Vilakshan - XIMB Journal of Management

# Driving environmental sustainability in Uganda's manufacturing industry: the role of managerial discretion

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Received 11 August 2025
Revised 22 March 2026
Accepted 9 May 2026

## Abstract

**Purpose** – Despite the recognition of environmental sustainability in the manufacturing sector, limited research has explored the role of decision-making autonomy and internal organizational factors in influencing sustainability practices, particularly within the context of Uganda's manufacturing industry. This study aims to fill this gap by investigating how decision-making autonomy and internal organizations enhance environmental sustainability practices, including resource efficiency, waste management and pollution control, in manufacturing firms in Uganda.

**Design/methodology/approach** – This study adopted a cross-sectional research design and used hierarchical regression analysis to assess the relationships among decision-making autonomy, internal organizational factors and environmental sustainability practices.

**Findings** – Decision-making autonomy has a significant positive impact on the adoption of environmental sustainability practices. Internal organizational factors, including organizational culture and resource availability, also positively affect sustainability practices, although their influence is weaker than that of decision-making autonomy.

**Research limitations/implications** – The study adopted a cross-sectional research design, which limits the ability to establish causal relationships between decision-making autonomy, organizational factors and environmental sustainability practices.

**Originality/value** – This study highlights the importance of granting managers decision-making autonomy as a strategy for promoting environmental sustainability practices. It also underscores the need for manufacturing firms, especially in developing countries such as Uganda, to focus on

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Vilakshan - XIMB Journal of Management
Emerald Publishing Limited
e-ISSN: 2633-9439
p-ISSN: 0973-1954
DOI 10.1108/XJM-05-2025-0042

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strengthening internal organizational factors, such as organizational culture and resource allocation, to foster sustainable practices.

**Keywords** Decision-making autonomy, Environmental sustainability, Organizational factors, Manufacturing sector, Uganda, Managerial discretion

**Paper type** Research paper

## 1. Introduction

Firms' ability to integrate sustainability into their core business strategies is crucial for achieving long-term competitive advantages and resilience, particularly in developing economies (Azadda *et al.*, 2024). The escalation of environmental degradation has made environmental sustainability a global concern for protecting the environment (UNEP, 2023). The manufacturing sector is a major contributor to environmental harm through excessive resource consumption, pollution and waste generation (Alinda *et al.*, 2024; NEMA, 2019). Consequently, manufacturing firms are under increasing pressure to adopt environmental sustainability practices (ESPs), including energy efficiency, waste reduction, pollution control and resource optimization, as part of their operational strategies (Bour, Adu *et al.*, 2024; Li and Cao, 2025). Recent studies have highlighted the importance of integrating sustainability into business strategies to enhance organizational resilience (Azadda *et al.*, 2024). Sustainability practices mitigate negative environmental impacts and improve compliance with evolving regulatory standards (Wolniak, Gajdzik *et al.*, 2023). Environmental sustainability refers to the practice of using natural resources in a way that meets current needs without compromising the ability of future generations to meet their own needs (UNEP, 2023).

The manufacturing sector in Uganda faces challenges, including high levels of air and water pollution, inefficient use of natural resources and substantial waste generation, all of which contribute to environmental degradation (NEMA, 2019). Although efforts have been made to promote sustainability, the adoption of ESPs remains inconsistent and slow (Joy-Camacho and Thornhill, 2024).

Managerial discretion plays a pivotal role in enabling firms to innovate and adopt sustainability practices, especially in contexts where external pressure is insufficient (Jayakumar *et al.*, 2024). Managerial discretion refers to the autonomy that managers have in making decisions about firm strategies and operations (Wangrow, Schepker *et al.*, 2015). Research has shown that firms with higher levels of managerial discretion tend to implement more innovative sustainability practices because managers have the flexibility to make decisions that align with environmental objectives (Amir, Siddique *et al.*, 2022).

