



ISSN ONLINE: 2447-0228







RESEARCH ARTICLE

OPEN ACCESS

APPRAISING THE MAINTENANCE PRACTICES IN SHOPPING MALLS ACROSS LAGOS METROPOLIS

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ARTICLE INFO

Article History

Received: September 19th, 2023

Revised: October 09th, 2023

Accepted: October 26th, 2023

Published: October 31th, 2023

Keywords:

Deterioration,
Causative factors,
Maintenance practices,
Shopping malls,
Sourcing decision.

ABSTRACT

Like other types of buildings, shopping mall buildings in Nigeria receive insufficient maintenance attention. The vast majority of shopping malls exhibit awful structural and aesthetic conditions of deterioration. This study, therefore, aims to investigate the maintenance practices of shopping malls with a view to addressing issues that arise from factors responsible for the deterioration of the building fabrics and components. Data from 97 building maintenance stakeholders from Lagos Island and Mainland malls were gathered using a cross-sectional survey utilizing two sets of structured self-administered questionnaires. The results revealed 31 maintenance practices implemented in shopping malls. The study also uncovered 21 key factors influencing the sourcing decision of maintenance practices in shopping malls. Besides, the results further revealed 22 causative factors that lead to the deterioration of shopping mall building fabrics and components. The study comes to the conclusion that regardless of the sourcing decision, other factors, such as quality and frequency of maintenance, have a significant impact on how quickly a shopping mall deteriorates. It is recommended that maintenance stakeholders should play active roles in ensuring shopping malls are adequately maintained. This may be achieved by developing a defined strategy for routine and preventive maintenance.



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I. INTRODUCTION

The sales business in Nigeria is a vibrant and diversified sector of the economy that is essential for the nation's development and has steadily improved over the past few years. This improvement, according to [1], may be ascribed to interventions implemented by several levels of government such as a restriction on street vendors and commerce, the restoration of commercial business districts in major cities, and the reform of trading standards. [2] opines that the development was further accelerated by the participation of certain foreign investors who sought to capitalize on the ongoing need for effortless, expeditious shopping. The multi-tenanted sales sector in Lagos, Nigeria has experienced significant growth, and the sector is projected to keep expanding substantially in the coming years. One of such multi-tenanted commercial retail business in view is a shopping mall which has been regarded by [3,4,5] as an innovative take on the traditional

marketplace and is made up of independent retail stores, services, and planned parking structure that is built and run as a single entity. [6] added that shopping malls are architecturally complex structures designed and developed to accommodate different types and sizes of stores and service facilities for commercial use. [7] revealed that shopping malls no longer serve the same socializing, entertainment, and other purposes that they formerly did; rather, they are now living spaces with a variety of possibilities, including the capacity to satisfy a range of client's expectations. In meeting these expectations within shopping malls, there is a neglect of maintenance. An organization's premises, whether office space, retail shops, or mixed-use complexes, tell a lot about what it is and how it operates. Likewise, during its expected lifespan, a building's main purpose is to offer a comfortable and secure environment for humans and other human activities. In this regard, [8] notes that a majority of organizations have failed to meet their goals as a result of neglecting their built environment. To preserve the structure's

durability and functionality, maintenance is required. Therefore, conducting regular and scheduled maintenance, and production management makes sure that the facilities are in excellent operating condition. [5] corroborate that a well-maintained infrastructure guarantees a secure environment, lowers energy costs, and guarantees that all company operations go without a hitch. This implies that a failure to take into account the necessity for implementing adequate maintenance practices has consequences given the recent growth in the number of shopping malls that have been established across the state [9]. These consequences revolve around issues such as facility malfunctioning, poor disposal of refuse, leaking roofs, malfunctioning elevators, faded painting, poor lighting systems, fire extinguishers not being replaced, and noticeable building defects, among others. [10] noted that both in-house and outsourced maintenance services have attributed benefits that may be derived from involvement in shopping mall building. Besides, [11] substantiates that the lack of effective building maintenance policies has an impact on the early aging of component durability performance as well as on overall expenditures and maintenance operations, which may increase major failure risks and reduce their service life. Meanwhile, maintenance has been defined as the sum of all technical and related procedures designed to keep or restore an item to a state in which it can perform its needed function [12]. In Nigeria, there seems to be a dearth of a maintenance culture, and the emphasis is on building new structures rather than on the maintenance process, which begins as soon as the Builder hands over the project [8,13]. In order to maintain a building's original condition, maintenance may be more crucial than construction itself [14,15]. This is because society evaluates a building's quality based on its outward look. Proactive and reactive maintenance must be used together to protect and sustain buildings [16]. Like every other building in Nigeria, shopping mall buildings do not receive enough maintenance attention. The majority of shopping malls are in a very bad and awful state of structural and aesthetic decay. While considerable research has been conducted on the maintenance practices of various building occupancy (i.e. offices, hotels, residential, institutional, and mixed-use buildings) in Nigeria [12,17,18,19,20,21,22], there are limited studies that have investigated the maintenance practices in Shopping malls. With this gap in the literature, the study, therefore, aims to investigate the maintenance practices of shopping malls in the Lagos metropolis with a view to addressing issues that arise from factors responsible for the deterioration of the building fabrics and components. The objectives of the study are to; investigate the maintenance practices implemented by shopping malls, assess factors influencing the sourcing decision of maintenance services in shopping malls, and evaluate causative factors that lead to the deterioration of shopping malls' building fabrics and components. The study hypothesizes that the implementation of maintenance practices in shopping malls does not significantly differ between insourcing and outsourcing strategies. The study also hypothesizes that factors that contribute to the deterioration of shopping malls do not significantly differ between Lagos Island and the Mainland. The study further hypothesizes that the factors contributing to the deterioration of shopping malls do not significantly vary between the maintenance sourcing strategies. The study is significant because it offers information to mall management and other stakeholders in multi-tenanted retail businesses to inform their decision-making processes and be proactive in addressing maintenance concerns thereby improving safety, and minimizing disruptions in shopping mall operations.

