

# Internal organizational factors influencing the adoption of sustainable solid waste management in Zanzibar hotels: A qualitative multiple-case study

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## ABSTRACT

Solid waste generation from the hospitality industry poses a significant global sustainability challenge for tourist destinations, including Zanzibar. The existing literature presents conflicting findings on the internal factors influencing hotels' adoption of sustainable solid waste management (SSWM) practices. Also, the majority of studies focus on broader environmental sustainability, neglecting SSWM. This study addresses this gap by investigating the internal factors affecting SSWM adoption in Zanzibar hotels, utilizing organizational theory as a lens. The study employed a qualitative multiple-case design, involving 14 hotels and 45 respondents recruited through snowball and purposive sampling. Primary data were gathered through semi-structured interviews, observations, and document reviews, and were analysed thematically using MAXQDA software. The study found that organizational learning, leadership support, resources, and structure significantly influence SSWM practices in five out of 14 hotels. Additionally, employee motivation does not impact SSWM adoption in these hotels. Interviews with managers and department leaders revealed two unexpected factors: organizational adaptability and employee teamwork as key factors in SSWM adoption. The majority of three- to four-star hotels involved in this study struggled to implement sustainable waste management due to inadequate leadership support, limited organizational learning, insufficient resources, and the absence of a clear waste management policy and expertise. This study advances existing knowledge by providing empirical evidence of the importance of organizational structure and leadership support in advancing sustainable waste management practices within the hospitality industry.

## 1. INTRODUCTION

The tourism industry is one of the world's largest sectors, growing by 3.9% in 2018 and contributing \$8.8 trillion to the global economy. It contributed 319 million jobs, representing

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one in ten of all posts globally. (WTTC, 2018). The hotel sector is one of the most crucial areas of the hospitality industry, and it is the primary source of solid waste generation (Simorangkir, 2024; Filimonau & Tochukwu, 2020; Chaabane et al., 2018). It has also been estimated that every international tourist produces 1 kg of solid waste during a day's stay in a hotel, resulting in thousands of tons of waste per year (Abdulredha et al., 2018; Bohdanowicz et al., 2005).

Similarly, Son et al., (2018), found that hotels produce considerable waste, with food waste accounting for 40.9% to 57.4% of total waste. Further, improper handling of waste increases greenhouse gas emissions, environmental pollution, increases operational costs, and public health risks, degrades local ecosystems, ultimately undermining the sustainability of the tourism sector and contributing to broader municipal waste management challenges.

Additionally, Halbe (2013), found that hotel commitment to sustainability varies widely. The industry features a range of adopters: some hotels lead the offering of innovative technologies, while others implement only basic practices like towel reuse. Similarly, Sanitha (2024), noted inconsistencies in solid waste management. While most hotels practice waste collection and storage and engage with management companies, few invest in separation, reuse, and recycling or have a comprehensive environmental policy (Wang et al, 2021).

Despite the recognized importance and urgency of sustainable solid waste management, this topic has received minimal academic attention within the hospitality sector, particularly concerning empirical evidence in the global south. (Filimonau & De Coteau, 2019; Tuan et al., 2024). This study identifies substantial contextual, empirical, and theoretical research gaps in the existing literature that require immediate attention.

First, most existing research focuses on the factors influencing the adoption of environmental sustainability practices in the hotel industry. However, little scholarly attention has been devoted to sustainable solid waste management (SSWM) in hotel operations. Examples of those studies include Naiman & Mlozi (2019), Satchapappichit et al. (2016), Dief & Font (2012), Langgat et al. (2023); and Khonje et al. (2020)

The absence of targeted studies on SSWM leads to an incomplete understanding of the factors influencing sustainable solid waste management practices in hotels, hindering effective strategy and policy development. Thus, focused research on the specific factors affecting sustainable solid waste management in the hotel industry is urgently needed.

Secondly, there has been a surge in research focusing on the factors promoting environmental sustainability in hotels (Naiman & Mlozi, 2019; Kasim, 2007b). However, a significant limitation of these studies is their geographic concentration: most are conducted in continents such as North and South America, Asia, and Europe, while only a few are conducted in Africa (Lucas et al., 2024; Mzembe et al., 2019; Fadhil, 2015).

This regional bias raises concerns about the applicability of findings from these contexts to the African continent, where socio-economic and cultural differences may hinder the transfer of insights. (Mzembe et al., 2019; Mensah & Blankson, 2013).

Therefore, there is a critical need for research, particularly in African nations, including Zanzibar, to gather relevant data on organizational factors influencing the adoption of sustainable solid waste management in hotels.

Thirdly, despite the expanding body of literature on organizational theory, its application for understanding the influence of organizational-level factors on implementation within organizations remains underdeveloped (Birken et al., 2017; Shortell, 2016). Most past studies rely heavily on micro-level theories of the organization, such as the Upper Echelons Theory by Kuar & Chen (2022), the resource-based theory (Chachage, 2024), and the organizational learning theory by Chen et al. (2018). These theories emphasize individual or small-group behaviors and characteristics rather than the broader organizational context. As a result, they offer only a fragmented understanding of the factors influencing the SSWM in hotels.

Therefore, this study aimed to investigate the organizational factors influencing the adoption of sustainable solid waste management practices in selected hotels in Zanzibar. By doing so, the study not only fills an empirical gap but also generates practical, policy, and theoretical value for multiple stakeholders. The expected findings will help hotels identify the internal conditions necessary for effective waste management, inform policymakers about areas requiring regulatory and institutional support, and contribute to the academic literature by expanding the application of organizational theory to SSWM research in the African context.

To meet the research aim, the study used organizational theory to address its overarching research question: What organizational factors influence the adoption of SSWM in hotels, and how do these factors influence sustainable solid waste management practices in hotels?

To achieve the study's objectives, a qualitative approach and multiple-case study method were employed. Primary data were gathered through semi-structured interviews and on-site observations, followed by analysis utilizing a thematic analytical strategy with the assistance of MAXQDA version 24.7.

For this study, organizational factors refer to internal supportive organizational environments, including top management commitment to relevant supportive policies, organizational resources and capabilities, internal infrastructure, and an established performance evaluation system within the corporation (Misopoulos et al., 2018; Law & Gunasekaran, 2012; Afzal & Lim, 2022; Abdou et al., 2020; Epstein, 2008).

