an overall average variance expected (AVE) score of 0.64, and the values of all fit indices were within the acceptable parameters (Hair et al., 2010). This confirmed that the measurement model used for CEO personal values was reliable and valid. Given the busy schedule of most CEOs (Hoffmann & Meusburger, 2018; Hambrick, 2007), the perceptions of managers regarding the personal values of their company CEO were examined following the guidance of Peterson et al. (2006). Managers are presumed to work closely with the company's CEO and therefore in position to observe, analyze, and interpret with some degree of accuracy what their company CEO holds important at work.

Firm age and size were considered relevant control variables that could affect sustainability performance (Bananuka et al., 2021; Vihari et al., 2018). These were measured on a nominal scale taking on different labels (see appendix 1).

Results

Preliminary analysis

Usable data was checked for missing values, and five cases were found. Little's MCAR test revealed that data were missing completely at random (χ^2=419.719, DF=429, p=0.617). The linear interpolation method was used to replace the missing values (Noor et al., 2015). In addition to the procedures undertaken during the design and administration of the survey instrument (Podsakoff et al., 2003), we statistically checked for Common Method Variance (CMV) since data on all variables was obtained from a single source and at the same time. Harman's one-factor test results showed limited method variance since the first factor accounted for 18.9% of the variance, which is below the threshold of 50% (Hair et al., 2010). Thereafter, the 722 complete cases were aggregated into 256 cases which formed the unit of analysis. "Manufacturing firm" was used as a breaking variable.

Descriptive statistics and correlation analysis

Results in Table 1 show the mean and standard deviation (SD) for organizational learning process (5.078, 0.403), CEO value of openness to change (5.207, 0.629), CEO value of self-transcendence (4.805, 0.65), and sustainability performance (4.914, 0.484). All the mean scores are above 3.5 on a seven point Likert scale indicating that on average the sampled manufacturing firms were performing fairly well in terms of learning processes, CEO values, and sustainability performance. However, the minimum scores below the means indicate that some medium and large manufacturing firms in Uganda are lagging behind in regard to the studied variables. The SD values which are close to zero show that data is less skewed and therefore the means fairly represent the data (Hair et al., 2010).

Further, zero-order correlation analysis results show that all the main study variables were positively and significantly related (0.374**, 0.346**, 0.506**, 0.379**, 0.540**, and 0.591**). This suggests that a positive change in organizational learning process, and CEO values results in a positive change in firm sustainability performance. The size of the correlation coefficients (r=0.346** to 0.591**) further symbolize non-multicollinearity (Hair et al., 2010).

Table 1. Descriptive statistics and zero-order correlation analysis

Variable	Min	Max	Mean	SD	1	2	3	4
Organizational Learning Process(1)	4.15	6.15	5.078	0.403	1			
Openness To Change(2)	3.67	6.88	5.207	0.629	.374**	1	1	
Self Transcendence(3)	3.21	6.54	4.805	0.650	.346**	.379**		
Sustainability Performance(4)	3.62	6.20	4.914	0.484	.506**	.540**	.591**	1
Note: N=256, **p< 0.01								

Hierarchical multiple regression analysis

We run hierarchical multiple regression models in order to establish the unique contribution of each predictor variable, as well as test hypotheses of the direct effect relationship (H1 and H2). The results of this analysis are presented in Table 2. Firm age and size were entered first as control variables in Model 1. Results show that both firm age (β=0.024, t=0.385) and firm size (β=-0.038, t=-0.600) did not significantly contribute to changes in sustainability performance. Model 1 explained only 0.2% of the variance in sustainability performance. In Model 2, we entered organizational learning process and results show that organizational learning process has a positive and significant association with sustainability performance (β=0.508, t=9.285). Model 2 explained 25.4% of the variance in sustainability performance. Based on Model 2 results, H1 was supported. In Model 3, we entered CEO value of openness to change and results indicate that CEO value of openness to change has a positive and significant association with sustainability performance (β=0.409, t=7.745). Model 3 explained 14.3% of the variance in sustainability performance. Based on Model 3 results, H2a was supported. Lastly, we entered CEO value of self-transcendence and results in Model 4 indicate that CEO value of self-transcendence has a positive and significant association with sustainability performance (β=0.388, t=7.951). Model 4 predicts 12.1% of variance in sustainability performance. Based on Model 4 results, H2b was supported. Overall, the hypothesized model explained up-to 52.1% of the variance in sustainability performance.