While managerial discretion has been widely discussed in the context of corporate governance and strategic decision-making (Alinda *et al.*, 2024), its specific role in driving environmental sustainability remains underexplored, particularly in developing economies such as Uganda. Firms in developing economies, such as Uganda, face unique challenges in adopting sustainability practices because of limited resources and institutional support; however, managerial discretion can significantly mitigate these challenges (Alinda *et al.*, 2023). Previous studies have examined how managerial discretion enhances sustainability outcomes (Bansal and Roth, 2000; Kibert, 2016; Wangrow *et al.*, 2015). However, empirical evidence in developing countries is nascent (Alinda *et al.*, 2024), more so in the context of manufacturing firms, which are energy-intensive.

The contribution of the current study is both theoretical and practical. Theoretically, this study expands existing frameworks of corporate governance and sustainability by incorporating managerial discretion as a key determinant of sustainable business practices

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(Alinda *et al.*, 2022; Alinda *et al.*, 2024). Practically, the study offers valuable recommendations for managers and policymakers on how to enhance environmental sustainability in Uganda's manufacturing sector through sustainable autonomous decision-making, which aligns with both business goals and environmental stewardship.

The remainder of this paper is organized as follows. The section entails an empirical and theoretical literature review. Section 2 describes the methodology. Section 3 presents the analytical results, and Section 4 presents the discussion, conclusion, recommendations and implications of the study.

## 2. Theoretical and empirical review of literature

### *2.1 Dynamic capabilities theory*

This study is anchored in the dynamic capabilities theory of Teece *et al.* (1997), which emphasizes the importance of an organization's ability to integrate, build and reconfigure its resources to address both internal and external challenges. A critical aspect of the dynamic capabilities theory is its recognition of managerial discretion, which plays a pivotal role in firms' ability to sense, seize and reconfigure their resources. Managers with greater discretion have the freedom to align their business strategies with long-term goals, including environmental sustainability initiatives (Teece *et al.*, 1997).

In the context of sustainability, managerial discretion allows decision-makers to prioritize eco-innovation, resource efficiency and waste management practices that align with both the firm's strategic goals and the evolving demands of stakeholders, such as consumers, regulators and investors. Firms that provide managers with significant decision-making autonomy can respond more effectively to emerging environmental opportunities and integrate sustainable practices into their business models and operational processes.

Moreover, the theory posits that sensing environmental opportunities related to sustainability (such as adopting renewable energy technologies or waste reduction strategies) requires managers to actively seek information and insights about emerging environmental trends. Once these opportunities are identified, managers with decision-making autonomy are more likely to seize them by investing in sustainable practices, such as energy-efficient technologies or eco-friendly product lines. Finally, the reconfiguration process involves adapting organizational structures, resource allocation and operational practices to embed sustainability across all levels of the firm.

### *2.2 Managerial discretion and environmental sustainability*

Managerial discretion plays a pivotal role in shaping how firms adopt ESPs. In manufacturing firms, managerial discretion enables managers to prioritize sustainability, decide on eco-innovations and implement environmental practices beyond regulatory compliance. These decisions can have significant implications for environmental sustainability, as firms take proactive steps to minimize their environmental impact (Alinda *et al.*, 2024). As Alinda *et al.* (2024) highlight, firms that allow managers to exercise discretion are more likely to proactively adopt ESPs, including waste reduction, energy efficiency improvements and resource conservation. Firms that empower their managers with the discretion to act on sustainability goals often gain a competitive edge by aligning operational practices with emerging environmental opportunities (Freeman and Reed, 1983). Internal resources, including managerial autonomy and organizational capabilities, are fundamental to facilitating the implementation of sustainability practices that contribute to both environmental and business performance (Jayakumar *et al.*, 2024).