## 2. LITERATURE REVIEW

Recent studies have increasingly focused on organizational factors that influence the adoption of environmental sustainability practices within the hotel industry and have made valuable contributions to understanding the individual and small-group factors that influence sustainability practices in hotels (Ali et al., 2023; Asmara & Mohi, 2024; Murti, 2025). However, most of these investigations predominantly rely on micro-level organizational theories. Notable frameworks include the Upper Echelons Theory by Kuar & Chen (2022), the resource view-based theory (Chachage, 2024), and the organizational learning theory by Chen et al. (2018).

While these theories offer important insights, their primary limitation lies in their focus on individual or small-group behaviors and traits, while overlooking the broader organizational context. As a result, they provide a fragmented and narrow view of the factors affecting Sustainable Solid Waste Management (SSWM) in hotels, while the relevance of macro-organizational theory is often ignored in understanding how organizational-level factors influence implementation (Birken et al., 2017; Shortell, 2; 016).

To address these limitations, this study adopts a macro-level organizational theory lens, which enables a more holistic exploration of how internal organizational factors shape the adoption of Sustainable Solid Waste Management (SSWM) in hotels (Birken et al., 2017; Shortell, 2016). Organizational theory emerged in the early 20th century and has evolved through three stages: classical, neoclassical, and modern. Each stage has shaped our understanding of organizations.(Lumpe, 2008; Sullivan, 2009)

The foundational premise of organizational theory posits that an organization is characterized by a bureaucratic structure, behavior, culture, members (a division of labour), and goals, all of which improve organizational efficiency and effectiveness and ensure the quality of organizational life. (Hutchison, 2014). Furthermore, Organizational theory conceptualizes organizations as decision-making entities, in which decision-making processes are shaped by internal factors such as structure and culture, as well as external pressures such as stakeholder expectations and resource availability, which ultimately determine the level of implementation success. (Grothe-Hammer et al., 2022; Espinosa Luna, 2016; Birken et al., 2017)

In this paper, organizational theory suggests that adopting Sustainable Solid Waste Management (SSWM) is not merely a reflex; rather, it emerges from decision-making processes influenced by multiple internal organizational factors. The theory recognizes that hotels are not merely passive recipients of external pressures to adopt SSWM but active entities that make informed decisions grounded in internal factors. Organizational theory provides a valuable lens for understanding why some hotels may readily adopt sustainable

practices while others may be slower or resistant to such changes, depending on their unique internal and external environments (Kaihatu & Oktavio, 2021).

Drawing on organizational theory and prior sustainability research, this study focuses on five key organizational factors: organizational structure, staff motivation, green organizational learning, leadership support, and organizational resource availability. Consistent with the study's qualitative design, these factors are treated as sensitizing concepts that guide data collection and analysis rather than as variables subjected to statistical testing, thereby allowing for new discoveries and leaving room for new categories to emerge from the data. (Gibson & Singleton, 2012; Beuving & Vries, 2025)

Accordingly, these concepts were selected because they represent core organizational dimensions identified in organizational theory and the hospitality sustainability literature as central to decision-making, coordination, and implementation capacity, all of which are critical to understanding variation in SSWM adoption among hotels (Luhman & Cunliffe, 2013).

### **Organizational Learning**

Green organizational learning is acquiring, interpreting, and sharing sustainability knowledge. (Alhemimah et al., 2024). It includes activities like training, knowledge sharing, and continuous improvement (Oktavio et al., 2024; Nugroho et al., 2025). Alhemimah et al., (2024) and Siaputra (2024) noted that green training programs can enhance employees' knowledge, skills, and self-efficacy, which are essential for sustainable hotel behaviour. They argued that this learning fosters a shared understanding of sustainability, enabling employees to engage in sustainable practices. Training should cover energy conservation, waste management, responsible tourism, and sustainable procurement.

Furthermore, Kasim, (2015) reported that organizational learning is vital to Environmental Management System (EMS) adoption. In this study, organizational learning was examined through evidence of staff training, knowledge-sharing practices, and SSWM-related learning routines, as reported in interviews and supported by observational and documentary data.

### **Staff Motivation**

Staff motivation encompasses the rewards and incentives provided to employees to encourage engagement in sustainable work behaviors (Kartika et al., 2019; Oktavio & Kaihatu, 2020; Oktavio et al., 2023). Rewarding sustainable actions has been shown to motivate hotels to adopt environmental practices (Pham et al., 2020). Motivation programs such as bonuses, incentives, public recognition, or career development reaffirm the organization's commitment and encourage continued, sustainable efforts (Pham et al., 2020; Alhemimah et al., 2024;

Putri, 2021; Temizel, 2024) research also revealed a significant positive correlation between environmental motivation, employee green behaviors, and their perceptions of the organization's green climate.

Moreover, a study by Sibian and Ispas (2021) showed that hotel managers' use of extrinsic motivation, specifically salaries and bonuses, influenced staff engagement in environmentally responsible behaviours and encouraged the adoption of sustainable practices. Their findings indicated that intrinsic motivation did not significantly influence the hotel's operations, as staff remained unfulfilled by their activities despite their understanding of sustainability. Most studies conclude that staff motivation affects the adoption of sustainable practices, but they differ on which motivational programs are most effective. In this study, staff motivation is operationalized by examining both extrinsic (e.g., financial rewards, performance-based bonuses) and intrinsic (e.g., recognition, skill development).

### **Organizational Structure**

According to Pertusa-Ortega et al. (2018), organizational design is the construction and change of an organizational structure to achieve an organization's goals, and the configuration and coordination of people and the work to be accomplished within organizations. Fundamental elements of organizational structure are centralization, formalization, complexity, specialization, and departmentalization (Spector, 2019; Freeman, 1999). The organizational structure affects hotel environmental management via specialization, formalization, and decentralization. Research indicates that higher specialization and formalization enhance coordination and encourage environmental proactivity (López-Gamero et al., 2016; Pertusa-Ortega et al., 2018; Pérez Valls et al., 2013).