Table 2. Hierarchical Multiple Regression Analysis

Dependent Variable: Sustainability Performance								
	Model 1		**Model 2**		**Model 3**		**Model 4**	
Variables	Beta	t	Beta	t	Beta	t	Beta	t
Firm age	0.024	0.385	-0.009	-0.172	-0.033	-0.660	-0.013	-0.294
Firm size	-0.038	-0.600	0.010	0.176	-0.001	-0.026	-0.009	-0.206
OLP			0.508***	9.285	0.356	6.708	0.262	5.350
OTC					0.409***	7.745	0.295	5.978
ST							0.388***	7.951
R^2	0.002		0.257		0.400		0.521	
ΔR^2	0.002		0.254		0.143		0.121	
F	0.29		28.998		41.835		54.41	
Sig.	0.749		0.000		0.000		0.000	

Note: N=256, ***p>0.001, OL=Organizational Learning Process, OTC=Openness-To-Change, ST= Self-Transcendence

Moderation analysis

The main objective of this study is to test the moderating effect of CEO personal values on the relationship between organizational learning process and sustainability performance. Hayes process macro v4.0 (Model 4) was used to test for moderation effects because of its ability to produce robust results (Hayes, 2018). We ensured that the moderation conditions set by Aiken and West (1991) are followed in the analysis. The moderation analysis results are presented in Table 3. In Model 1, we tested the moderating effect of CEO value of openness to change on the link between organizational learning process and sustainability performance. Results indicate that CEO value of openness to change has a positive and significant moderating effect on the link between organizational learning process and sustainability performance [Coeff.=.199, t=2.559, CI=.044, .338]. Thus, H3a was supported. Model 1 explained 41.5% of the variance in sustainability performance.

In Model 2, we tested the moderating effect of CEO value of self-transcendence on the link between organizational learning process and sustainability performance. Results show that CEO value of self-transcendence has a positive and significant moderating effect on the link between organizational learning process and sustainability performance [Coeff.=.25, t=3.3, CI=.101, .399]. Thus, H3b was supported. Model 2 explained 47.6% of the variance in sustainability performance. Firm age and size as control variables did not have a significant contribution on sustainability performance in both models.

The moderation results obtained through Hayes process macro (Model 4) were further probed using the moderation graphs presented in Figure 2 and 3. In both Figures, the upward sloping shape of the curves/lines running from left to right, and not parallel to each supported presence of an enhancing moderation effect of CEO personal values on the relationship between organizational learning process and sustainability performance (Jose, 2013).

Table 3. Moderation Regression Analysis

Dependent Variable: Sustainability Performance								
	Model 1: OTC				**Model 2: ST**			
	Coeff.	t	LLCI	ULCI	Coeff.	t	LLCI	ULCI
Constant	4.896***	200.81	4.848	4.944	4.892***	211.5	4.846	4.937
Firm age	-0.017	-0.701	-0.06	0.03	0.003	0.145	-0.04	0.047
Firm size	0.002	0.078	-0.05	0.049	0.000	-0.022	-0.05	0.044
OLP (Main effect)	.426***	6.764	0.302	0.55	.405***	6.847	0.288	0.521
OTC (Moderator 1)	.312***	7.77	0.233	0.392				
ST (Moderator 2)					.361***	9.89	0.289	0.433
OL*OTC	.191*	2.559	0.044	0.338				
OL*ST					.250**	3.3	0.101	0.399
R^2	0.415				0.476			
F	6.547*				10.888**			

Note: N=256; *p<0.05, **p< 0.01, ***p>0.001, OLP=Organizational Learning Process; OTC=Openness-To-Change; ST= Self Transcendence