Recent studies further emphasize the role of managerial discretion and internal organizational capabilities in driving environmental sustainability, particularly within

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manufacturing firms operating in resource-constrained environments. For instance, Freixanet *et al.* (2021) and Omar *et al.* (2024) demonstrate that managerial autonomy significantly enhances the adoption of environmentally sustainable and green manufacturing practices, especially in emerging economies. Managerial discretion influences the extent to which firms engage in sustainability, thereby shaping their environmental performance and ability to innovate. In line with the reviewed literature, we propose the following hypotheses:

*H1.* Decision-making autonomy is positively associated with the adoption of environmentally sustainable practices.

*H2.* Internal organizational factors positively associate with the adoption of environmental sustainability practices.

## 3. Methods

### *3.1 Research design, population and sample*

This study used a cross-sectional quantitative research design. The cross-sectional approach involves collecting data at a single point in time to examine patterns and relationships. This design allowed the researcher to gather data from manufacturing companies in a one-time survey, providing a snapshot of the status of managerial discretion and its impact on ESPs in the Kampala metropolitan area. A quantitative methodology was chosen to quantify the data and draw conclusions that were generalizable to a representative sample of medium- and large-sized (M&L) manufacturing firms, in line with the principles outlined by Creswell and Clark (2007). This study focuses on M&L manufacturing firms in the Kampala metropolitan area. According to the Uganda Bureau of Statistics (UBOS, 2018), there are approximately 400 manufacturing firms in Kampala, which is considered an industrial hub in Uganda. These firms were selected because they represent a significant portion of Uganda's manufacturing sector and are members of the Uganda Manufacturers' Association.

Yamane's (1967) formula, which is suitable for finite populations, was used to determine sample size. The simplified formula for sample size determination is as follows:

$$n = N/1 + N$$

where:

- $n$ is the required sample size; and
- $N$ is the population size (400 manufacturing firms in Kampala) and is the acceptable margin of error (95% confidence level; $e = 0.05$).

Using this formula and a population size of 400, the sample size was calculated as follows:

$$n = 400/1 + 400 \cdot 0.052 = 200$$

Therefore, the sample size required for this study was 200 firms.

Firm classification as medium- or large-sized was based on criteria such as annual turnover and workforce size, in accordance with the definitions provided by the Uganda Investment Authority (UIA, 2020). Medium-sized firms had an annual turnover between UGX 360m (approximately US$97,000) and UGX 1.2bn (approximately US$323,000) and used 51–100 individuals. Large firms had a turnover exceeding UGX 1.2bn and used more than 100 individuals.

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A stratified random sampling technique was used to select M&L manufacturing firms across different industrial sectors within the Kampala metropolitan area to ensure proportional representation. Data was collected from production managers, operations managers, environmental managers, human resource managers and chief finance officers within the selected firms. These managerial roles were selected because they are directly involved in strategic, operational, financial and environmental decision-making processes that influence the adoption of ESPs. Prior empirical studies on environmental sustainability and managerial decision-making have similarly relied on these categories of managers as appropriate and reliable sources of firm-level sustainability data (Aragon-Correa *et al.*, 2004; Kaawaase *et al.*, 2022).

### *3.2 Demographic characteristics*

Table 1 presents the demographic characteristics of the individual respondents which included gender, age, education background and tenure. The gender distribution indicated that 638 respondents (76.3%) were male and 197 respondents (23.7%) were female. This reflects the gender composition of managerial positions in Uganda's manufacturing sector. Regarding age, the majority of respondents were in the 40–49 years age group (313 respondents, 37.4%), followed by the 18–29 years group (221 respondents, 26.5%) and the 30–39 years group (171 respondents, 20.5%). In total, 130 respondents (15.6%) were classified into five age categories. In terms of education, most respondents held a bachelor's degree (501 respondents, 60.0%), followed by those with a diploma (171 respondents, 20.5%), a master's degree (117 respondents, 14.0%) and a doctorate (46 respondents, 5.5%). Regarding tenure, the largest group of respondents had 6–10 years of experience (301 respondents, 36.0%), followed by those with 1–5 years of experience (221 respondents, 26.5%). A total of 205 respondents (24.5%) had 11–15 years of experience and 108 respondents (12.9%) had more than 16 years of experience. Operations managers and production managers each represented 221 respondents (26.5%), while environmental