Furthermore, Pertusa-Ortega et al. (2018) found that hotels with high specialization and formal links positively influence environmental management. Francisco et al. (2016) noted that while specialization and formalization boost management implementation, decentralization shows no significant differences between certified and non-certified hotels. In this study, organizational structure was operationalized through descriptions of task allocation, decision-making authority, formal waste management procedures and policy, and coordination among departments involved in SSWM.

### **Organization Leadership Support**

According to Park et al. (2014) and Patwary et al. (2024), top managers significantly influence organizational environmental responsiveness. Mensah & Ampofo (2021) found that managers with a strong pro-environmental attitude are more likely to see the benefits of environmental management (EM) and guide their organizations towards greater EM

involvement. Sanitha (2024) observed that managers generally favour sustainable solid waste management, with attitudes varying by hotel class. Thus, managers in high-rate hotels exhibited a more positive outlook than those in low-rated hotels, due to challenges they face, such as resource shortages.

Additionally, Tarigan et al. (2020) noted that top management drives green hotel performance by prioritizing green purchasing and supplier collaboration, leading to more efficient operations and reduced waste. Thus, existing literature highlights the top manager's crucial role in promoting hotel environmental sustainability. In this study, leadership support was operationalized through managers' articulated priorities, their visible participation in SSWM initiatives, and their perceived influence on staff behavior, resource allocation, policy enforcement, training design, and the reward system, as well as staff engagement.

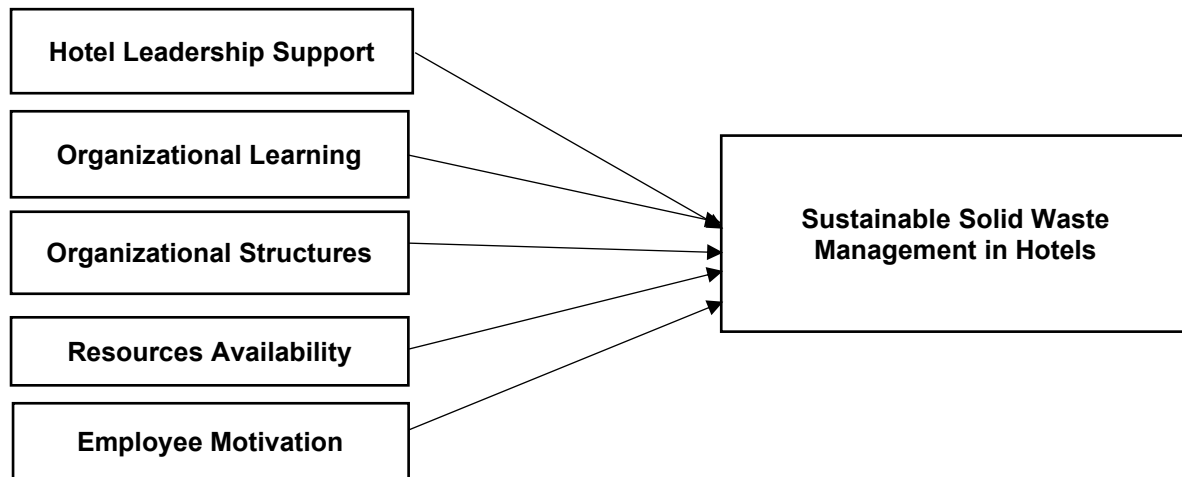
### **Organizational Resource Availability**

Resource availability refers to access to financial, human, and technological resources needed to achieve organizational goals (Andjarwati et al., 2023). Dilawer (2011). Organizational resources, such as financial capital and technological assets, significantly impact the adoption of sustainability in hotels (Kasim, 2007a). Financial capital is vital for eco-friendly technologies and staff training, which are crucial for implementing sustainable initiatives.

Ioannidis et al. (2021) argue that slack financial resources are necessary for adopting reducing, Reusing, and recycling (3Rs) strategies. Baa et al. (2022) noted that the hospitality industry struggles with inefficient waste management due to a lack of key resources, resulting in inadequate waste collection and transportation. Thus, resource availability is critical for the successful adoption of sustainable practices in hotels. In this study, organizational resource availability was operationalized empirically by examining the adequacy of financial investment, the availability of trained personnel, access to waste segregation and recycling infrastructure and technologies, and the availability of land or space for waste storage.

### **Conceptual Framework of the Study**

This proposed framework draws on a review of relevant theories and empirical findings, including internal organizational factors such as leadership support, organizational learning, resource availability, staff motivation, and organizational structure, which are considered important for SSWM adoption. Figure 1 presents the proposed framework for this study.



**Figure 1. Conceptual Framework of the Study**

Source: Researchers' Own Construct (2025)

### 3. METHODOLOGY

#### Description of the Study Site

This study was conducted in Zanzibar, an archipelago in the Indian Ocean off eastern Africa, comprising the islands of Unguja and Pemba, with Unguja as the largest. The Zanzibar population is approximately 1.6 million, with the majority residing in urban areas. Its economy relies on tourism, agriculture, and fishing, with tourism accounting for approximately 27% of GDP and generating around 72,000 jobs (Bengies & Abdalla, 2018).

This study focuses on Unguja due to its strong ties to tourism, waste management, and public health in Zanzibar. The tourism sector in Unguja generates significant solid waste, much of which is poorly managed (Kampango et al., 2021).

This context has significant implications, offering essential insights into the investigation of organizational factors influencing the adoption of sustainable waste management in the hotel industry. Understanding these dynamics is crucial to developing effective strategies to address the environmental and public health challenges posed by tourism-related waste in Unguja.

#### Study Design and Strategy

This study employed a qualitative, multiple-case study design to gain an in-depth understanding of the phenomenon (Yin, 2018). A qualitative approach was chosen because of its ability to provide rich descriptions, capture diverse perspectives, and reveal unanticipated insights in organizational contexts (Klenke, 2016). The qualitative approach was used to address the study's research questions, which focus on understanding what organizational factors shape the adoption of SSWM practices in hotels and how.