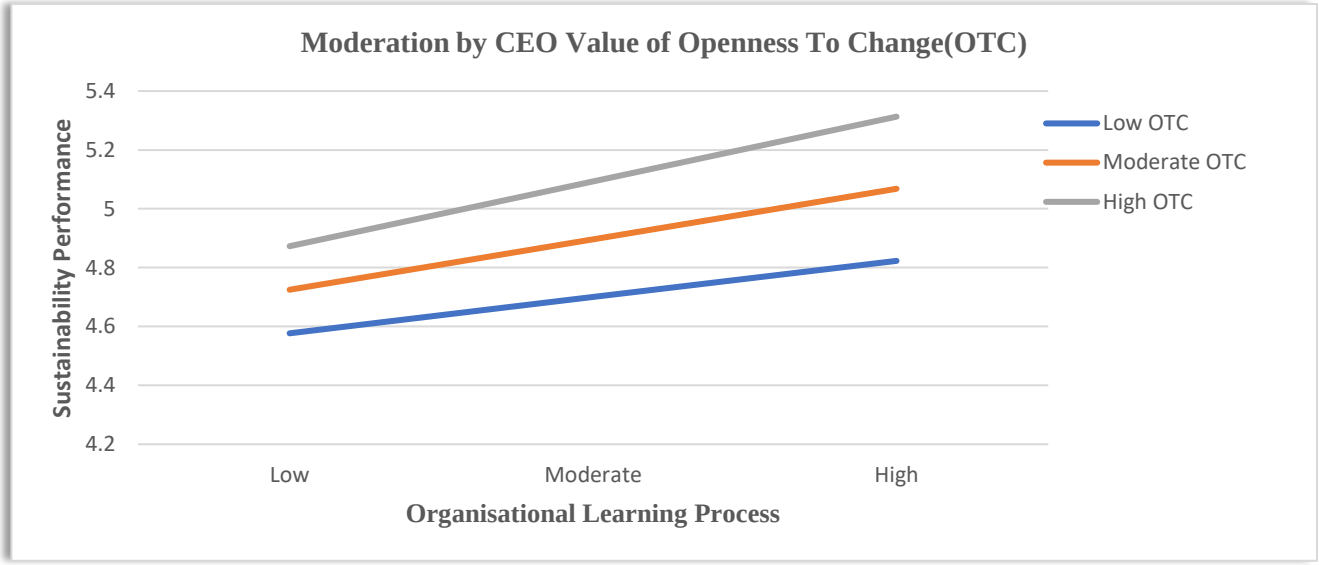


Figure 2. The Moderating Effect of Organizational Learning Process and CEO Value of Openness-To-Change on Sustainability Performance

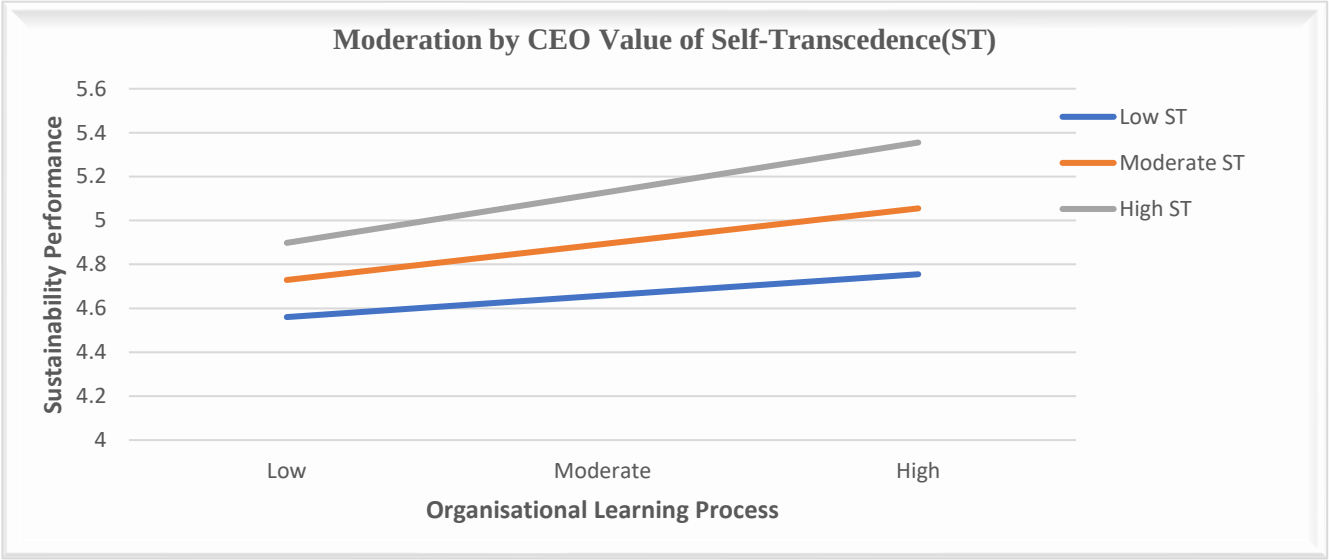


Figure 3. The Moderating Effect of Organizational Learning Process and CEO Value of Self-Transcendence on Sustainability Performance