**Table 1.** Respondents' characteristics

| Characteristics | Category | Frequency ($n = 200$) | % |
|---|---|---|---|
| Gender | Male | 638 | 76.3 |
| | Female | 197 | 23.7 |
| Age (years) | 18–29 | 221 | 26.5 |
| | 30–39 | 171 | 20.5 |
| | 40–49 | 313 | 37.4 |
| | 50 and above | 130 | 15.6 |
| Education level | Diploma | 171 | 20.5 |
| | Bachelor's degree | 501 | 60 |
| | Master's degree | 117 | 14 |
| | Doctorate | 46 | 5.5 |
| Tenure | 1–5 years | 221 | 26.5 |
| | 6–10 years | 301 | 36 |
| | 11–15 years | 205 | 26.5 |
| | 16 years and above | 108 | 12.9 |
| Position | Environmental manager | 135 | 16.2 |
| | Operations manager | 221 | 26.5 |
| | Human resource manager | 108 | 12.9 |
| | Production manager | 221 | 26.5 |
| | Chief finance officer | 148 | 17.7 |

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managers accounted for 135 (16.2%). Chief finance officers comprised 148 respondents (17.7%) and human resource managers comprised 108 respondents (12.9%).

Regarding firm characteristics, this study analyzed the number of employees, years of operation and business categories. Table 2 presents the firm characteristics of the sampled manufacturing firms. The distribution of firms based on the number of employees shows that most firms are medium-sized, with 148 firms (88.7%) using fewer than 101 individuals, whereas 19 firms (11.3%) are classified as large, using more than 100 individuals. Regarding years of operation, most firms have been in business for 5–10 years (61 firms, 36.5%), followed by those that have been operational for 11–15 years (52 firms, 31.1%) and firms that have been operating for 16 years or more (48 firms, 28.8%). A small proportion of the firms had been operating for less than five years (six firms, 3.6%). In terms of the nature of the manufacturing business, the largest number of firms were involved in food and beverage production (53 firms, 31.7%), followed by chemicals, paint, soap and foam products (30 firms, 18.0%) and textiles, clothing and footwear (26 firms, 15.5%). Other significant sectors include metal and furniture products (28 firms, 16.8%), sawmilling and paper (10 firms, 6%) and packaging and labels (10 firms, 6%).

*3.2.1 Data collection and variable measurement.* Data was collected through a questionnaire survey targeting key personnel, such as production managers, operations managers, environmental managers, human resource managers and chief finance managers in manufacturing firms, using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) to assess respondents' agreement with various statements related to environmental sustainability practices. Environmental sustainability practices were measured using eight items adopted from Høgevold *et al.* (2015) and Yacob *et al.* (2019). Sample items included: "We apply effective strategies to improve water conservation," "Our packaging materials decompose easily," "Our customers are given eco-friendly packaging materials free of charge" and "We ensure that business activities minimize the amount of natural energy used." Managerial discretion was measured using items adopted from Teece *et al.* (1997) and Lee and Lee (2022). Sample items include: "Managers in my firm have significant autonomy in selecting sustainability practices," "Managerial decisions on sustainability are not heavily constrained by external regulations," "We have the freedom to make decisions based on long-term environmental goals," and "Managers in my firm are allowed to make decisions without excessive interference from the board or stakeholders."