II. THEORETICAL REFERENCE

II.1 IMPLEMENTATION OF MAINTENANCE PRACTICES IN SHOPPING MALLS

Maintenance practices in shopping malls encompass a wide range of services or task that addresses a different aspect of the facility. [23] note that maintaining facilities has emerged as an important plan of action and calls for the establishment of efficient maintenance practices so as to maintain the value of projects like the amenities of shopping malls. [24] posits that maintenance practices should be a continuous process that requires effective strategic planning in order to keep facilities operating. [25] added that maintenance practices require correct and timely diagnosis of defects, corrective/remedial measures promptly taken, and sound technical knowledge of facilities provided. Accordingly, [26] noted that integrating maintenance practices into shopping mall facilities over time will save the costs of major renovation and future repairs while maintaining the functionality of the facilities. Therefore, effective maintenance practices are now essential for the secure operation of structures [9], such as those in shopping malls. The four basic types of maintenance activities are reactive, preventive, predictive, and proactive, according to [27,28]. The function, attractiveness, and safety of the structure depend on proper shopping mall maintenance procedures. Regular, routine, and remedial actions are all included in these practices. These practices include services such as regular inspections, HVAC maintenance, lighting maintenance, floor maintenance, elevator maintenance, restroom maintenance, exterior maintenance, security and surveillance systems, and fumigation services, among others. The maintenance practices in shopping malls are essential for a safe and welcoming shopping environment. According to [29], cleaning practices should adhere to industry standards and may involve daily janitorial services, deep cleaning, and specialized techniques for different surfaces. Meanwhile, [30] note that regular maintenance of HVAC equipment, including filters, duct work, and temperature controls, ensures optimal performance, energy efficiency, and air quality are essential to avoid costly repairs and replacement, reduction in energy consumption, and offer improved indoor air quality and occupant well-being. [31], posit that regular inspection, testing, and maintenance of electrical panels, wiring, lighting fixtures, and emergency backup systems help prevent electrical hazards and ensure uninterrupted power supply. In this regard, [32] averred that repairs and maintenance of exterior facades, parking lots, and walkways ensure safety and aesthetics. Replacements may be necessary due to physical wear and tear on components or materials as well as deteriorating appearance. In buildings, replacements are made wherever possible. It is unavoidable since various materials deteriorate at different rates due to service circumstances [33]. A lot of replacement work is caused more by deterioration of appearance than by actual material or constituent failure [34]. Additionally, overcrowding has caused the installed facilities to deteriorate [35,36]. Safety is of paramount importance in crowded public spaces like shopping malls. Regular inspections, maintenance, and testing of fire safety systems, emergency exits, CCTV cameras, and security equipment are essential to minimize potential risks and ensure the safety of visitors and employees. Besides, [37] reckon that regular maintenance of facilities such as escalators, elevators, restrooms, and common areas ensures a

positive customer experience, leading to increased footfall and customer satisfaction.

II.2 THE FACTORS INFLUENCING SOURCING DECISIONS OF MAINTENANCE PRACTICES IN SHOPPING MALLS

The method used to source maintenance practices or services depends on the priority established by the institution or organization requesting the service [38] and can be either outsourcing, insourcing, or co-sourced [39,40]. In shopping malls, sourcing decisions entail deciding how to manage and maintain various components of the facility. These decisions can have an influence on cost, service quality, customer satisfaction, and overall operations. According to [41], insourcing refers to the provision and management of maintenance services by conventional in-house experts. In order to offer efficiency and reductions in cost amid rising financial strain, [42] proposes insourcing as a viable option. Meanwhile, [43] describes outsourcing as the act of carrying out an activity by a third-party company, supplier, or contractor. Additionally, [42] provides evidence that outsourcing is a product of the current economic climate, which places a strong focus on cost reductions and improved quality, particularly for lean processes. Meanwhile, [44] is of the view that outsourcing entails having work that was previously completed within the organization undertaken by an outside organization. In this regard, [44] emphasized the necessity of determining the significance of a number of aspects before selecting whether to outsource or insource maintenance service. These include the following; speed of execution, price or cost certainty, responsibility, risk allocation or avoidance, degree of flexibility, degree of complexity, knowledge of the strategy, clarity of scope, intuition and experience of the decision maker, existing building condition, dissatisfaction with the previous process used, client's involvement in the project, building size, working relationship, and client's in-house technical capability. [46] opines that organizations outsource services for four reasons; cost savings, taking advantage of supplier investment and innovation, the need to convert fixed expenses to variable costs, and a faster time to market. In this regard, [47] conducted a survey to determine which critical factors influenced the outsourcing decision for maintenance services and discovered that improved quality requirements, faster implementation times, and risk sharing with the contractors were the most crucial factors. [48] corroborate that the top two factors that influence the decision to outsource are staff availability and the possession of requisite skills of staff members. Additionally, [49] classified factors influencing outsourcing decisions as strategic, managerial, technological, economic, and quality. Whereas, [50] opines that the factors influencing the decision to outsource maintenance services encompass timing and coordination of activities, consideration of maintenance activities as core to the institution, potential damage to the image of the organization by outsourced vendor's practice, difficulty in finding a vendor with compatible organizational culture, the subcontractor may act in their own self-interest to the detriment of the organization, and difficulty in finding vendors that are willing to work with the organization. Nonetheless, the necessity of maintenance management whether through insourcing and/or outsourcing model, in the proper functioning of shopping mall buildings cannot be overemphasized.

II.3 CAUSATIVE FACTORS CONTRIBUTING TO THE DETERIORATION OF SHOPPING MALL BUILDING FABRICS AND COMPONENTS

Buildings may deteriorate over time due to certain factors and shopping mall facilities are no exception. There are several factors that lead to the deterioration of shopping mall building fabrics and components among which are chemical, biological, efflorescence, overloading, moisture, age and wear, misuse, faulty designs, faulty construction, faulty materials, human, and environmental among other factors. Proper maintenance safeguards the structural integrity of the building, extends the lifespan of equipment, and preserves the overall value of the property. Neglecting maintenance can lead to costly repairs and premature deterioration. [51] substantiate that deterioration in buildings is caused by wear and tear resulting from continuous usage, design defects, construction error, aging of the building, as well as building exposure to weather effects. Building deterioration mainly depends on the type of building and the maintenance practices in place. According to [33], the main reasons for deterioration include the age of the building, natural disasters, ground settlement, deficiencies in design, poor construction supervision, the use of inferior materials, and poor workmanship. Similar studies from [52] showed that improper maintenance, inadequate design, poor workmanship, and low-quality materials are also major reasons for deterioration. In the same vein, [53] are of the opinion that the main causes of building deterioration include faulty construction, use of substandard materials, lack of supervision, corruption, faulty design, lack of maintenance, climatic conditions, type of building and change in use, and the geographical location of the structure. [54] posits that poor construction management reduces the quality of work by neglecting maintenance concerns during the design and construction phases. [12] note that key causative factors that contribute to deterioration in a commercial building include human, chemical, atmospheric, structural, and moisture factors, fire, faulty design, faulty construction, and faulty materials. This study established that failure to clean and perform routine maintenance, ignorance of the causes of deterioration and decay, inadequate planning for proper maintenance, failure to raise awareness of the maintenance needs of all users of the buildings, and embracing negative attitudes are human causes that contribute to the deterioration of commercial buildings and call for immediate action. Furthermore, [32,55] are of the view that the built environment and the facilities used to carry out daily operations in the shopping malls therefore require proper maintenance, facilitating activities, and helping to attain customer satisfaction per time. Meanwhile, well-integrated facility management in shopping malls therefore has a significant role it plays in fostering a conducive environment that ensures satisfaction at all times [6]. Based on the literature reviewed above, this study is being conducted to increase maintenance stakeholders' and users' awareness of the need to be prepared to address issues related to maintenance in order to avoid costly repairs and reduce the dangers associated with deteriorating facilities.