Discussion

This study set out to examine the direct effect of organizational learning operationalized as a process variable on sustainability performance as well as the moderating effect of CEO personal value of openness-to-change and self-transcendence on the relationship between organizational learning process and sustainability performance. The findings from this study reveal that organizational learning process is positively and

significantly associated with firm sustainability performance. This finding suggests that medium and large manufacturing firms that engage in continuous learning by way of interacting with both the external and internal environment generate vital information relevant to understanding the changing stakeholder demands. This information is then shared amongst the internal organizational members who intuitively digest it, and jointly come up with ideas that inform company plans, policies, strategies, and routines geared towards addressing stakeholders' economic, social and environmental demands simultaneously. The finding coincides with Battistella et al. (2020) who contend that sustainable companies are characterized with several learning processes. Thus, manufacturing firms operating in today's highly dynamic environment can guarantee their long-term prosperity by embracing a culture of continuous learning. Organizational learning for sustainability performance can take the form of attending educational training sessions on sustainable manufacturing practices, participating in trade shows and exhibitions, hiring sustainability management consultants and professional experts, conducting research with partner institutions, among other initiatives. The knowledge resources and capabilities built from such interactions inform sustainability driven policies, strategies and values.

The moderation test results revealed that CEO personal value of openness-to-change has a positive and significant moderating effect on the relationship between organizational learning process and sustainability performance. This finding suggests that the contribution of organizational learning on sustainability performance is enhanced by CEOs who score high on the value openness to change. Accordingly, medium and large manufacturing firms in Uganda that embrace a learning culture and are headed by CEOs whose value preposition for openness-to-change is high are more likely to engage in sustainability performance practices. In a related study, Aktas et al. (2011) argues that CEO's personal value of stimulation and self-direction (openness-to-change) significantly moderated the relationship between organizational culture and efficiency. Such findings crystallize the invisible role played by CEOs' value of openness to change in influencing company strategy, structure, culture, and performance outcomes. In the current study it is deduced that neither organizational learning processes nor CEO personal value of openness to change is exclusively sufficient to cause greater positive change in firm sustainability performance. But rather, the two variables mutually reinforce each other to cause greater variations in firm sustainability performance. In essence, learning processes that have a stronger effect on sustainability performance are dependent on the support of a CEO who is open to change, values diversity, and has a strong desire for flexibility, creativity, independence, and freedom.

Further moderation test results show that CEO personal value of self-transcendence has a positive and significant moderating effect on the relationship between organizational learning process and sustainability performance. In other words, at higher levels of CEO value of self-transcendence, the contribution of organizational learning process towards sustainability performance is enhanced. This finding resonates with Hoffmann and Meusburger (2018) and Agle et al. (1999) argument that CEOs with a value system geared towards self-transcendence show greater concern for the well-being of those around them. They are more tolerant and less concerned about their social status. Such transcendent principles result in CEOs promoting a culture of trust, fairness, and unity at work where there is less control and dominance. Externally, the value of self transcendence drives CEOs towards building cordial working relations with customers, suppliers, government, media, civil society organizations as well as the wider community. This is possible where the CEO pushes for a learning culture that generates information on stakeholders' shifting economic, social and environmental protection interests. Accordingly, inclusive and ethical policies and strategies are put in place to enable the firm to satisfy all stakeholder interests as a strategic path towards attaining long-term business success.

