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تأثير الاستراتيجية التنظيمية في إدارة المرافق

THE IMPACT OF ORGANIZATIONAL STRATEG ON FACILITIES MANAGEMENT

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الإهداء

الى روح ابي الغالي... رحمه الله

الى والدتي التي كانت نبأس يضيء دربي في جميع مراحل حياتي .

اخواني واخواتي من كانو السند والعزوة.

الى زوجتي ورفيقتي الغالية.

الى ابنتي محبة قلبي.

الى اصدقائي من كانو الداعمين والمحفزين دوما لكي اجتاز كل هذه المراحل .

الى جموع الاهل والاصدقاء.

اهدي اليكم : بحثي العلمي في تأثير الاستراتيجية التنظيمية في ادارة المرافق.

DEDICATION

To the soul of my dear father... may he rest in eternal peace.

To my mother, whose love and guidance have illuminated my path through every stage of life.

To my brothers and sisters, my unwavering pillars of strength and support.

To my beloved wife, my partner in every step of this journey.

To my daughter, the light of my heart and my greatest inspiration.

To my friends, whose encouragement and belief in me have been a constant source of motivation.

To all my cherished family and loved ones.

With gratitude and love, I dedicate to you my research on **THE IMPACT OF ORGANIZATIONAL STRATEGY IN FACILITY MANAGEMENT.**

شكر وتقدير

الحمد لله الذي بجزعه تتم الصالحات والسلام على أشرف الخلق سيدنا محمد صلى الله عليه وسلم
أتقدم بخالص الشكر والتقدير الى والدتي العزيزة واخواني واخواتي وزوجتي العزيزة اللذين كانوا وما زالوا المحفز والداعم
الاول واللذين يثبتون ويؤمنون بقدراتي وامكانياتي .
كما أقدم عميق الشكر والامتنان لاساتذتي ومعلميني اللذين كان لهم الدور الاكبر في الوصل لنهاية هذا البحث
كل الشكر لاصدقائي وزملائي اللذين لم يتوانوا لحظة واحدة عن دعمي ومساعدتي في اجتياز هذا البحث واصل بالذكر
المهندس مازن محمود لدعمه ومواقفه العظيمة.
في الختام أقدم كل الشكر لمن ساهم ودعم لانجاز هذا البحث المتواضع .
أسأل الله ان يوفقنا جميعا لما فيه خير ومنفعة للغير .

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ABSTRACT

Facilities Management (FM) is a fundamental component in the effective operation and sustainability of shopping malls, playing a pivotal role in maintaining infrastructure, enhancing operational efficiency, ensuring security, and improving customer satisfaction. This study investigates the relationship between organizational strategy and FM practices at Mecca Mall, a major retail destination in Amman, Jordan. The research aims to assess the extent to which FM is integrated into strategic planning, the challenges it faces, and the potential impact of technological innovations on FM efficiency.

A mixed-methods approach was employed, combining qualitative and quantitative research methodologies. Data was gathered through structured surveys and interviews with FM professionals, mall management, tenants, and customers. The findings reveal a moderate level of FM integration within Mecca Mall's strategic framework. While FM contributes significantly to business growth and customer satisfaction, the study identifies key challenges, including budget constraints, insufficient technological adoption, and gaps in strategic alignment. Additionally, despite ongoing efforts to implement smart technologies, such as IoT-based predictive maintenance and AI-driven security systems, adoption remains limited due to high costs and a lack of skilled personnel.

The study also explores the impact of sustainability initiatives, such as energy management and waste reduction programs, which have shown potential for improving long-term cost efficiency and environmental compliance. Hypothesis testing confirmed a strong positive relationship between FM effectiveness and organizational success, highlighting the need for increased investment in digital transformation, proactive maintenance strategies, and tenant-focused FM services.

To enhance FM efficiency, the study recommends the establishment of a dedicated FM strategy committee, greater financial commitment from management, improved staff training, and the integration of advanced smart FM technologies. By addressing these areas, Mecca Mall can strengthen its FM capabilities, reduce operational costs, improve sustainability, and enhance customer experience.