III. MATERIALS AND METHODS

The study employed a cross-sectional survey research strategy with the primary data collection instrument being a structured self-administered questionnaire of which the data were collected on a one-off basis. The chosen research area is Lagos Mainland and Lagos Island, Nigeria. The choice of both regions was because Lagos Mainland is characterized as an inland area

with diverse neighborhoods with a focus on residential buildings and commercial activities. While Lagos Island is surrounded by coastlines with high economic activities, as well as leisure and historical sights. The study's population comprises maintenance stakeholders in both study areas, specifically those entrusted with the day-to-day building operations and maintenance such as facility managers, asset managers, maintenance managers, and other relevant personnel. A preliminary search with Google and Google Maps was carried out to define the population frame of the study. From the search carried out, 145 shopping Malls made up of 66 Mainland Shopping Malls and 79 Island Shopping Malls were identified and their names were serially numbered in Microsoft Excel Worksheet as the sample frame for the study. The identified Shopping Malls were multi-tenanted retail infrastructure in both the Mainland and the Island. From the population frame, 97 shopping malls were selected and they included 44 Mainland Shopping Malls and 53 Island Shopping Malls. The selected Shopping Malls served as the sample size of the study. The selected sample size was derived using the stratified random sampling technique. According to [57], the stratified random sampling technique is an applied random sampling method in which the population is grouped into some definite characteristics and the groups are called strata. The structured questionnaire constituted 3 sections. Section A comprised the demographic information of the respondents while Sections B, C, and D were structured to obtain information on maintenance practices, factors influencing the sourcing decisions of maintenance practices in shopping malls, and causative factors contributing to the deterioration of shopping malls respectively. An ordinance scale of 1-5 was used to measure the implementation of maintenance practices in shopping malls using 1 = never, 2 = rarely, 3 = sometimes, 4 = often, and 5 = always. An ordinal scale of 1-5 was further used to measure the factors influencing the sourcing decision of maintenance practices in shopping malls using 1 = not influential, 2 = slightly influential, 3 = moderately influential, 4 = very influential, and 5 most influential. In the same vein, an ordinal scale of 1-5 was used to measure the causative factors that contribute to the deterioration of shopping malls using 1 = highly insignificant, 2 = insignificant, 3 = moderately significant, 4 = significant, and 5 highly significant. In order to administer the questionnaire, the contact information of the maintenance stakeholders managing the shopping malls was collected from the branch managers of the selected malls. A total of 120 questionnaires were administered out of which 97 questionnaires were correctly filled and returned, representing an 80.8% response rate. The collected data was processed with Microsoft Excel and Statistical Packages for Social Sciences (Version, 23.0). Statistical tools such as Frequency tables, Percentages, mean scores, and ranking were the tools of analysis for the descriptive analyses while the T-test was used to test the inferential results. With the aid of frequency tables and percentages, the demographic information in Section A was analyzed. Meanwhile, objective one which seeks to determine the implementation of maintenance practices was analyzed using

frequency, mean score, and ranking. Whereas, the second and third objectives which seek to assess the factors influencing the sourcing decision of maintenance practices in shopping malls, and evaluate causative factors that lead to the deterioration of shopping mall building fabrics and components were analyzed using a relative significant index (RSI). The RSI is calculated as:

$$RSI = \frac{\sum W}{AN} \quad (1)$$

Where, W = weight given to each factor by the respondents and ranges from 1-5, A = the highest weight = 5, N = the total number of respondents. The RSI score varies between 0 and 1. Each factor's resulting value provides an indication of its level of significance [58].

IV. RESULTS AND DISCUSSIONS

IV.1 DEMOGRAPHIC PROFILE

This section presents the results and discussions.

Table 1 shows the demographic profile of the respondents.

Table 1 shows two geographical locations of the shopping malls; Island and Mainland. The designation of the respondents on the Island includes; 20.8% are assets managers, 47.2% are facility managers, and 17.0% are maintenance managers, while the remaining 15.1% belong to the others category. On the other hand from the Mainland; 18.2% are assets managers, 43.2% are facility managers, 20.5% are maintenance managers, and 18.2% belong to others. The results affirm that the respondents are the principal actors of managing shopping mall infrastructure and the information supplied by them may be relied upon. Table 1 also reveals the respondents' years of experience in the field. On the Island; 28.3% had years of experience between 1-5 years, 47.2% had between 6-10 years, 13.2% had 11-15 years, 7.5% had 16-12%, while 3.8% had 21 and above years. On the other hand in Lagos Mainland; 27.3% had years of experience between 1-5 years, 50.0% had between 6-10 years, 13.6% had 11-15 years, 6.8% had 16-12%, while 2.3% had 21 and above years. This result reflects that the respondents have vast years of experience in the field. Besides, Table 1 further shows the highest academic qualification attained by the respondents. On the Island; 15.1% had an ordinary national diploma (OND), 34.0% had a higher national diploma (HND), 41.5% had a bachelor's degree (B.Sc.), 5.7% had a postgraduate diploma (PGD), while 3.8% had a masters degree (M.Sc.). On the other hand; 15.9% had an OND, 38.6% had an HND, 34.1% had a B.Sc., 6.8% had a PGD, while 4.5% had an M.Sc. Based on their level of educational attainment, the information provided can be relied upon. Furthermore, Table 1 shows that 49.1% of malls on the Island insource their maintenance services, while 50.9% outsource maintenance services. On the other hand in the Mainland, 52.3% of the mall managers insource maintenance activities, while 47.7% of the shopping malls outsource maintenance activities.

Table 1: Demographic Profile of Respondents.

Description	Island		Mainland	
	Frequency (N)	Percent (%)	Frequency (N)	Percent (%)
Designation				
Asset Manager	11	20.8	8	18.2
Facility Manager	25	47.2	19	43.2
Maintenance Manager	9	17.0	9	20.5
Others	8	15.1	8	18.2
Total	53	100.0	44	100.0

Description	Island		Mainland	
	Frequency (N)	Percent (%)	Frequency (N)	Percent (%)
Years of Experience in the Field				
1-5 years	15	28.3	12	27.3
6-10 years	25	47.2	22	50.0
11-15 years	7	13.2	6	13.6
16-20years	4	7.5	3	6.8
21- above years	2	3.8	1	2.3
Total	53	100.0	44	100.0
Highest Level of Education				
OND	8	15.1	7	15.9
HND	18	34.0	17	38.6
B.Sc.	22	41.5	15	34.1
PGD	3	5.7	3	6.8
M.Sc.	2	3.8	2	4.5
Total	53	100.0	44	100.0
Sourcing Type				
Insourcing	26	49.1	23	52.3
Outsourcing	27	50.9	21	47.7
Total	53	100.0	44	100.0

Source: Authors, (2023).

IV.2 IMPLEMENTATION OF MAINTENANCE PRACTICES IN SHOPPING MALLS

Objective 1: to investigate maintenance practices implemented in Shopping malls. To achieve this objective, twenty-two causative factors were evaluated and the result of the analysis is shown in Table 2.