The study used a multiple-case design aligned with qualitative research, allowing exploration of complex organizational phenomena in natural settings. It supports analytical generalization via cross-case comparison, strengthening findings through recurring patterns and variations (Vohra, 2024). Although the qualitative approach offers benefits for this study, it has limitations: limited generalizability beyond the specific context and potential bias in self-reported data (Yin, 2018). To address these limitations, the study used multiple data sources, purposive and snowball sampling to ensure respondent diversity, and cross-case analysis to enhance the credibility of the findings (Yadav et al., 2026). The study also emphasizes interpretive validity through member-checking, reflexivity, and prolonged field engagement (Faulkner & Atkinson, 2024; Throne, 2025)

### **Case Selection and Sample Size**

This study includes 14 case studies located in the northern and southern regions of Zanzibar. The sample size and case selection were determined through a maximum variation sampling. Quinn (2015) ensuring the inclusion of hotels of varying sizes (small, medium, and large), ownership types (local vs. international chains), and star ratings, existing waste management practices, and willingness to participate in the study. This diversity was critical to capturing a broad spectrum of organizational experiences.

The sample of 14 hotels was deemed sufficient based on data saturation (Ahmed, 2025a). Initially, data collection and preliminary analysis were conducted on approximately 4 cases, and recurring themes began to emerge. To ensure that no additional insights were overlooked, 10 more hotels were included. Analysis of these extra cases confirmed that thematic saturation had been fully achieved, as no new themes or variations relevant to the research questions emerged (Ahmed, 2025b).

Furthermore, the final number of cases exceeded the commonly recommended range for multiple case study research. Gentles et al. (2015) suggest that typical multiple-case studies involve 4 to 10 cases to ensure sufficient analytical depth. By including fourteen cases, this study not only remained methodologically appropriate but also enhanced its robustness.

### **Participants and Recruitment**

This study has a sample of 44 participants, comprising hotel managers, human resources personnel, and waste management staff from 14 distinct hotels. Initially, the study's sample comprised 12 respondents from 4 hotels. However, to achieve data saturation and enhance the robustness of the findings, an additional 32 respondents, including 10 additional hotel cases, were included in the study.

This methodological adjustment was undertaken to capture diverse perspectives and experiences, thereby increasing the validity and reliability of the findings. It also ensured a profound exploration of the research questions and facilitated a more nuanced understanding of the factors shaping SSWM practices in the hospitality sector.

The study's respondents were recruited using purposive and snowball sampling strategies. Purposive sampling was employed to select participants who could provide comprehensive and informative insights, yielding valuable perspectives (Grove & Gray, 2018). Furthermore, snowball sampling was utilized, permitting the researcher to enlist hotel owners and managers by soliciting recommendations from initial respondents, which included both individuals engaged in sustainability initiatives and those who were not, for subsequent interviews (Carbno, 2007; Zikmund et al., 2010).

### **Data Collection and Procedures**

The data collection for this study was conducted in two distinct phases. The first phase occurred from December 2022 to 2023, while the second phase occurred in 2024, addressing the data omitted during the first phase. Primary data was gathered through semi-structured interviews with key stakeholders, including hotel managers, human resources personnel, and staff responsible for hotel waste management. Each interview lasted between 15 and 35 minutes.

Before the data collection started, a pilot study was conducted to refine the interview questions, ensuring clarity and relevance. In addition to the interviews, the researcher conducted on-site observations at the hotels, visiting various areas, including waste storage locations and kitchens, to observe waste-handling practices firsthand. These observations aimed to foster understanding of operational waste management procedures, thereby enhancing the quality of the interview data.

Additionally, we reviewed documents focused on hotel environmental sustainability, including waste management reports, sustainability policies, and operational guidelines. This review aimed to contextualize the interviews and observations, enabling us to better understand the internal factors influencing the hotel industry's adoption of sustainable solid waste management practices.

### **Data Analysis**

Data analysis followed a two-stage process consistent with a qualitative multiple case study (Robert, 2018; Tarafdar & Vaidya, 2006). Stage one employed within-case analysis to examine each hotel as an independent unit, allowing case-specific patterns to emerge before

comparison. Stage two applied cross-case analysis to compare themes across all 14 hotels and identify convergent and divergent organizational factors shaping SSWM implementation.

Across both stages, Braun & Clarke (2006) proposed six-step thematic analysis guided the analytical procedures, which involved data familiarization, initial coding, theme construction, review, definition, and synthesis. MAXQDA supported the process by organizing transcripts, managing codes, and generating comparison outputs; however, interpretation remained researcher-driven (Kuckartz & Rädiker, 2019). This two-stage structure enabled both depth of understanding within individual cases and analytical generalization across cases.

### **Trustworthiness of Data**

To ensure trustworthiness, the study's findings were assessed according to four criteria: credibility, dependability, transferability, and confirmability as suggested by Lincoln and Guba (Enworo, 2023; Khalid S, 2024). To ensure the credibility of the findings, many data sources were integrated, including interview data, onsite observation, and document analysis, to help validate conclusions. Furthermore, ample time was spent in the field, studying the hotel compound and engaging with participants from various hotel departments, which enabled the researcher to gain profound insights.

To ensure the dependability of the data, methods of data collection, data triangulation, and analysis were reported transparently. The researcher conducted a rigorous validation process to ensure confirmability by sharing the study findings with fellow researchers. The peers reviewed the data and conclusions, offering valuable feedback and suggestions for improvement. Additionally, the findings were presented at a conference attended by key respondents and stakeholders, allowing them to provide feedback.

### **Ethical Considerations**

Interviewees were informed that participation was entirely voluntary and that they could withdraw at any time. Anonymity was guaranteed for all respondents, and all information was kept confidential for academic use only. Informed consent was sought before recording interviews digitally. Additionally, a research permit was obtained from the Zanzibar Office of the First Vice President,

To ensure the privacy and confidentiality of the hotels involved in this study, their names have been anonymized. Each hotel was assigned a unique code (e.g., Hotel A, Hotel B) to preserve participant anonymity while enabling meaningful analysis. This approach adheres to the ethical research guidelines and safeguards participants' identities.