This research contributes to the broader understanding of Facilities Management in commercial retail environments, providing practical insights and strategic recommendations for improving FM practices in shopping malls. Future studies could explore a comparative analysis of FM effectiveness across multiple retail centers in different regions to further generalize these findings.

ملخص الدراسة باللغة العربية

إدارة المرافق هي عنصر أساسي في التشغيل الفعال والاستدامة لمراكز التسوق، حيث تلعب دورًا محوريًا في صيانة البنية التحتية، وتعزيز الكفاءة التشغيلية، وضمان الأمن، وتحسين رضا العملاء. تبحث هذه الدراسة في العلاقة بين الاستراتيجية التنظيمية وممارسات إدارة المرافق في مكة مول، أحد الوجهات التجارية الرئيسية في عمان، الأردن. يهدف البحث إلى تقييم مدى تكامل إدارة المرافق في التخطيط الاستراتيجي، والتحديات التي تواجهها، والتأثير المحتمل للابتكارات التكنولوجية على كفاءة إدارة المرافق.

تم اتباع منهجية بحثية متعددة الأساليب، تجمع بين المنهجيات النوعية والكمية. تم جمع البيانات من خلال استبيانات منظمة ومقابلات مع محترفي إدارة المرافق، وإدارة المول والمستأجرين والعملاء. كشفت النتائج عن مستوى تكامل متوسط لإدارة المرافق داخل الإطار الاستراتيجي لمكة مول. على الرغم من مساهمة إدارة المرافق بشكل كبير في نمو الأعمال التجارية ورضا العملاء، فقد حددت الدراسة تحديات رئيسية، مثل قيود الميزانية، والاعتماد غير الكافي على التكنولوجيا، والفجوات في التوافق الاستراتيجي. علاوة على ذلك، وعلى الرغم من الجهود المستمرة لتطبيق التقنيات الذكية مثل الصيانة التنبؤية القائمة على إنترنت الأشياء وأنظمة الأمن المدعومة بالذكاء الاصطناعي، لا يزال الاعتماد عليها محدودًا بسبب ارتفاع التكاليف ونقص الكوادر المؤهلة.

تستكشف الدراسة أيضًا تأثير مبادرات الاستدامة، مثل إدارة الطاقة وبرامج تقليل النفايات، والتي أظهرت إمكانات في تحسين الكفاءة المالية على المدى الطويل والامتثال البيئي. أكدت اختبارات الفرضيات وجود علاقة إيجابية قوية بين فعالية إدارة المرافق والنجاح التنظيمي، مما يبرز الحاجة إلى زيادة الاستثمار في التحول الرقمي، واستراتيجيات الصيانة الاستباقية، وخدمات إدارة المرافق التي تركز على المستأجرين.

لتعزيز كفاءة إدارة المرافق، توصي الدراسة بإنشاء لجنة استراتيجية مخصصة لإدارة المرافق، وزيادة الالتزام المالي من قبل الإدارة، وتحسين تدريب الموظفين، ودمج تقنيات إدارة المرافق الذكية المتقدمة. من خلال معالجة هذه المجالات، يمكن لمكة مول تعزيز قدراته في إدارة المرافق، وتقليل التكاليف التشغيلية، وتحسين الاستدامة، وتعزيز تجربة العملاء.

تساهم هذه الدراسة في فهم أوسع لمجال إدارة المرافق في البيئات التجارية، حيث تقدم رؤى عملية وتوصيات استراتيجية لتحسين ممارسات إدارة المرافق في مراكز التسوق. يمكن أن تستكشف الدراسات المستقبلية تحليلًا مقارنًا لفعالية إدارة المرافق عبر العديد من مراكز التسوق في مناطق مختلفة لتعميم هذه النتائج بشكل أوسع.

CHAPTER ONE

CHAPTER ONE

1.1 INTRODUCTION:

Facilities Management (FM) is crucial for maintaining operational efficiency, sustainability, and functionality within commercial properties, particularly shopping malls. Effective FM encompasses building maintenance, security, energy management, waste disposal, and customer service, significantly impacting tenant retention and customer satisfaction.