**Table 2.** Firm characteristics

| Firm characteristic | Category | Frequency ($n = 200$) | % |
|---|---|---|---|
| Number of employees | Less than 101 | 148 | 88.7 |
| | 101 and above | 19 | 11.3 |
| Years in operation | Less than 5 | 6 | 3.6 |
| | 5–10 | 61 | 36.5 |
| | 11–15 | 52 | 31.1 |
| | 16 and above | 48 | 28.8 |
| Category of business | Food and beverages | 53 | 31.7 |
| | Textiles, clothing and footwear | 26 | 15.5 |
| | Mental works and furniture | 28 | 16.8 |
| | Sawmilling, paper | 10 | 6 |
| | Packaging and labels | 10 | 6 |
| | Printing | 5 | 3 |
| | Bricks and cement | 9 | 5.4 |

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### 3.3 Instrument validation

Because the questions were self-rated, we checked for common method bias by utilizing Harman's single-factor test with exploratory factor analysis (Podsakoff, MacKenzie, Lee, and Podsakoff, 2003) and common latent factor with confirmatory factor analysis (CFA). The validity and reliability of the measured items were investigated. Given that this study used a multi-item scale, construct validity was also investigated with regard to managerial discretion. Table 3 presents the validity and reliability of the constructs. All Cronbach's alpha values exceeded the minimum acceptable level of 0.7 (Field, 2009), demonstrating good internal consistency across the dimensions of managerial discretion. Specifically, decision-making autonomy had a Cronbach's $\alpha$ of 0.84 and internal organizational factors had a Cronbach's $\alpha$ of 0.79, both above the threshold of 0.7, confirming good internal consistency. To evaluate the concept validity and unidimensionality of the data, CFA was conducted. Table 3 shows the standardized factor loadings, Cronbach's alpha, average variance extracted (AVE) and composite reliability of the measures. According to the findings of Li, Humphreys, Yeung, and Cheng (2007), the loading of each individual indicator should be larger than 0.5, and the *t*-values ($t > 2.0$). Because each loading in this research was greater than 0.5, and the *t*-values were significant, it was decided that all loadings should be kept for further examination. Thus, construct validity of managerial discretion was supported, as all items demonstrated appropriate loadings and reliability measures. The AVE for decision-making autonomy was 0.71 and for internal organizational factors, it was 0.67, both of which exceeded the recommended threshold of 0.5, confirming adequate convergent validity. Furthermore, the composite reliability values for both dimensions (0.87 for decision-making autonomy, 0.82 for internal organizational factors and 0.77 for environmental sustainability practices) indicate strong reliability of the constructs.

### 3.4 Analysis

Data was coded by assigning numbers. The data was cleaned to reduce the number of outliers. The responses were checked for accuracy and completeness and missing responses

**Table 3.** Validity and reliability of the constructs

| Construct | Code | Loadings | Cronbach's alpha | AVE | Composite reliability |
|---|---|---|---|---|---|
| *Managerial discretion* | | | | | |
| Decision-Making autonomy | DMA1 | 0.73 | 0.84 | 0.71 | 0.87 |
| | DMA2 | 0.77 | | | |
| | DMA3 | 0.77 | | | |
| | DMA4 | 0.7 | | | |
| Internal organization factors | IO1 | 0.73 | 0.79 | 0.67 | 0.82 |
| | IO2 | 0.71 | | | |
| | IO3 | 0.74 | | | |
| | IO4 | 0.73 | | | |
| Environmental sustainability practices | ESP | 0.81 | 0.73 | 0.70 | 0.77 |
| | | 0.71 | | | |
| | | 0.74 | | | |
| | | 0.79 | | | |
| | | 0.71 | | | |
| | | 0.70 | | | |
| | | 0.72 | | | |
| | | 0.76 | | | |

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were removed. We used Version 22 to enter the data so that they could be processed and analyzed. To test the hypotheses, we used hierarchical regression analysis, which allows for the examination of incremental changes in the explanatory power of different predictor variables while controlling for the effects of other factors. Regression analysis was conducted in three steps, progressively adding key variables to assess their unique contributions to explaining environmental sustainability practices.