## Summary of Study Respondents

Table 1. Study Respondents

Hotel Identity	R: ID	Title of Respondents	Working experiences	Gender	Hotel ownership	Class of Hotel
Hotel: A	R1.	Human Resource manager	1 year	Male	Foreign-owned	5 Star
	R2.	Waste management expert	2 years	Male		
	R3.	Steward	3 years	Male		
	R4.	CSSR Representative	14 years	Male		
Hotel: B	R5.	Hotel manager	2 years	Male	Foreign-owned Chain hotel	5 Star
	R6.	Chief steward	11 years	Male		
	R7.	Human Resource Coordinator	4 years	Male		
Hotel: C	R8.	Pastry Chef	1 year	Male	Foreign-owned	3 Star
	R9.	General manager	2 years	Male		
	R10.	Assistant Manager	6 months	female		
Hotel: D	R11.	Operation manager	4 years	female	Foreign-owned	5 Star
	R12.	Human Resource Consultant	6 Month	Male		
	R13.	Assistant Chef	2 years	Male		
	R14.	Head Chef	30 years	Male		
Hotel: E	R15.	Chief Steward	9 years	Male	Foreign-owned Chain hotel	5 Star
	R16.	Human Resource manager	4 years	Male		
	R17.	Safety and health officer	1 year	Male		
	R18.	Manager	-	Male		
Hotel: F	R19.	Steward	10 years	Male	Foreign-owned (Kenya)	4 Star
	R20.	Assistant Manager	2 years	Male		
	R21.	Human Resource Manager	2 years	Male		
Hotel: G	R22.	Human Resource Consultant	4 years	Male	Local Owner	4 Star
	R23.	Supervisor of Public area	1 year	Male		
	R24.	Steward	3 years	Male		
Hotel: H	R25.	General manager	32 Years	Male	Local Owner	5 Star
	R26.	Steward	1 year	Male		
	R27.	Human Resource Manager	1 month	Female		
	R28.	Food and Beverage Supervisor	10 years	Male		
Hotel: I	R29.	Hotel owner	25 years	Male	Local Owner	3 Star
	R30.	Food and Beverage Supervisor	9 years	Female		
	R31.	Steward	10 years	Female		
Hotel: J	R32.	Assistant chef	8 years	Male	Local Owned	
	R33.	Restaurant manager	6 years	Male		
	R34.	Assistant Manager	16 years	Male		
Hotel: K	R35.	Human Resource manager	8 years	Male	Local Owner	3 Star
	R36.	General manager	8 years	Male		
	R37.	Gardner	4 years	Male		
Hotel: L	R38.	Human resource manager	-	Male	Local Owner	3 Star
	R39.	Assistant director	-	Male		
	R40.	Steward	-	Male		
Hotel: K	R41.	Human Resource Manager	-	Male	Local owner	4 star
	R42.	Head chef	6 month	Male		
Hotel: N	R43.	Hotel Owner	-	Male	Foreign-owned	3 star
	R44.	Store manager	1 year	Male		

## 4. RESULTS AND DISCUSSION

### Hotel Leadership Support

Out of 14 hotels surveyed, only five showed strong leadership support through training staff, hiring environmental experts, and creating waste management policies. The other nine hotels exhibited minimal involvement, posing a barrier to sustainable practices (Table 2).

**Table 2. Respondent Responses on Hotel Leadership Support**

Main Theme	Sub-themes (codes)	Participant ID	Example of selected quotations
Hotel leadership support	Supervision and mentorship	P28	<i>Some workers adhere to the waste management guidelines, while others require close supervision to ensure compliance.</i>
	Recruitment of environmental expertise	P16	<i>we have been able to handle waste well because we have hired our health and safety specialist here and we also receive training officers from headquarters in Spain who come every three months to give training to our employees</i>
	Staff training programs	P21	<i>The department organizes training through a unique program operated by Ecolab. This program includes many trainings on cleanliness and safe chemical usage, and we have seen worker improvements.</i>
		P5	<i>We offer both job training and classroom training, focusing on sustainability issues.</i>
	Development environment policy and guidelines	P1	<i>The hotel has written standard operating procedures (SOP) that guide everything, including waste management, and workers are oriented throughout the induction phase.</i>
		P7	<i>The management has been working with Tanzania Breuer standards to develop Hazards Analysis Critical Control Point guidelines, and TBS has come here twice. The first time, they provided awareness to our team and came a second time for documentation of HACCP. this guideline is for handling risks and hazards, including waste</i>
	Starting a collaboration with waste management companies	P4	<i>We are working with three companies to handle waste. HAMGUDEN takes plastic waste, and CHAKO receives a glass bottle along with free transport. We distribute gallons of waste to OZTI near ZIPA.</i>
	Green purchasing	P14	<i>We import all the eco-friendly products from South Africa Here in Zanzibar; they are hardly available and very expensive.</i>

Source: Research Data (2024)

Participant 28 emphasizes the importance of supervision and mentorship to ensure compliance with waste management requirements. Participant 16 emphasizes the importance of environmental expertise in waste management efforts. Participants 5 and 21 note the importance of structured staff training for better practices. Participants 1 and 7 emphasize the importance of developing environmental policies for sustainable waste management. Lastly, Participant 4 shows that partnerships with waste companies enhance strategies.

The findings reveal that active leadership support is crucial for hotels to adopt effective waste management. Hotels committed to sustainability through training, hiring experts, policy development, and staff engagement implement more effective waste systems than those with less leadership support.

These findings diverge from existing literature, which focuses on leadership traits rather than supportive actions that promote SSWM practices. For instance, Chiangphan (2023) reported traits like Owner’s Awareness and Environmental Leadership, supporting sustainability in hotels. Similarly, Heenipellage et al. (2022) found that managers with strong attitudes, good education, and relevant experience perform better in hotel sustainability. Mensah & Ampofo (2021) noted that managers with a pro-environmental attitude are more likely to embrace environmental management (EM).

The disagreement between these findings and previous research may stem from a focus on leadership traits rather than actions and investments that support sustainability. This study suggests that leadership traits alone do not fully account for environmental commitment; rather, leadership that invests in training, supervision, and collaboration is crucial for fostering a sustainability culture. It calls for reevaluating existing frameworks on sustainability leadership.

### Organizational Learning

Fieldwork observations revealed that few hotels engaged in organizational learning, enhancing their ability to adopt sustainable solid waste management (SSWM) practices. This learning was reflected in key components like knowledge acquisition, distribution, and interpretation (Table 3).