Mecca Mall, situated in the Khilda neighborhood of Amman, Jordan, is a major retail destination covering approximately 95,000 square meters. With over 450 international and local brands, Mecca Mall offers diverse amenities, including salons, pharmacies, financial and medical services, dining facilities, entertainment options like cinemas and children's play areas, supermarkets, and extensive parking facilities. Recently, the mall also became home to the Jordan International Exhibition Center, supporting local handicrafts in collaboration with the Ministry of Culture.

Organizations continually face pressure to maintain competitive advantages and profitability amidst complex market dynamics and evolving consumer preferences. Strategic management and planning have become essential processes, significantly influencing organizational growth, profitability, and sustainability. According to Wagner (2006), strategic planning connects an organization's vision and goals to budgeting, environmental scanning, and strategic formulation, ultimately influencing its overall success. However, FM departments, typically perceived as auxiliary units, often receive less attention and resources, leading to inadequate facility conditions and negatively impacting organizational effectiveness (Dell, 2008).

This study aims to analyze the relationship between organizational strategy and Facilities Management practices at Mecca Mall, emphasizing operational efficiency, sustainability, customer experience, and technological integration. The insights derived will provide valuable recommendations for enhancing FM practices in commercial retail environments.

1.2 PROBLEM DEFINITION:

Despite the critical role of Facilities Management in shopping malls, many commercial properties face challenges in aligning FM strategies with organizational goals. Inefficiencies in maintenance, security, energy management, and sustainability initiatives can lead to increased operational costs, tenant dissatisfaction, and a decline in customer experience.

"An organization's strategy is found and formulated with reference to the organization's mission and vision. Many organizations have Facilities Management sections or departments, categorized as auxiliary divisions besides their core business. Such departments are providing support services hence allocated less attention with less or no budget allocation compared to the core departments that are said to be of essence to the organization. This is brought about by the fact that most organizations are inclined towards growth of revenues and profits realization. In developing such corporate strategies, less or no consideration is given to Facilities Management forcing the entire department in-charge of physical facilities to lag behind as well as lack basic resources needed to facilitate management of the facilities. This results in underachievement of the organization's set objectives" (Dell, 2008).

Further, the time period covered in the Corporate Strategic Plan of three to five years is often too long considering the dynamic nature surrounding Facilities Management. This wanton mismatch has been created by various factors which can be outlined as inadequate planning techniques, inadequate management skills, lack of Life Cycle Costing Techniques, inadequate use of building maintenance information systems, and imperfect integration

between company strategies and Facilities Management needs and timing. In addition, in a bid to attain the underlying objective of the organization strategy to grow revenue, most corporations have opted to diversify into other income-generating sources and adopt technology in order to enhance efficiency (Dell, 2008).

Mecca Mall, like other large shopping malls, must address these challenges to maintain its market position. While the mall has implemented various FM strategies, it remains unclear to what extent these strategies contribute to its overall success. Therefore, this study aims to investigate the impact of organizational strategy on FM at Mecca Mall, focusing on operational efficiency, sustainability, and customer experience.

1.3 Research Objectives:

The Purpose of the study is to evaluate the impact of Mecca Mall's organizational strategy on Facilities Management. Specific objectives include:

1. To assess the extent and effectiveness of integrating FM into Mecca Mall's strategic plans, highlighting strengths and areas for improvement.
2. To examine the influence of FM practices on Mecca Mall's operational performance, including aspects such as facility maintenance, customer satisfaction, and cost management.
3. To identify key challenges and barriers faced by Mecca Mall in implementing effective FM strategies and propose viable solutions to address these challenges.
4. To investigate the role of technological innovation in supporting and enhancing FM practices, including digital management systems, smart technology adoption, and automated solutions.