The maintenance practices in the various shopping malls were assessed using the scale: 1 = never, 2 = rarely, 3 = sometimes, 4 = often, and 5 = always. The relative significance index (RSI) score of each of the causative factors was calculated as presented in Table 3. Moreover, the mean value for the level of implementation of the maintenance practices was calculated as presented in Table 2. The decision rule for interpreting the mean scores was adapted and modified from [58] using the scale: $1.00 \leq MS < 1.5$ represents 'not implemented (NI)', $1.50 \leq MS < 2.5$ represents 'Rarely implemented (RI)', $2.50 \leq MS < 3.50$ represents 'moderately implemented (MI)', $3.50 \leq MS < 4.50$ represents 'often implemented (OI)' and $4.50 \leq MS \leq 5.00$ represents 'most often implementation (MOI)'. A total of thirty-one (31) frequently implemented maintenance practices were identified and categorized into 9 groups; namely frequent inspections, cleaning and janitorial services, air conditioning servicing and maintenance, lighting and electrical system maintenance, elevator and escalator maintenance, security and surveillance system, parking lots and exterior maintenance, regular maintenance schedules, and emergency preparedness. The result shows that the MOI maintenance practice in Lagos Island is replacing defective bulbs (MS=4.62). On the other hand, the MOI maintenance practice in Lagos Island is replacing defective bulbs (MS=4.61). Besides, the OI maintenance practices in Lagos Island include; restroom cleaning, and maintenance of alarms and smoke detectors (MS=4.47), floor cleaning, equipment inspections and maintenance (MS=4.28), and CCTV surveillance and security guards patrol (MS=4.17) among others. On the other hand, the OI maintenance practices in Lagos Mainland include; restroom cleaning (MS=4.43), maintenance of alarms and smoke detectors (MS=4.41), equipment inspections and maintenance (MS=4.32), floor cleaning (MS=4.25), and CCTV surveillance and security guards patrol (MS=4.23) among others.

The following can be further observed from Table 2:

Frequent inspections: all the maintenance practices under this category are OI, but checking leakages of plumbing fittings (4.00 & 4.07) and checking signs of wear and tear (3.96 & 3.97) were topmost implemented maintenance practices by the respondents in Lagos Island and Lagos Mainland Shopping malls respectively. The implementation of all the practices under frequent inspection could be owing to the fact that conducting routine inspections of building fabrics and components is expedient to early diagnose any potential issues. This result agrees with the findings of [30] who emphasized the necessity for frequent inspection and monitoring of facilities in order to achieve considerable preventive maintenance features while planning and carrying out maintenance operations.

Cleaning and Janitorial Services: all four practices under this category are OI, however, restroom cleaning (4.47 & 4.43) and floor cleaning (4.28 & 4.25) were the topmost implemented maintenance practices under the category of cleaning and janitorial services for both groups of respondents from Lagos Island and Mainland respectively. The implementation was necessary to maintain cleanliness, appearance, and functionality and to provide customers with a secure and pleasant environment while avoiding long-term damage and deterioration. This result supports the conclusion of [29,37,59] that cleaning practices should adhere to industry standards and may involve daily janitorial services, deep cleaning, restroom cleaning, and specialized techniques for different surfaces.

Air Conditioning Servicing and Maintenance: all 4 maintenance practices under this category are MI, but addressing any issue with temperature control (3.34 & 3.36) and cleaning and replacing air filters (3.32 & 3.23) were the topmost implemented maintenance practices by the respondents in Lagos Island and Lagos Mainland Shopping malls respectively. The servicing and maintenance of air conditioners are essential for ensuring their effective performance, extending their lifespan, and preserving indoor air quality, which improves customers', and members of staff's comfort and well-being in the building. Regular maintenance of HVAC equipment is essential to avoid costly repairs and replacement, reduction in energy consumption, and offer improved indoor air quality and occupant well-being.

Lighting and Electrical System Maintenance: the MOI maintenance practice in this category is replacing defective bulbs (4.62 & 4.61) for the Island and Mainland Shopping malls, respectively. Meanwhile, inspecting lighting fixtures (3.85 & 3.84) were OI. The lighting and electrical systems are crucial components of shopping mall maintenance because they maintain a functioning, safe, and comfortable environment for consumers, tenants, and staff members while preventing interruptions and potential hazards. This result supports the conclusion of [30] that regular inspection, testing, and maintenance of electrical panels, wiring, lighting fixtures, and emergency backup systems help prevent electrical hazards and ensure uninterrupted power supply.

Elevator and Escalator Maintenance: all the maintenance practices under this category are OI, but addressing unusual noise (3.96 & 3.95) and maintaining proper lubrication (3.83 & 3.77) were the most implemented maintenance practices by the respondents in Lagos Island and Mainland Shopping malls respectively. Elevators and elevator maintenance are vital components of shopping mall maintenance because they provide consumers with accessibility, convenience, and safety, increasing the entire shopping experience while guaranteeing regulatory compliance. This supports the assertions of [30] that regular maintenance of facilities such as escalators, and elevators, ensures a positive customer experience, leading to increased footfall and customer satisfaction while offering a comfortable and aesthetic environment to users.

Security and Surveillance System: it is no surprise that shopping mall management takes security and surveillance seriously since their implementation guarantees the protection of their assets, customers, and employees. The result under this category indicates that all 3 practices are OI, but the maintenance of alarm and smoke detectors (4.47 & 4.17) and periodic servicing of CCTV cameras and guards patrol services (4.17 & 4.23) were the topmost implemented maintenance practices by the respondents in Lagos Island and Mainland malls respectively. Security and surveillance are sine-qua-non to shopping center

maintenance because they preserve assets, protect customers and employees, prevent criminal activity, and provide a safe retail environment, consequently increasing safety and confidence. This corroborates the results of [30,60,61,62,63,64], that security measures are important to control trespassers and monitor the infrastructure and its assets.

Parking lot and Exterior Maintenance: the topmost OI maintenance practice in this category is the maintenance of parking lots and sidewalks (3.60 & 3.64) for both shopping malls on the Island and Mainland respectively. Parking lot and exterior maintenance are critical in shopping malls to make a good first impression, maintain safety, enable easy access, and safeguard the property's value and appearance. This result supports the conclusion of [32] that the repairs and maintenance of exterior facades, parking lots, and walkways ensure safety and aesthetics.

Regular Maintenance Schedules: all three practices under this category are OI, however, glazed area cleaning (4.28 & 4.32) was the topmost implemented maintenance practice under the category of regular maintenance schedules for both groups of respondents from Lagos Island and Mainland respectively. Regular maintenance schedules are vital to avoid equipment failures, guarantee a safe and pleasant retail environment, increase asset lifespan, and reduce costly repairs. This is consistent with the results of [29,31,32] that glazed area cleaning is aimed at offering a more comfortable and aesthetically appealing environment.

Emergency preparedness: all the maintenance practices under this category are OI, but the help desk for emergency services (4.08 & 4.02) and evacuation routes clearing (4.00 & 3.93) were the topmost implemented maintenance practices by the respondents in Lagos Island and Mainland malls respectively. Emergency preparedness is vital in shopping center maintenance to safeguard customers, staff, and assets during unexpected occurrences, assuring safety, limiting damage, and permitting quick recovery and operating continuity. This finding supports the results of [60,63] who stressed the adequacy of emergency preparedness.