Conclusion

This study set out to fill the observed gap in existing corporate sustainability literature where the contribution of organizational learning as the main predictor of sustainability performance has largely been conceptualised

following a capabilities perspective, and less as a single process variable. Besides, there is less understanding on the role CEO values play in this relationship despite growing research interest on CEO attributes and their effect on firm processes and performance outcomes. From a review of extant theoretical literature, a conceptual model examining the interaction effect of organizational learning process and CEO personal values on sustainability performance was developed. Following a cross-sectional survey method, quantitative data was obtained from managers of medium and large manufacturing firms in Uganda to test the conceptual/hypothesized model. Through running both hierarchical and moderation regression analyses, the findings obtained indicate that organizational learning process and CEO values have a direct positive and significant association with sustainability performance. In addition, CEO values were found to enhance the contribution of organizational learning process on sustainability performance. As such, medium and large manufacturing firms whose sustainability performance is higher are characterized with a strong culture of continued learning as well as headed by CEOs whose personal value preposition is more inclined towards openness to change and self-transcendence.

Implications

In light of the study findings, we draw both theoretical and practical implications. Theoretically, this study extends the application of the upper echelons theory towards improving corporate sustainability performance. Specifically, the findings showed that CEOs who value self-directedness, stimulation, benevolence, and universalism (Schwartz, 1992) are more likely to promote a work environment that supports on-going learning processes at individual, group, as well as organizational level. This study highlighted that organizational learning processes significantly improve sustainability performance. Thus, the interplay between organizational learning process and CEO personal values is critical for enhancing manufacturing sustainability performance.

Practically, managers of medium and large manufacturing firms need to put in place plans, policies, strategies and systems that support a culture of continuous learning at individual, group, and organizational level. Continuous learning can be encouraged through employee training, management development programmes, team work, use of rewards, partnering with learning institutions such as universities, engagements with external consultants and professional experts, as well as participating periodically in international business fairs and exhibition. From such learning interactions, firms generate information (knowledge resources) about the changing stakeholder demands and moral claims. This information is then internally shared, and utilized in formulating policies, plans, strategies, and systems that address stakeholder changing interests. In addition, the Board of Directors or any other executive appointing authority need to go beyond examining the conventional technical competences when hiring a company CEO. Further assessment of the personal values (e.g. self-directedness, stimulation, benevolence, and universalism) using appropriate psychometric tests would aid the selection of CEOs who not only drive the firm towards attaining greater economic propensity but also ensure social equity and environmental responsiveness.

Limitations

Like in any other survey, this study is associated with some limitations. This study adopted a purely quantitative approach which is limited to statistics and leaves out the vital qualitative data. Thus, the use of a qualitative approach would generate answers that further inform the statistical findings of this study. Data used in this study was obtained from managerial staff leaving out other key stakeholders. This has the potential to cause social desirability bias since managers are agents who have a duty to protect and promote the interests and reputation of their employing firm. Future researchers could consider collecting data from multiple stakeholders in order to control for single source bias. The cross-sectional design employed in this study is limited in providing for how the studied variables would behave if data were repeatedly collected from the same sample at different stages over a relatively long period of time. Therefore, this calls for a replication of this study following a longitudinal design so as to check on the effects of time lags.

Funding: This research received no external funding.

Acknowledgments: The authors acknowledge the administrative support from the Uganda Manufacturer's Association during the data collection exercise.

Conflicts of Interest: The authors declare no conflict of interest.

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Appendix 1: Sample Characteristics

Factor	Category	*f*	%
Region	Central	175	68.5
	Eastern	81	31.5
Product Type	Food processing	115	45.1
	Non-food processing	141	54.9
Firm Ownership	State	15	5.8
	Private	191	74.7
	Partnership	50	19.5
Firm Origin	Foreign	109	42.4
	Domestic	147	57.6
Firm Age	<5 years	00	0.0
	5-10years	31	12.1
	11-15years	109	42.8
	≥ 16 years	116	45.1
Firm Size	<51 Employees	00	0.0
	51-100 Employees	169	66.1
	>100 Employees	87	33.9