**Table 3. Respondent Responses on Organizational Learning**

Organizational Learning	Elements observed	HOTEL A	HOTEL E	HOTEL B	HOTEL D	HOTEL F	HOTEL H	HOTEL C	HOTEL G	HOTEL K	HOTEL N	HOTEL L	HOTEL J	HOTEL M	HOTEL I
		<b>Knowledge acquisition</b>	Formal training session	ACT	ACT	ACT	ACT	ACT	ABS	ABS	ABS	ABS	ABS	ABS	ABS
	Environmental Experts	ACT	ACT	ACT	ACT	ACT	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS
<b>Knowledge distribution</b>	Staff Meetings on SSWM	MIN	MIN	MIN	MIN	MIN	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS
	Beach Cleaning Campaign	ACT	ACT	ACT	ACT	ACT	ACT	ACT	ACT	ACT	ACT	ACT	ACT	ACT	ACT
<b>Information interpretation</b>	Using symbols and sign	ACT	ACT	ACT	ACT	ACT	ACT	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS
	Creating visual guidelines (posters, manuals)	ACT	ACT	ACT	ACT	ACT	ACT	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS
	Translation in the local language	ACT	ACT	ACT	ACT	ACT	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS	ABS

Source: Research Data (2024)

Table 3 shows that five-star hotel managers reported acquiring knowledge of waste management through training programs and external specialists. They communicate this to staff through meetings and beach cleanups, using visual aids such as signs and manuals. However, nine managers, representing the majority, had limited involvement in organizational learning, relying mainly on their experience rather than actively seeking knowledge. Management primarily shared insights verbally.

The findings show that organizational learning for SSWM practices is limited in most of the study's hotels. These hotels rely on experiential knowledge instead of proactive training or knowledge-sharing. Only a few large hotels engaging in organizational learning are effectively implementing SSWM practices. Our study contrasts with previous research, Alhemimah et al. (2024) which mainly focused on the relationship between organizational learning and environmental performance in the hotel sector. While our results indicate that organizational learning is crucial for adopting SSWM, not all hotels can implement it. Only a few large hotels have actively engaged in learning about sustainable practices.

Inconsistencies of these findings may stem from practical challenges, including resource limitations, organizational priorities, and a lack of managerial awareness about the importance of learning in SSWM. Our findings suggest that although organizational learning is vital for SSWM adoption, its effectiveness varies across the industry, depending on each hotel's capacity and commitment to integrating learning processes.

### Organizational Structure

Interview and observational data showed that organizational structure significantly impacted SSWM adoption in a few hotels compared to others in the study (Table 4).

**Table 4. Respondent Responses on Organizational Structure Aspects**

Organizational structure aspects	HOTEL A	HOTEL E	HOTEL B	HOTEL D	HOTEL F	HOTEL H	HOTEL C	HOTEL G	HOTEL K	HOTEL N	HOTEL L	HOTEL J	HOTEL M	HOTEL I
Written environmental policies and guidelines	YES	YES	YES	NOT	NOT	NOT	NOT	NOT	NOT	NOT	NOT	NOT	NOT	NOT
Dedicate Environmental units or teams.	NOT	NOT	NOT	NOT	NOT	NOT	NOT	NOT	NOT	NOT	NOT	NOT	NOT	NOT
Environmental expertise	YES	YES	YES	NOT	NOT	NOT	NOT	NOT	NOT	NOT	NOT	NOT	NOT	NOT
Decentralization of waste management	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES

Source: Research Data (2024)

Fourteen hotels were reviewed. Only three had key organizational design elements, such as documented environmental policies, waste management protocols, and environmental specialists. The other 11 lacked formal policies and expertise. None of the

hotels had dedicated environmental teams; most assigned waste management to stewards, housekeeping staff, and external companies.

Findings suggest that hotels with formal policies and expertise manage waste more sustainably than those without them. However, decentralized management faces challenges, as many staff lack adequate knowledge of waste management. External companies primarily transport waste to landfills, which do not provide sustainable solutions, indicating that current decentralization does not effectively address sustainable waste management issues in hotels.

This study mirrors Pertusa-Ortega et al. (2018), who found that high specialization and formal organizational links enhance environmental management. Francisco et al. (2016) noted that while specialization and formalization aid management implementation, decentralization does not significantly affect the performance of certified versus non-certified hotels.

These findings imply that specialization and formalization are crucial for enhancing sustainable waste management, while decentralization may hinder consistency and effectiveness in hotel operations. Furthermore, the study suggests reevaluating the role of decentralization in sustainable waste management in hotels.

### Organizational Resources Availability

During field observations and interviews, the researcher identified different types of organizational resources and their impact on the adoption of different types of hotels, as shown in the data (Table 5).

**Table 5. Respondent Responses on Organizational Resources Availability**

Resource availability	HOTEL A	HOTEL E	HOTEL B	HOTEL D	HOTEL F	HOTEL H	HOTEL C	HOTEL G	HOTEL K	HOTEL N	HOTEL L	HOTEL J	HOTEL M	HOTEL I
Allocated budget for waste management	Not shared													
Land allocated for waste management	YES			YES										
Accessibility of Waste Management Specialists	YES	YES	YES	NOT	NOT	NOT	NOT	NOT	NOT	NOT	NOT	NOT	NOT	NOT
Materials and infrastructure, waste collection bags	YES	YES	YES	YES	YES	YES								
Investment in innovative technology	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
• automated sorting technologies														
• data management tools														

Source: Research Data (2024)

Interviews and field observations revealed that six hotel managers refused to disclose their waste management budgets. Nine hotels indicated they do not allocate specific budgets for this purpose, although all acknowledge incurring costs from waste management services.

Only two hotels reported allocating land for waste management activities, such as composting; the other 12 lacked sufficient land, making waste management near tourist accommodations unfeasible due to potential health risks. Regarding expertise, three hotels employ internal specialists, three outsource, while others do neither. Regarding waste-sorting materials, six hotels have adequate supplies, but none use innovative waste-management technologies.

The findings show that limited resources, such as the absence of dedicated budgets, insufficient land for waste handling, inadequate access to expertise, and a lack of investment in innovative technologies, constrain sustainable solid waste management practices in selected hotels. These results align with Sucheran (2018), who found that although most hotel managers are willing to engage in responsible initiatives, they face challenges such as limited resources, a lack of specialized staff, and financial constraints that hinder effective environmental practices. This suggests that challenges to adopt sustainable waste management are common across the global hospitality industry, underscoring the importance of resource availability for implementing sustainable practices.