Table 2: Implementation of Maintenance Practices in Shopping Malls.

Maintenance Practices in Shopping Malls	Island shopping malls				Mainland shopping malls			
	N	MS	OR	Remark	N	MS	OR	Remark
Frequent inspections								
Checking Leakages	53	4.00	10	OI	44	4.07	9	OI
Checking signs of wear and tear	53	3.96	14	OI	44	3.95	12	OI
Checking damages to fixtures and fittings	53	3.85	16	OI	44	3.84	16	OI
Checking electrical problems	53	3.51	24	OI	44	3.50	23	OI
Cleaning and Janitorial services								
Restroom cleaning	53	4.47	2	OI	44	4.43	2	OI
Floor Cleaning	53	4.28	4	OI	44	4.25	5	OI
Waste management and disposal	53	4.13	7	OI	44	4.11	7	OI
Fumigation services	53	3.55	22	OI	44	3.61	22	OI
Air Condition Servicing and Maintenance								
Addressing any issue with temperature control	53	3.34	27	MI	44	3.36	27	MI
Cleaning and replacing of air filters	53	3.32	28	MI	44	3.23	28	MI
Inspecting Ductwork	53	3.00	30	MI	44	2.93	30	MI
Checking thermostat settings	53	2.49	31	RI	44	2.39	31	RI
Lighting and Electrical System Maintenance								
Replacing defective bulbs	53	4.62	1	MOI	44	4.61	1	MOI
Inspecting lighting fixtures	53	3.85	15	OI	44	3.84	15	OI
Checking electrical systems, outlets, and wiring for any potential hazards	53	3.49	25	MI	44	3.48	25	MI
Elevator and Escalator Maintenance								
Addressing unusual noise	53	3.96	13	OI	44	3.95	11	OI

Maintenance Practices in Shopping Malls	Island shopping malls				Mainland shopping malls			
	N	MS	OR	Remark	N	MS	OR	Remark
Maintaining proper lubrication	53	3.83	17	OI	44	3.77	18	OI
Testing the emergency stop button	53	3.62	20	OI	44	3.66	20	OI
Security and Surveillance System								
Maintenance of alarm and smoke detectors	53	4.47	2	OI	44	4.41	3	OI
Periodic servicing of CCTV cameras & patrols	53	4.17	6	OI	44	4.23	6	OI
Maintenance of access control system	53	4.06	9	OI	44	4.09	8	OI
Parking Lot and Exterior Maintenance								
Maintaining parking lots and sidewalks	53	3.60	21	OI	44	3.64	21	OI
Landscaping and gardening	53	3.45	26	MI	44	3.43	26	MI
Repairing potholes	53	3.28	29	MI	44	3.20	29	MI
Regular Maintenance Schedules								
Glazed area cleaning	53	4.28	4	OI	44	4.32	4	OI
Equipment inspections and maintenance	53	3.64	19	OI	44	3.70	19	OI
Re-painting of walls	53	3.55	23	OI	44	3.48	24	MI
Emergency Preparedness								
Help desk for emergency services	53	4.08	8	OI	44	4.02	10	OI
Evacuation routes clearing	53	4.00	11	OI	44	3.93	13	OI
Fire safety procedures	53	3.98	12	OI	44	3.89	14	OI
Conducting fire drills and training for staff	53	3.72	18	OI	44	3.80	17	OI

Note: N = Frequency, MS = Mean Score, OR = Overall Ranking, $1.00 \leq MS < 1.5$ represents ‘not implemented (NI)’, $1.50 \leq MS < 2.5$ represents ‘Rarely implemented (RI)’, $2.50 \leq MS < 3.50$ represents ‘moderately implemented (MI)’, $3.50 \leq MS < 4.50$ represents ‘often implemented (OI)’ and $4.50 \leq MS \leq 5.00$ represents ‘most often implementation (MOI)’.

Source: Authors, (2023).

IV.3 FACTORS INFLUENCING THE SOURCING DECISION OF MAINTENANCE PRACTICES IN SHOPPING MALLS

Objective 2: to assess the factors influencing the sourcing decision of maintenance practices in shopping malls. To achieve this objective, twenty-one influencing factors were assessed and the result of the analysis is shown in Table 3.

The factors influencing the sourcing decision of maintenance practices in shopping malls were evaluated using the scale: 1 = not influential, 2 = slightly influential, 3 = moderately influential, 4 = very influential, and 5 most influential. The relative significance index (RSI) score of each of the influencing factors was calculated as presented in Table 3. The decision rule for interpreting the relative implementation index (RSI) was adapted and modified from (Simeon et al., 2023) using the scale: $0.76 \leq RSI \leq 1.00$ implies most significant (MS), $0.67 \leq RSI \leq 0.75$ implies significant (S), $0.45 \leq RSI \leq 0.66$ implies less significant (LS), and $0 \leq RSI < 0.45$ implies not significant (NS). The results showed that the most significant factors influencing the decision to outsource maintenance practices in Shopping malls include; budget and cost considerations (RSI=0.89), scope of maintenance needs, risk management (RSI=0.88) respectively, flexibility and scalability, and types of tenants and their leasing agreement (RSI=0.85) respectively among other factors. On the other hand, the most significant factors influencing the decision to insource maintenance practices in shopping malls include; scope of maintenance needs (RSI=0.93), market dynamics (RSI=0.91), risk management (RSI=0.90), budget and cost considerations (RSI=0.89) and community and public image (RSI=0.88) among other factors. These findings conform with the findings of [46] that organizations outsource services for budget and cost

considerations. This further supports the assertions of [47] that contractors’ risk sharing with contractors is one of the key factors influencing the decision to outsource maintenance services. Besides, [42] reckons that insourcing becomes a viable option in order to offer efficiency and cost reductions in the face of rising budgetary strain.

Budget and cost considerations have a profound impact on shopping malls when making sourcing decisions. Implying that numerous resources might make insourcing management possible while limited finances may lead to cost-effective maintenance outsourcing. The choice of vendors and the distribution of resources are impacted by the scope of maintenance needs, which may result in outsourcing, while periodic maintenance may favor in-house teams. Risk management is key in shopping mall sourcing decisions. The decision between internal and external service providers is guided by an assessment of potential hazards and safety risks, which also affects vendor selection and contractual terms and conditions. Decisions on sourcing by shopping malls are influenced by flexibility and scalability. The decision to employ internal or external solutions might be influenced by the capacity to adjust to changing maintenance demands and scale services up or down. Sourcing decisions are influenced by the different tenant categories and the terms of their leases. Varying maintenance plans and service providers may be required due to varying tenant demands and lease conditions. Community and public perception have a big effect on sourcing decisions. A property that is well-maintained and environmentally friendly improves the retail experience, draws people, and shapes public opinion favorably. Market dynamics have a significant impact on sourcing choices. A change in sourcing strategies, such as the adoption of innovative or cost-effective solutions, may be necessary due to shifting market conditions, competition, and client needs.