Appendix 2: CFA Results for Sustainability Performance

Code	Item	Loadings	CR	AVE
ECO1	Our firm has been generating revenue from the sale of waste products in the last 5 years	0.796	0.92	0.55
ECO2	Our firm has reduced the cost of inputs for the same level of output in the last 5 years	0.911		
ECO3	Our firm has reduced the cost of waste management for the same level of output in the last 5 years	0.756		
ECO4	Our firm's market share has increased relative to our competitors in the last 5 years	Deleted		
SOC1	Our firm has improved employees' safety in the last 5 years in the last 5 years	Deleted		
SOC2	Our firm has funded a number of local community initiatives in the last 5 years	0.747		
SOC3	Our firm has protected the rights of the local community in the last 5 years	0.57		
SOC4	Our firm is mindful of all stakeholders' interests in investment decisions	0.783		
SOC5	Managers and employees have been periodically trained in sustainable manufacturing practices in the last 5 years	0.662		
ENV1	Our firm has considerably reduced energy consumption in the last 5 years	0.744		
ENV2	Our firm has greatly reduced emissions from operations in the last 5 years	0.783		
ENV3	Our firm has reduced its impact on natural habitats in the last 5 years	Deleted		
ENV4	Our firm has reduced the environmental impacts of its products in the last 5 years	0.628		
ENV5	Our firm has reduced the risk of environmental accidents in the last 5 years	Deleted		

Goodness-of-fit indices: χ^2=49.587, p=.024, GFI=.962,AGFI=.935, NFI=.949, RFI=.928,IFI=.981, TLI=.973, CFI=.981,RMSEA=.046
Notes: ECO=Economic sustainability, SOC=Social sustainability, ENV=Environment sustainability, CR=Composite Reliability, AVE=Average Variance Extracted

Appendix 3: CFA Results for Organisational Learning Process

Code	Item	Loadings	CR	AVE
KA1	Some of our employees bring in new knowledge from their professional associations	0.728	0.93	0.59
KA2	Our employees learn through attending trade fairs and exhibitions	0.742		
KA3	Our firm has a consolidated and resourceful Research and Development policy	Deleted		
KA4	New ideas on work performance are experimented continuously in our firm	Deleted		
KD1	We conduct meetings regularly where employees share new experiences	Deleted		
KD2	Our firm has mechanisms that facilitate the sharing of best practices among units	Deleted		
KD3	We have employees who work with several units and act as links between them	0.659		
KD4	We have staff who are responsible for collecting, assembling, and distributing ideas	0.942		
KI1	Our staff understand our aim of doing business and feel committed to its achievement	0.681		
KI2	Employees share business experiences by talking to each other	0.818		
KI3	Teamwork is a very common practice observed across work units in our firm	0.721		
KS1	We have a system for retrieving information	0.777		
KS2	Codes are used in the storage of knowledge	0.825		

Goodness-of-fit indices: χ^2=35.238, p=.027, GFI=.972, AGFI=.940, NFI=.948, RFI=.910,IFI=.978, TLI=.962, CFI=.978, RMSEA=.051

Notes: KA=Knowledge Acquisition, KD=Knowledge Distribution, KI=Knowledge Interpretation, KS=Knowledge Storage, CR=Composite Reliability, AVE=Average Variance Extracted

Appendix 4: CFA Results for CEO Personal Values

Code	Item Extracted	Loadings	CR	AVE
OTC1	Our CEO supports staff to have some degree of autonomy in their work	0.766	0.93	0.64
OTC2	Our CEO emphasizes individual creativity at work	0.773		
OTC3	Our CEO encourages staff to explore new ways of doing things	0.716		
OTC4	Our CEO encourages staff to take up new work challenges	Deleted		
OTC5	Our CEO is very flexible in his/her work methods	Deleted		
OTC6	Our CEO welcomes new ideas from managers and staff	Deleted		
ST1	Our CEO cares about the well-being of others	0.849		
ST2	Our CEO treats others fairly	0.84		
ST3	Our CEO is mindful of the impact of business activities on the surrounding communities	0.844		
ST4	Our CEO shows interest in building positive relations with external stakeholders	0.667		
ST5	Our CEO is open to dialogue	Deleted		
ST6	Our CEO consults the affected parties before making decisions	0.908		

Goodness-of-fit indices: χ^2=27.855, p=.086, GFI=.975, AGFI=.952, NFI=.976, RFI=.964, IFI=.992, TLI=.988, CFI=.992, RMSEA=.043

Notes: OTC=Openness-To-Change, ST=Self-Transcendence, CR=Composite Reliability, AVE=Average Variance Extracted