### **Staff Motivation**

Interview data from 14 hotels and five human resource managers revealed that they provide employee motivation, while the others do not, due to reduced business performance stemming from the COVID-19 pandemic. Additionally, some managers expressed concerns that motivation could lead to conflicts among staff. All 14 hotels acknowledged that they do not have specific employee motivation initiatives focused on waste management and environmental sustainability.

However, most human resource managers noted that participation in sustainable waste management practices is not taken into account in employee awards. Only four hotels claimed to have received awards. However, they are uncertain whether these accolades are linked to waste management, as their roles encompass a variety of responsibilities within the hotels.

Findings show hotels do not effectively integrate employee motivation programs to promote SSWM practice. A lack of recognition for sustainable practices may limit staff engagement in waste management, thereby impacting sustainability initiatives. This study's results differ from those of Pham et al., (2020), who found that hotels encourage sustainable practices through employee motivation. Inconsistency may stem from factors like organizational priorities, resource allocation, or awareness of sustainability benefits. Thus, the findings indicate a need to re-evaluate assumptions about employee motivation and environmental sustainability in the hospitality sector.

**Emergent Theme 1: Organizational Adaptability**

Interviews with 14 hotel managers revealed an unexpected pattern: organizational flexibility. This indicates a hotel's ability to adapt its procedures and strategies to changing internal and external conditions. Although not initially identified as significant in the research framework, participants frequently emphasized flexibility as crucial for successfully implementing sustainable practices. Table 6 below further supports this claim.

**Table 6. Respondent Responses on Organizational Adaptability**

Theme	Sub-themes (codes)	Respondents' ID	Example of selected quotations
Organizational adaptability	Multilingual Adaptability	P 12	<i>Many guidelines for waste management and the environment are written in English and Spanish, and most workers here are Swahili speakers. There is a language problem when you pass by. You will see that I have tried to translate all the waste guidelines into Swahili so that it is easy for staff to understand them in their native language.</i>
		P 14	<i>The human resources manager has been assigned to translate the guidelines into Swahili, as many of our staff, including gardeners and stewards, do not speak much English.</i>
	Adjusting Practices to Meet Guest Expectations	P 12	<i>We have stopped using plastic straws and are using paper straws because tourists write bad comments when they see plastic straws. Our guests pay a lot of money, and they do not like to see plastic used. Now, we have installed a water and juice dispenser to avoid bad comments from guests.</i>
	Operational Changes Based on External Pressures	P 36	<i>Our hotel initially relied on local villagers for waste management, but after receiving advice from local government officials, we switched to using a government-registered company called Zanrec.</i>
		P 11	<i>Since our hotel became affiliated with ACCOR, we have started reducing our use of plastic. Now, we implement the ACCOR PLANET 21 guideline. As you know, changes take time.</i>

Source: Research Data (2024)

Respondents P12 and P14 emphasized that overcoming language barriers enhances internal efficiency. Translating waste management guidelines into Swahili helps employees, particularly those less proficient in English or Spanish, understand and apply them effectively.

Respondent P12 highlighted that hotels adapt their operations to meet guest expectations. Eliminating plastic straws and installing water and juice dispensers demonstrates a commitment to environmentally friendly practices. This adaptability enhances

guest satisfaction and underscores the financial and reputational benefits of sustainable operations.

Quotations from P36 and P11 illustrate how external pressures, such as local government recommendations or partnerships with global hotel chains like ACCOR, drive operational changes. Embracing the ACCOR PLANET 21 guidelines incorporate global sustainability standards into local practices. Moreover, choosing government-registered companies over local villagers for waste management shows responsiveness to regulatory pressures.

Data shows that organizational adaptability is crucial for adopting SSWM practices in hotels. Adaptability enables hotels to address internal challenges (e.g., language barriers) and external pressures (e.g., regulations), as well as changing guest expectations. It is essential for successfully implementing SSWM practices in continuously evolving environments.

Empirically, the finding resembles the results of a quantitative study in the South African hospitality sector, which found that the adaptability trait within organizational culture (alongside involvement, consistency, and mission) positively influences environmental performance (Becken & Dolnicar, 2016). Additionally, in Malaysian hotel–restaurants, top management support a structural enabler of adaptability was identified as a key organizational determinant in the adoption of environmentally sustainable practices, including waste management (Becken & Dolnicar, 2016).

The finding suggests that hotels aiming to implement SSWM should develop structures and leadership practices that foster adaptability. This involves investing in sensing environmental changes, seizing opportunities such as recycling innovations, and transforming operations, including waste management. Leadership must create adaptive space for employees to propose sustainable practices, while culture should embed adaptability as a core value aligned with environmental goals.

### **Emergent Theme 2: Effective Employee Teamwork**

Interviews with hotel and HR managers reveal a consistent theme: effective teamwork among employees is essential for SSWM. Though not highlighted in the original research, participants identified teamwork as key to overcoming operational challenges and achieving sustainability goals (Table 7).

Table 7. Respondent Responses on Effective Employee Teamwork

Theme	Sub-themes (codes)	Respondents' ID	Example of Selected Quotations
Effective Employee Teamwork	Collective Responsibility	P 25	<i>As a manager, I cannot achieve environmental sustainability throughout the hotel property alone. I must have a big team and motivate them.</i>
		P 28	<i>Waste management in our hotel is a collective responsibility of all staff members</i>
		P 33	<i>All the workers in our hotel are responsible for cleanliness and waste management, and it is not a matter of one person; everyone is responsible in their respective departments.</i>
	Cross-Departmental Collaboration	P 32	<i>We do not have a special employee responsible for waste collection. All of us who work in the kitchen collect waste and take it to the waste storage facility, and it is not possible to do it with just one or two people unless we help each other.</i>
		P 5	<i>All departments here deal with waste management in the hotels, from housekeeping to kitchen; all staff have to collect waste based on their respective areas and classify it.</i>
		P 38	<i>Even I, as a human resource manager, participate in waste collection because it is not a shame to do so, and this encourages other employees; in our hotel, there is a culture of working together, and when it comes to waste, every employee is responsible.</i>
Distributed Ownership	P 39	<i>Waste management is a shared responsibility among all employees, with each unit taking ownership of managing waste within their areas rather than relying on a single person.</i>	

Source: Research Data (2024)

Quotes from P25, P28, and P33 emphasize that environmental sustainability is a collective effort. P25 highlights the importance of motivating the entire team, as individual contributions alone are insufficient. P28 and P33 stress that all employees share responsibility for cleanliness and waste management, fostering accountability. Responses from P32 and P5 indicate that effective waste management requires collaboration across departments. P32 mentions the kitchen staff's involvement in waste collection, illustrating teamwork; a few individuals cannot handle waste management independently. P5 underscores that collaboration is essential for operational success in every department.