Table 3: Factors Influencing the Sourcing Decision of Shopping Mall Maintenance Practices.

Factors	Outsourcing			Insourcing		
	RSI	Rank	Remark	RSI	Rank	Remark
Budget and cost considerations	0.89	1	MS	0.89	4	MS
Scope of maintenance needs	0.88	2	MS	0.93	1	MS
Risk management	0.88	2	MS	0.90	3	MS
Flexibility and scalability	0.85	4	MS	0.85	10	MS
Types of tenants and their leasing agreement	0.85	4	MS	0.87	6	MS
Vendor capabilities	0.84	6	MS	0.82	15	MS
Emergency response and business continuity	0.83	7	MS	0.84	11	MS
Community and public image	0.82	8	MS	0.84	11	MS
Compliance and regulatory considerations	0.82	8	MS	0.88	5	MS
Geographical coverage	0.80	10	MS	0.82	15	MS
Market dynamics	0.80	10	MS	0.91	2	MS
Expertise and skills	0.78	12	MS	0.80	17	MS
Sustainability and environmental considerations	0.78	12	MS	0.84	11	MS
Existing supplier relationships	0.78	12	MS	0.86	7	MS
Recruitment and retention challenges	0.78	12	MS	0.80	17	MS
Availability of technology solutions	0.77	16	MS	0.77	21	MS
Legal and contractual factors	0.74	17	S	0.83	14	MS
Store size and format	0.74	17	S	0.86	7	MS
Control and oversight	0.72	19	S	0.86	7	MS
Customers' demand/feedback	0.71	20	S	0.80	17	MS
Quality and service level expectation	0.71	20	S	0.78	20	MS

Note: RSI = Relative Significance Index, $0.76 \leq RSI \leq 1.00$ implies most significant (MS), $0.67 \leq RSI \leq 0.75$ implies Significant (S), $0.45 \leq RSI \leq 0.66$ implies Less significant (LS), and $0 \leq RSI < 0.45$ implies Not significant (NS).

Source: Authors, (2023).

IV.4 CAUSATIVE FACTORS THAT LEAD TO DETERIORATION OF SHOPPING MALLS

Objective 3: to evaluate causative factors contributing to the deterioration of building fabrics and elements. To achieve this objective, twenty-two causative factors were evaluated and the result of the analysis is shown in Table 4.

The causative factor contributing to the deterioration of building fabrics and components was evaluated using the scale: 1 = highly insignificant, 2 = insignificant, 3 = moderately significant, 4 = significant, and 5 highly significant. The relative significance index (RSI) score of each of the causative factors was calculated as presented in Table 4. The decision rule for interpreting the relative implementation index (RII) was adapted and modified from [58] using the scale: $0.76 \leq RSI \leq 1.00$ implies most significant (MS), $0.67 \leq RSI \leq 0.75$ implies significant (S), $0.45 \leq RSI \leq 0.66$ implies less significant (LS), and $0 \leq RSI < 0.45$ implies not significant (NS).

The results show that the highest ranked 5 significant causative factors contributing to the deterioration of Shopping malls in Lagos Island include; human factor (RSI=0.89), environmental and chemical factors (RSI=0.83) respectively, incorrect usage/overloading (RSI=0.82), and efflorescence and ground salt (RSI=0.81) respectively. The high human factor indicates the necessity for more robust maintenance, user-friendly design, and safety protocols to accommodate users. Buildings in coastal locations face severe risks from the environment and chemicals, necessitating regular maintenance, the use of corrosion-resistant materials, and corrosion prevention measures for durability and safety. The result on efflorescence and ground salt implies that buildings around coastlines are exposed to saltwater and the presence of saltwater in the soil frequently results in seawater infiltration. The bottom 3 not significant factors contributing to the deterioration of shopping malls in Lagos Island include; fire factor (RSI=0.44), vandalization (RSI=0.41), and pest

infestation (RSI=0.33). On the other hand, the highest ranked 5 most significant causative factors contributing to the deterioration of shopping malls in Lagos Mainland include; Human factor (RSI=0.90), environmental factor (RSI=0.83), incorrect usage/overloading (RSI=0.83), inappropriate upkeep (RSI=0.82), and lack of maintenance culture (RSI=0.80). The unavailability of storage space in most shopping malls on the Mainland caused shopping mall items to be overloaded in most buildings which induces stress on the structural elements, which hastens deterioration and even results in structural failure. Inappropriate maintenance and a lack of a maintenance culture can result in substantial structural damage, safety problems, financial difficulties, and decreased building lifespans. The bottom 3 not significant factors contributing to the deterioration of shopping malls in Lagos Mainland include; pest infestation and efflorescence (RSI=0.34) respectively, and ground salt (RSI=0.32). Efflorescence and ground salt are not significant factors contributing to deterioration in the Mainland as evidenced by their RSI scores but were most significant in Lagos Island Shopping malls as a result of their proximity to coastlines. This implies that certain environmental conditions are experienced by building infrastructures surrounding coastlines that are rare for buildings built on the Mainland. The human and environmental factors in both strategic locations (i.e. Lagos Island & Mainland) are dominant. The high human factors at both locations are due to frequent use and consumer demand, which pose significant maintenance issues, resulting in increased wear and tear. Shopping malls on the Mainland are vulnerable to a variety of factors and hazards which may vary depending on the specific location and local conditions such as pollution, drought and water scarcity, and extreme weather, among other factors. Shopping malls on the Island are subjected to several maintenance issues due to their unique environmental conditions leading to infrastructure vulnerability to corrosion, paint and coating degradation, erosion,

flood damage, and saltwater intrusion, among several other issues. These factors conform with the results of [12] that human and environmental factors are the most significant factors contributing to the deterioration of building fabrics and components.

Table 4: Causative factors that lead to the deterioration of building fabrics and components.

Factors	Island shopping malls				Mainland shopping malls			
	N	RSI	Rank	Remark	N	RSI	Rank	Remark
Human Factor	53	0.89	1	MS	44	0.90	1	MS
Environment Factor	53	0.83	2	MS	44	0.83	2	MS
Chemical Factor	53	0.83	3	MS	44	0.55	12	LS
Incorrect usage/overloading	53	0.82	4	MS	44	0.83	3	MS
Efflorescence	53	0.81	5	MS	44	0.34	20	NS
Ground Salt	53	0.81	6	MS	44	0.32	22	NS
Inappropriate upkeep	53	0.80	7	MS	44	0.82	4	MS
Lack of Maintenance Culture	53	0.80	8	MS	44	0.80	5	MS
Solid Contaminants	53	0.79	9	MS	44	0.79	6	MS
Gaseous Constituent of air	53	0.78	10	MS	44	0.72	9	S
Furring Factor	53	0.78	11	MS	44	0.52	13	LS
Moisture/Water	53	0.77	12	MS	44	0.58	10	LS
Biological agencies	53	0.76	13	MS	44	0.74	8	S
Poor Ventilation and humidity control	53	0.72	14	S	44	0.75	7	S
Age and wear	53	0.62	15	LS	44	0.57	11	LS
Misuse of Building	53	0.54	16	LS	44	0.51	16	LS
Faulty Construction	53	0.52	17	LS	44	0.52	14	LS
Faulty Design	53	0.52	18	LS	44	0.52	15	LS
Faulty Materials	53	0.45	19	LS	44	0.45	17	LS
Fire	53	0.44	20	NS	44	0.44	18	NS
Vandalization	53	0.41	21	NS	44	0.40	19	NS
Pest Infestation	53	0.33	22	NS	44	0.34	20	NS

Note: N = Frequency, RSI = Relative Significance Index, $0.76 \leq RSI \leq 1.00$ implies most significant (MS), $0.67 \leq RSI \leq 0.75$ implies Significant (S), $0.45 \leq RSI \leq 0.66$ implies Less significant (LS), and $0 \leq RSI < 0.45$ implies Not significant (NS).