1.4 Research Questions:

To achieve these objectives, the study seeks to answer the following research questions:

1. How effectively does Mecca Mall integrate Facilities Management into its strategic planning, and to what extent does this integration align with organizational goals?
2. What impact do FM practices have on Mecca Mall's operational performance, specifically regarding facility maintenance, customer satisfaction, and cost management?
3. What significant challenges does Mecca Mall encounter in strategically implementing Facilities Management?
4. What role does technology play in enhancing FM practices at Mecca Mall, and how can technological solutions be optimized for improved operational outcomes?

1.5 STUDY HYPOTHESE:

According to the study problem and its questions, the following hypotheses were formulated:

- **H1:** There is a significant positive relationship between effective integration of organizational strategy and the success of FM practices at Mecca Mall.
- **H2:** Efficient Facilities Management practices positively affect customer satisfaction and operational efficiency at Mecca Mall.
- **H3:** Challenges such as insufficient funding, inadequate planning, and poor technological integration negatively impact FM effectiveness at Mecca Mall.
- **H4:** The adoption of innovative technologies significantly enhances FM effectiveness at Mecca Mall.
-

1.6 STUDY DEFINITIONS:

To provide a clear understanding of key concepts used in this study, the following definitions are adopted from academic literature and industry standards:

- **Facilities Management (FM):** The International Facility Management Association (IFMA) defines FM as the integration of people, place, process, and technology to enhance the built environment's functionality, comfort, safety, and efficiency (IFMA, 2021).
- **Operational Efficiency:** According to Drucker (2008), operational efficiency refers to the capability of an organization to optimize resources, minimize waste, and maximize productivity.
- **Strategic Planning:** Mintzberg (1994) defines strategic planning as a structured, long-term approach used by organizations to define objectives, allocate resources, and implement actions to achieve corporate goals.
- **Technological Integration:** Porter and Heppelmann (2017) describe technological integration as the incorporation of digital tools, smart systems, and automation to enhance management efficiency and operational effectiveness.
- **Sustainability in FM:** Elkington (1997) defines sustainability in FM as environmentally responsible and resource-efficient management strategies that reduce carbon footprint and enhance economic viability.
- **Customer Satisfaction:** Parasuraman, Zeithaml, and Berry (1988) explain customer satisfaction as the extent to which products or services meet or exceed customer expectations, often linked to service quality, efficiency, and overall user experience.

- **Smart Facilities Management:** Smart FM is the application of Internet of Things (IoT), artificial intelligence (AI), and data analytics to enhance predictive maintenance, energy optimization, and overall operational efficiency (Goyal et al., 2022).
- **Lifecycle Costing (LCC):** The concept of LCC refers to a cost analysis method used to determine the total cost of ownership of a facility over its lifetime, helping in long-term investment and maintenance planning (Fuller & Petersen, 1996).
- **Energy Management:** According to the ISO 50001 standard, energy management refers to systematic strategies aimed at optimizing energy use, improving efficiency, and reducing costs in a facility's operations.

These definitions serve as a conceptual framework for analyzing the role of Facilities Management in Mecca Mall's strategic objectives and operational performance.

1.7 STUDY METHODOLOGY:

This study adopts a **mixed-methods approach**, combining both qualitative and quantitative research methodologies to ensure a comprehensive analysis of Facilities Management at Mecca Mall.

1.7.1 Research Design

This study follows a **case study approach**, focusing on Mecca Mall as a single case to investigate the alignment between organizational strategy and FM. The research is **descriptive and exploratory**, aiming to understand FM implementation, assess its effectiveness, and identify key challenges.

1.7.2 Data Collection Methods

To ensure data reliability and validity, the study will employ **both primary and secondary data sources**:

- **Primary Data:**
 - **Interviews:** Structured and semi-structured interviews with FM managers, strategic planners, and operational staff at Mecca Mall.
 - **Surveys:** Questionnaires targeting tenants, employees, and customers to assess their perceptions of FM efficiency and customer satisfaction.
 - **Observations:** On-site inspections to evaluate maintenance conditions, energy management, and security measures.
- **Secondary Data:**
 - Review of existing literature, industry reports, and case studies on FM best practices in retail environments.
 - Examination of Mecca Mall's strategic plans, sustainability reports, and operational guidelines (if accessible).