Initially, we entered the control variables in the first block, which included firm size (measured by the number of employees), firm age (measured by the number of years the firm has been in operation) and industry sector. These variables were included to control for their potential effects on the dependent variable, environmental sustainability practices, before testing the effects of the key predictors. In the second block, we added decision-making autonomy as the main predictor variable, while holding the control variables constant. Decision-making autonomy was measured based on the degree of freedom and flexibility that managers have when making decisions, particularly those related to sustainability practices within their firms. This step tested *H1*: decision-making autonomy is positively associated with the adoption of environmentally sustainable practices. By including decision-making autonomy, we examined whether managerial discretion in terms of decision-making freedom has a significant impact on the extent to which firms adopt sustainable practices. In the third block, we introduced internal organizational factors, which refer to organizational structures, culture and resource availability that influence managerial decision-making. This step was designed to test *H2*: internal organizational factors are positively associated with the adoption of environmental sustainability practices. By holding both the control variables and decision-making autonomy constant, we isolated the effects of internal organizational factors on environmental sustainability practices. Each step in the hierarchical regression analysis was assessed for its contribution to the overall model fit by examining the change i*n* $R^2$, which indicated the incremental variance explained by each block of variables. *F*-tests were used to determine the statistical significance of each model. The hypotheses were evaluated based on the significance of the predictors at each step. Specifically, we hypothesized that decision-making autonomy and internal organizational factors would positively influence the adoption of environmental sustainability practices.

## 4. Results

### *4.1 Correlation among study variables*

The results of the Pearson's correlation analysis for the study variables are presented inTable 4. According to the findings, managerial discretion (measured by both decision-making autonomy and internal organizational factors) and environmental sustainability practices were positively and statistically correlated. Decision-making autonomy was significantly correlated with resource efficiency ($r = 0.34$, $p < 0.01$), waste management ($r = 0.28$, $p < 0.01$) and pollution control ($r = 0.21$, $p < 0.01$). Similarly, internal organizational factors were significantly correlated with eco-innovation ($r = 0.32$, $p < 0.01$) and waste management ($r = 0.30$, $p < 0.01$).

### *4.2 Hypothesis testing*

Hierarchical regression was used to determine the variance each predictor variable caused in the dependent variable (Tabachnick and Fidell, 2013). The hierarchical regression results are presented in Table 5. In Model 1, we entered the control variables (i.e. firm size, firm age and industry sector) to account for their potential impact on environmental sustainability practices. The results revealed that the control variables alone explained only a small portion of the variance in sustainability practices ($R^2 = 0.025$, $p > 0.05$), indicating that they did not

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**Table 4.** Correlation between managerial discretion and environmental sustainability

| Variable | Mean | SD | 1 | 2 | 3 |
|---|---|---|---|---|---|
| 1. Decision-making autonomy | 3.31 | 0.33 | 1 | 0.53** | 0.38** |
| 2. Internal organizational factors | 3.27 | 0.41 | 0.53** | 1 | 0.44** |
| 3. Environmental sustainability practices | 3.45 | 0.34 | 0.38** | 0.44** | 1 |

**Note(s):** *$p < 0.01$ (two-tailed)
**Source(s):** Survey (2025)

**Table 5.** Hierarchical regression results

| Variable | Model 1 | Model 2 | Environmental sustainability practices Model 3 |
|---|---|---|---|
| Firm size | 0.03 (0.09) | 0.03 (0.09) | 0.03 (0.09) |
| Firm age | 0.06 (0.05) | 0.06 (0.05) | 0.06 (0.05) |
| Industry sector | 0.05 (0.04) | 0.05 (0.04) | 0.05 (0.04) |
| Decision-making autonomy | – | 0.32 (0.06)** | 0.32 (0.06)** |
| Internal organizational factors | – | – | 0.25 (0.05)** |
| $F$ | 0.612 | 2.33** | 3.12** |
| $R^2$ | 0.025 | 0.12 | 0.13 |
| $R^2$ change | – | 0.38 | 0.21 |