Source: Authors, (2023).

IV.5 T-TEST RESULT ON THE IMPLEMENTATION OF MAINTENANCE PRACTICES BETWEEN SOURCING STRATEGIES

Hypothesis 1: The study hypothesizes that the implementation of maintenance practices in shopping malls does not significantly differ between insourcing and outsourcing strategies. The hypothesis was tested using the independent sample t-test. The t-test results are presented below in Table 5.

The results in Table 5 show 31 implemented maintenance practices in shopping malls, out of which only 4 of the practices have $p \leq 0.05$, thus it is significant (S) and the resulting hypothesis was rejected. The remaining 27 have $p > 0.05$, they are not significant (NS) and the hypothesis was accepted. The 4 significant practices are the practice of checking damages to fixtures and fittings, inspecting lighting fixtures, replacing defective bulbs, and checking electrical systems, outlets, and wiring for any potential hazard.

Table 5: T-test on implementation of maintenance practices between sourcing strategies.

Maintenance practices	F	df	t	MD	p-value	Remark	Decision
Checking signs of wear and tear	.081	95	.005	.001	.996	NS	Accept
Checking Leakages	6.265	95	-1.100	-.186	.274	NS	Accept
Checking electrical problems	.502	95	.304	.051	.762	NS	Accept
Checking damages to fixtures and fittings	.345	95	-2.274	-.347	.025	S	Reject
Floor Cleaning	.439	95	.245	.036	.807	NS	Accept
Fumigation services	3.307	95	.797	.112	.428	NS	Accept
Restroom cleaning	.840	95	-.058	-.009	.954	NS	Accept
Waste management and disposal	.506	95	.704	.121	.483	NS	Accept
Cleaning and replacing of air filters	1.438	95	-1.794	-.315	.076	NS	Accept
Inspecting Ductwork	3.819	95	1.255	.227	.212	NS	Accept
Checking thermostat settings	2.500	95	.826	.176	.411	NS	Accept
Addressing any issue with temperature control	.466	95	-1.183	-.213	.240	NS	Accept
Inspecting lighting fixtures	.345	95	-2.274	-.347	.025	S	Reject
Replacing defective bulbs	16.181	95	2.887	.276	.005	S	Reject

Maintenance practices	F	df	t	MD	p-value	Remark	Decision
Checking electrical systems, outlets, and wiring for any potential hazards	.011	95	-2.179	-.402	.032	S	Reject
Testing emergency stop button	.144	95	.156	.028	.876	NS	Accept
Maintaining proper lubrication	.258	95	-1.477	-.264	.143	NS	Accept
Addressing unusual noise	1.409	95	.418	.083	.677	NS	Accept
Periodic servicing of CCTV cameras and patrols	.098	95	.367	.058	.714	NS	Accept
Maintenance of access control system	.015	95	-.875	-.146	.384	NS	Accept
Maintenance of alarm and smoke detectors	3.958	95	-1.217	-.195	.227	NS	Accept
Maintaining parking lots and sidewalks	1.720	95	-.560	-.095	.577	NS	Accept
Landscaping and gardening	1.130	95	.071	.011	.943	NS	Accept
Glazed area cleaning	.005	95	.168	.031	.867	NS	Accept
Equipment inspections and maintenance	1.549	95	1.249	.179	.215	NS	Accept
Telecommunication services maintenance	1.603	95	-1.784	-.282	.078	NS	Accept
Fire safety procedures	.918	95	-.920	-.164	.360	NS	Accept
Conducting fire drills and training for staff	1.115	95	-1.215	-.201	.227	NS	Accept
Evacuation routes clearing	1.385	95	-.421	-.061	.675	NS	Accept
Help desk for emergency services	.000	95	-.786	-.104	.434	NS	Accept

Note: p is significant at $p \leq 0.05$, df = degree of freedom, MD = mean difference, NS = not significant, S = significant.

Source: Authors, (2023).

IV.6 T-TEST RESULT ON FACTORS THAT CONTRIBUTE TO DETERIORATION OF SHOPPING MALLS IN LAGOS ISLAND AND MAINLAND

Hypothesis 2: The factors that contribute to the deterioration of shopping malls do not significantly vary between Lagos Island and the Mainland.

The hypothesis was tested using the independent sample t-test. The t-test results are presented below in Table 6.

The results in Table 6 show the 22 causative factors that lead to the deterioration of building fabric and components of which six of the factors have $p \leq 0.05$, thus it is significant and the null hypothesis was rejected. While the remaining 16 have $p > 0.05$, it is not significant and the null hypothesis was accepted. The six significant factors are chemical factors, furring factors, moisture/water, gaseous constituents of air, ground salt, and efflorescence.

Table 6: T-test results on factors that contribute to the deterioration of shopping malls between Lagos Island and Mainland.

Causative Factors	F	df	t	MD	p-value	Remark	Decision
Human Factor	0.865	95	.0520	.006	.959	NS	Accept
Chemical Factor	0.54	95	-9.623	-1.420	.000	S	Reject
Furring Factor	0.285	95	-8.626	-1.273	.000	S	Reject
Environment Factor	0.003	95	-.0820	-.011	.935	NS	Accept
Moisture/Water	8.344	95	-6.204	-.940	.000	S	Reject
Biological agencies	1.855	95	-.552	-.088	.582	NS	Accept
Gaseous Constituent of air	0.454	95	-1.989	-.315	.050	S	Reject
Solid Contaminants	0.122	95	-.048	-.008	.962	NS	Accept
Ground Salt	2.458	95	-17.873	-2.466	.000	S	Reject
Efflorescence	2.167	95	-16.575	-2.352	.000	S	Reject
Fire	0.013	95	-.175	-.026	.861	NS	Accept
Faulty Design	0.077	95	-.068	-.013	.946	NS	Accept
Faulty Construction	0.077	95	-.068	-.013	.946	NS	Accept
Faulty Materials	0.065	95	.272	.046	.786	NS	Accept
Inappropriate upkeep	0.057	95	.475	.072	.636	NS	Accept
Misuse of Building	0.155	95	.880	-.187	.381	NS	Accept
Age and tear	0.437	95	-1.428	-.235	.156	NS	Accept
Pest Infestation	0.006	95	.459	.067	.648	NS	Accept
Lack of Maintenance Culture	0.097	95	.146	.023	.884	NS	Accept
Vandalization	0.137	95	-.370	-.060	.712	NS	Accept
Incorrect usage or overloading	0.025	95	.162	.023	.871	NS	Accept
Poor Ventilation and humidity control	0.615	95	.891	.127	.375	NS	Accept

Note: p is significant at $p \leq 0.05$, df = degree of freedom, MD = mean difference, NS = not significant, S = significant.