P38 illustrates an inclusive culture in which managers participate in waste collection, serving as role models and breaking down barriers. It underscores the significance of each employee's involvement in waste management and stresses the importance of leading by example to foster a supportive team atmosphere. P39 discusses distributed ownership in waste management, shifting responsibility to all employees. This enhances accountability and encourages proactive waste management by engaging every unit, not just designated personnel, thereby boosting employee pride and commitment to sustainability initiatives. The

data revealed that SSWM is more likely to succeed when all hotel employees, regardless of their department or rank, actively participate in waste management efforts. This challenges the common assumption that such responsibilities can be effectively handled by a single designated group (e.g., stewards, gardeners, or housekeeping staff).

This finding suggests that fragmented approaches, where only specific individuals are tasked with waste handling, are insufficient for achieving meaningful sustainability outcomes. Instead, the success of SSWM practices depends heavily on fostering a culture of collective responsibility and interdepartmental collaboration. Empirically, the finding aligns with a rich vein of existing literature, particularly in the tourism and hospitality domains. Renwick et al. (2013); Cha et al. (2016); and Renwick et al. 2013), consistently highlight that employee engagement, training, and, crucially, teamwork are pivotal enablers of environmental performance. Moreover, Becken & Dolnicar (2016) and Bohdanowicz (2006) emphasize that creating cross-functional "green teams" or embedding environmental responsibilities within existing teams significantly improves the operationalization of sustainable practices.

These reviews demonstrate that hotels that invest in fostering a 'green culture' through team-based training, inter-departmental collaboration on sustainability projects, and employee empowerment witness higher success rates in adopting and maintaining sustainable practices, including robust waste management systems.

## **5. CONCLUSION**

This study examined internal organizational factors influencing the adoption of sustainable solid waste management (SSWM) in selected hotels. The findings show that effective SSWM depends not only on leadership traits but also on practical leadership actions, including supervision, training, and collaboration. The study also found that organizational learning remains informal mainly, limiting hotels' capacity to improve practices, and that the absence of formal policies, clear procedures, and dedicated resources further constrain implementation.

Additionally, employee motivation did not influence SSWM adoption because there were no reward mechanisms or recognition systems tied to sustainability tasks. Overall, the study concludes that SSWM adoption is a multi-factor outcome shaped by leadership practices, learning processes, resource allocation, and formalization, rather than any single organizational factor.

### **Theoretical Contribution**

This study advances the current body of knowledge by providing empirical evidence on the roles of internal organizational factors in promoting sustainable waste management in the

hospitality sector. Thus, the research not only fills existing gaps but also broadens the theoretical understanding of how organizational factors underpin the effective adoption of SSWM practices. Furthermore, it contributes to organizational theory by introducing new internal factors, such as organizational adaptability and employee teamwork, supporting the successful adoption of SSWM practices. These factors are shown to be essential for enabling hotels to respond effectively to SSWM challenges.

This research also challenges and refines prior studies by showing that leadership effectiveness in SSWM is not merely a function of individual traits but is deeply rooted in concrete managerial actions, such as training and supervision. Thus, the study offers a better understanding of the mechanisms by which leadership affects the adoption of SSWM outcomes in hotels

Additionally, the study challenges the widely held view of a direct link between organizational learning and environmental performance. The findings show that organizational learning processes are not uniform across the hotel industry and are instead shaped by mediating factors, including resource availability and leadership support. Thus, the research offers a clearer understanding of the mechanisms by which organizational learning affects SSWM practices in hotels.

### **Practical Implications & Recommendations**

Based on the study's findings, the following implications are organized to address the needs of key stakeholders involved in SSWM implementation: hotel managers, policymakers, and training institutions. First, hotel managers should formalize SSWM practices through policies, procedures, and basic resource allocation, while strengthening coordination, structured learning, and simple motivational mechanisms. Second, policymakers should support uptake by offering financial incentives and embedding SSWM standards into licensing and classification systems. Third, training institutions and industry bodies should provide competency-based programs and technical support to build operational capacity.

### **Study Limitations**

While the study offers important insights, the following limitations should be considered when interpreting the findings. This study is limited to selected hotels in Zanzibar, which limits the extent to which the findings can be generalized to other regions or hotel categories. The qualitative multiple-case design provides depth of understanding but does not allow for statistical generalization. Data were gathered through interviews and observations and therefore rely on participants' perspectives, which may reflect individual or institutional biases. Additionally, the study did not examine the digital technology factor for SSWM.

### Future Research Directions

Building on the limitations and contributions of this study, several avenues for future research are proposed. Future research should examine SSWM across a broader range of hotel categories and geographical contexts to improve the transferability of the findings. Mixed-methods studies are recommended to validate and expand on the relationships identified in this study. Additionally, further study is needed to investigate factors that facilitate or hinder hotels' learning processes in adopting sustainable waste management, as well as to assess the effectiveness of employee motivation strategies in promoting sustainability in the hotel sector.

Future research should further explore the mechanisms through which flexibility and teamwork can be cultivated and sustained in organizational contexts. Assessing the influence of digital technologies on the adoption of SSWM in hotels. Addressing these research directions will advance a better understanding of SSWM and support the development of scalable, context-sensitive strategies for sustainable operations.

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### 7. AUTHORS' CONTRIBUTIONS

Conceptualization: MM. LB. BC and AB; Study design: BC and AB. Document analysis: MM. BC. And AB; Writing the first draft of the manuscript. BC: Writing—review, editing, and proofreading: AB. PF. and MM; Project administration: PF; Funding acquisition: PF. All authors have read and approved the final manuscript for publication.

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