**Note(s):** The regression coefficients are standardized, and the standard errors of the estimations are shown in parentheses after the regression coefficients; **$n = 167$, **$p < 0.01$

have a significant impact. In Model 2, we added decision-making autonomy as the predictor variable, while holding the control variables constant. The results show a statistically significant positive relationship between decision-making autonomy and the adoption of environmental sustainability practices ($R^2$ change = 0.38, $p < 0.01$). This supports Hypothesis 1, which states that decision-making autonomy is positively associated with the adoption of environmental sustainability practices. In Model 3, we included internal organizational factors as another predictor while holding both the control variables and decision-making autonomy constant. The regression results show a significant positive effect of internal organizational factors on the adoption of environmental sustainability practices ($R^2$ change = 0.21, $p < 0.01$). This supports Hypothesis 2, which suggests that internal organizational factors are positively associated with the adoption of environmental sustainability practices.

## 5. Discussion and Conclusion

### *5.1 Discussion*

The current study establishes the influence of managerial discretion, specifically decision-making autonomy and internal organizational factors, on the adoption of environmental sustainability practices in Uganda's manufacturing firms. The study reveals that decision-making autonomy is positively associated with the adoption of environmental sustainability practices, supporting Hypothesis 1. These findings align with Teece *et al.* (1997), who emphasized the importance of managerial autonomy in fostering dynamic capabilities that can drive innovation and sustainability. In this study, decision-making autonomy

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significantly influences resource efficiency, waste management and pollution control. These findings are consistent with previous research, such as Khalili (2016), who found that the freedom to make decisions without external constraints allows managers to implement sustainability initiatives effectively. Similarly, Hambrick and Finkelstein (1987) suggest that managerial discretion, including autonomy, allows managers to pursue strategic goals that align with environmental and sustainability objectives.

The positive association between decision-making autonomy and environmental sustainability practices confirms Teece *et al.* (1997) argument that firms with high managerial discretion are better equipped to adapt to environmental changes and implement sustainable practices. Freixanet *et al.* (2021) also argued that managerial discretion facilitates the adoption of environmentally friendly practices because managers have the flexibility to make decisions that align with long-term sustainability goals.

Furthermore, internal organizational factors significantly influence eco-innovation and waste management, supporting Hypothesis 2. These findings are consistent with Iqbal *et al.* (2021), who noted that internal organizational structures, such as resource availability and organizational culture, significantly affect a firm's ability to implement sustainability practices. Khalili (2016) highlighted the importance of organizational resources and structures in enabling firms to adopt innovative and sustainable strategies. Our study affirmed that internal organizational factors, such as resource availability and organizational culture, play a critical role in shaping sustainability practices, particularly in firms that have the flexibility to implement these strategies. The study's findings support Hambrick and Finkelstein (1987), who argued that autonomy is a critical factor in enabling managers to implement strategies that align with a firm's long-term sustainability goals.

The results contribute to the theoretical understanding of managerial discretion by confirming that decision-making autonomy and internal organizational factors interact to drive sustainability practices. This finding aligns with Lumpkin and Dess (2001), who suggest that the influence of managerial discretion depends on the context in which it is applied. The manufacturing context in Uganda, where firms face unique challenges and opportunities, may explain why decision-making autonomy has a more significant impact on sustainability practices than internal organizational factors. These findings provide a deeper understanding of how managerial discretion operates in the Ugandan manufacturing sector. Our study enhances the existing literature by exploring how decision-making autonomy and internal organizational factors influence sustainability practices in a developing country context.

### *5.2 Conclusion*

Recent studies further emphasize the role of managerial discretion and internal organizational capabilities in driving environmental sustainability, particularly within manufacturing firms operating in resource-constrained environments. For instance, Freixanet *et al.* (2021) and Omar *et al.* (2024) demonstrate that managerial autonomy significantly enhances the adoption of environmentally sustainable and green manufacturing practices, particularly in emerging economies. These findings reinforce the relevance of examining managerial discretion as a key determinant of sustainability practices in the Ugandan manufacturing context.