Source: Authors, (2023).

IV.7 T-TEST RESULT ON WHETHER THE SOURCING STRATEGY INFLUENCES FACTORS CONTRIBUTING TO DETERIORATION OF SHOPPING MALLS

Hypothesis 3: The factors that contribute to the deterioration of shopping malls do not significantly vary between the maintenance sourcing strategies.

The hypothesis was tested using the independent sample t-test. The t-test results are presented below in Table 7.

The results in Table 7 show the 22 causative factors that lead to the deterioration of building fabric and components of which 6 of the factors have $p \leq 0.05$. It is thus, significant and the hypothesis formulated was rejected. While the remaining 16 have $p > 0.05$. Implying not significant, and the hypothesis formulated was accepted. The six significant factors are faulty design, faulty construction, faulty materials, inappropriate upkeep, misuse of buildings, and pest infestation.

Table 7: Independent sample T-test on whether the sourcing strategy influences the factors contributing to the deterioration of shopping mall building fabrics and components.

Causative Factors	F	df	t	MD	p-value	Remark	Decision
Human Factor	1.413	95	-.479	-.051	.663	NS	Accept
Chemical Factor	.073	95	-.152	-.031	.879	NS	Accept
Furring Factor	1.393	95	.178	.035	.859	NS	Accept
Environment Factor	1.834	95	1.572	.203	.119	NS	Accept
Moisture/Water	.003	95	.297	.053	.767	NS	Accept
Biological agencies	7.769	95	-1.546	-.242	.126	NS	Accept
Gaseous Constituent of air	3.528	95	.159	.026	.874	NS	Accept
Solid Contaminants	.017	95	.005	.001	.996	NS	Accept
Ground Salt	2.095	95	-.139	-.040	.890	NS	Accept
Efflorescence	2.409	95	-.073	-.020	.942	NS	Accept
Fire	.899	95	.396	.058	.693	NS	Accept
Faulty Design	1.844	95	-2.087	-.384	.040	S	Reject
Faulty Construction	1.844	95	-2.087	-.384	.040	S	Reject
Faulty Materials	1.441	95	-2.282	-.376	.025	S	Reject
Inappropriate upkeep	4.432	95	.676	.102	.50	S	Reject
Misuse of Building	.245	95	2.441	.502	.017	S	Reject
Age and tear	.223	95	-.121	-.020	.904	NS	Accept
Pest Infestation	1.011	95	-1.981	-.282	.05	S	Reject
Lack of Maintenance Culture	1.947	95	.132	.020	.895	NS	Accept
Vandalization	3.126	95	.379	.062	.705	NS	Accept
Incorrect usage or overloading	6.448	95	-.892	-.126	.374	NS	Accept
Poor Ventilation and humidity control	.468	95	1.959	.275	.053	NS	Accept

Note: p is significant at $p \leq 0.05$, df = degree of freedom, MD = mean difference, NS = not significant, S = significant.

Source: Authors, (2023).

V. CONCLUSIONS

The study comes to the following conclusions based on its findings.

The study identified thirty-one (31) frequently implemented maintenance practices in shopping malls and classified them into nine (9) groups within Lagos Island and Mainland. The topmost implemented maintenance practices in both locations are the practice of replacing defective bulbs while other practices are of varying levels of implementation. This implies a proactive effort to maintain a safe, adequately illuminated, and aesthetically appealing environment, consequently enhancing customer experience, safety, and energy efficiency. Furthermore, the hypothesis result revealed 4 practices that significantly differ between maintenance sourcing strategies. This includes; checking damages to fixtures and fittings, inspecting lighting fixtures, replacing defective bulbs, and checking electrical systems, outlets, and wiring for any potential hazard. 3 out of the 4 significant practices are grouped under lighting and electrical systems. These differences suggest the important characteristics of lighting and electrical systems, such as safety, reliability, energy efficiency, and performance, can be influenced by the type of maintenance sourcing type adopted. Implying that shopping mall management may utilize this information to inform their decision-making processes.

The study recommends that maintenance stakeholders should conduct regular inspections of the building fabrics and components to harness the unimplemented practices and put measures in place for their implementation. This can be achieved via routine assessments of the facilities by the maintenance stakeholders, and allocating sufficient budget for its implementation.

The study further evaluated twenty-one (21) factors influencing the sourcing decision of maintenance practices in shopping malls. The top three significant influencing factors when maintenance practices are outsourced include budget and cost considerations, scope of maintenance needs, and risk management. This suggests the need to carefully monitor costs, establish a balance between cost savings and service quality, and determine the long-term financial effect of outsourcing contracts. The study recommends maintenance stakeholders carefully examine the budget and the needed competence. This may be done by selecting dependable vendors with an established history of accomplishment and experienced contract administration. The top three influencing factors when maintenance practices are insourced include the scope of maintenance needs, market dynamics, and risk management. The implication of the findings on the scope of maintenance needs is that insourcing could necessitate large resources and skill expenditures if the scope is broad and specialized. The study

recommends conducting a thorough analysis of the scope and complexity of maintenance needs, assessing internal capabilities, and guaranteeing compliance with cost-efficient, high-quality service delivery. This may be achieved by ensuring that maintenance stakeholders and the mall management make well-informed decisions on the insourcing of shopping malls and that it is in line with their objectives for effectiveness and service quality.

Besides, the study identified twenty-two (22) causative factors that lead to the deterioration of shopping mall building fabrics and components. Despite the variations in the causes in both study locations, the vast majority of the shopping malls had two factors in common; human and environmental. The human and environmental factors have a profound influence on shopping mall deterioration. This implies that neglecting a shopping mall infrastructure and over-exposure to severe environmental conditions can accelerate the deterioration process which could result in structural issues and shorter lifespan. Furthermore, the hypothesis result revealed six significant factors that lead to the deterioration of shopping malls in the study locations and they include; chemical factors, furring factors, moisture/water, gaseous constituents of air, ground salt, and efflorescence. These disparities might be attributed to the physical separation of the two research regions. Furthermore, shopping malls on the Island are more likely to be affected by these deteriorating factors due to their geographical location on the shore, as opposed to Mainland malls, which are located farther away from the coasts. The study recommends that maintenance stakeholders should play active roles in ensuring malls are adequately managed. This may be accomplished through sustainable designs, monitoring, and protective measures.

VI. AUTHOR'S CONTRIBUTION

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VII. ACKNOWLEDGMENTS

If necessary, quote entities that supported the development of the research.

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