### *5.3 Implications*

*5.3.1 Implications for theory and practice.* This study makes several important theoretical contributions to the literature on environmental sustainability and managerial discretion. First, by empirically demonstrating the significant role of decision-making autonomy in

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driving environmental sustainability practices, the study extends the application of *dynamic capabilities theory* (DCT; Teece *et al.*, 1997) to the context of sustainability in manufacturing firms within a developing economy. While prior studies have largely examined dynamic capabilities in innovation and competitive advantage contexts, this study shows that managerial discretion, particularly decision-making autonomy, constitutes a critical microfoundation through which firms sense, seize and reconfigure resources to achieve environmental sustainability. Second, the findings contribute to the *managerial discretion literature* by distinguishing between decision-making autonomy and internal organizational factors and examining their differential effects on sustainability practices. Third, the study enriches the *environmental sustainability literature in emerging economies* by providing empirical evidence from Uganda's manufacturing sector.

*5.3.2 Implications for practice.* The findings of this study offer several practical implications for managers, manufacturing firms and policymakers. First, it highlights the importance of *empowering managers with greater discretion* in sustainability-related decision-making. Manufacturing firms should reduce excessive bureaucratic controls and allow managers flexibility in initiating and implementing sustainability initiatives related to resource efficiency, waste management and pollution control. Therefore, firms should invest in *strengthening supportive organizational structures*, such as fostering a sustainability-oriented organizational culture, improving access to resources and aligning internal policies with long-term environmental goals. Such organizational support can enhance the effectiveness of managerial autonomy and ensure the sustained implementation of environmental practices. Third, our findings have important implications for *policymakers and regulatory authorities* in developing economies. Rather than relying solely on prescriptive regulations, policymakers should design regulatory and institutional frameworks that encourage managerial flexibility while incentivizing sustainable behavior. Providing capacity-building programs, sustainability guidelines and supportive policy instruments can enable managers to leverage their discretion more effectively to promote environmental sustainability.

### *5.4 Recommendations*

This study draws actionable recommendations for manufacturing firms, managers and policymakers seeking to enhance environmental sustainability practices in Uganda's manufacturing sector. First, manufacturing firms should *deliberately institutionalize managerial decision-making autonomy*, particularly in areas related to environmental management. Firms are encouraged to delegate greater authority to managers responsible for production, operations, finance and environmental management, enabling them to independently initiate and implement sustainability initiatives, such as energy efficiency programs, waste reduction strategies and pollution control measures. Reducing unnecessary bureaucratic constraints and encouraging managerial initiative can significantly accelerate the adoption of environmentally sustainable practices. Second, firms should *strengthen internal organizational support systems* that complement managerial autonomy. This includes investing in sustainability-related resources, such as cleaner technologies, training programs and environmental management systems, as well as fostering an organizational culture that prioritizes long-term environmental goals alongside financial performance. Aligning performance evaluation and incentive systems with sustainability objectives can further motivate managers to pursue environmentally responsible practices. Third, policymakers and regulatory authorities should *create an enabling institutional environment* that supports managerial discretion while promoting environmental sustainability. Rather than relying exclusively on command-and-control regulations, policymakers should adopt

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flexible policy instruments, such as sustainability incentives, tax reliefs for green investments and capacity-building initiatives targeted at manufacturing managers.

### *5.5 Limitations and areas for further research*

Although this study provides valuable insights, it has some limitations. The findings are based on data from Uganda's manufacturing sector and may not be directly applicable to other industries or regions. Future research could replicate this study in different sectors or countries to explore the generalizability of these findings. In addition, this study used a cross-sectional design, which limits its ability to draw causal conclusions. Longitudinal studies can offer a deeper understanding of the long-term effects of managerial discretion on environmental sustainability.

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