1.7.3 Sampling Technique

A **purposive sampling** method will be used to select key stakeholders for interviews, ensuring relevant expertise and experience in FM. Surveys will employ **random sampling** to ensure diverse customer and tenant perspectives.

1.7.4 Data Analysis Methods

- **Qualitative Analysis:** Thematic analysis of interview transcripts and observational data.
- **Quantitative Analysis:** Descriptive statistics and inferential analysis (correlations, regression models) using survey responses to assess relationships between FM practices and operational outcomes.

1.7.5 Ethical Considerations

- Participants will be assured of **confidentiality and anonymity**.
- Data will be collected **with informed consent**.
- The study will comply with **academic integrity and ethical research guidelines**.

This methodology ensures a **comprehensive, reliable, and valid** investigation into the role of FM at Mecca Mall, providing actionable insights and recommendations for improving FM alignment with organizational strategy.

1.8 PREVIOUS STUDIES:

Study: Jensen & Van der Voordt (2021), "Strategic Facilities Management in Retail Environments"

This study examines the alignment of organizational strategy with FM in large retail environments. The findings indicate that shopping malls integrating FM into their business strategy report improved tenant retention and customer satisfaction. Proactive maintenance reduces operational disruptions by 30% compared to reactive approaches, while sustainability-driven FM strategies, such as energy-efficient lighting and HVAC systems,

lead to significant cost savings. The study highlights the importance of structured FM strategies in achieving operational efficiency.

Study: Bitner & Brown (2020), "The Impact of Facilities Management on Customer Satisfaction in Malls"

This research explores the effect of FM on customer satisfaction in shopping malls across Europe and the Middle East. It identifies cleanliness and maintenance as the top factors influencing customer satisfaction. Shopping malls with well-managed parking systems and security features experienced a 20% increase in repeat visitors. Additionally, the presence of FM-driven customer amenities, such as seating areas, clean restrooms, and climate control, significantly influenced visitor dwell time. The study emphasizes the necessity of high-quality FM services in retaining customers.

Study: Rahman et al. (2021), "Sustainable Facilities Management Practices in Malls"

This study assesses the adoption of sustainability-focused FM strategies in shopping malls in the UAE and Jordan. Findings indicate that green energy solutions, including solar panels and LED lighting, reduced electricity costs by 25% annually. Malls implementing waste recycling initiatives received higher corporate social responsibility (CSR) ratings. Additionally, IoT-based energy management improved efficiency by 15%, optimizing cooling systems during peak hours. The study suggests that commercial properties prioritize sustainability within FM strategies for long-term cost savings.

Study: Miller & Patel (2022), "The Role of Technology in Enhancing Facilities Management Efficiency"

This study explores the impact of smart FM technologies in commercial properties. It finds that IoT sensors for predictive maintenance reduced equipment failures by 40%, while AI-driven security systems lowered security risks and improved emergency response times. Smart HVAC and automated lighting systems resulted in energy savings of up to 30%. The research highlights the necessity of adopting IoT-based smart FM solutions to enhance maintenance, energy efficiency, and security.

Study: Smith et al. (2021), "Key Challenges in Facilities Management for Shopping Centers"

This research identifies major challenges in FM for large shopping malls in the Middle East and Europe. High operational costs pose a significant challenge, requiring efficient resource management. Technology adoption barriers exist due to high implementation costs and staff training requirements. Additionally, retail market fluctuations impact FM budgets, necessitating flexible cost-allocation strategies. The study underscores the importance of strategic FM planning to mitigate these challenges and improve efficiency.

Study: Lee & Kim (2022) – "The Influence of Facilities Management on Mall Brand Perception"

This study investigates how FM contributes to the overall brand image of shopping malls in South Korea. The research finds that well-maintained facilities create a positive perception among shoppers, leading to increased brand loyalty. Malls with aesthetically pleasing interiors, comfortable seating areas, and well-maintained landscapes experienced a 15%

higher customer retention rate than those with poorly managed FM services. The study suggests that investing in FM enhances the mall's reputation and attracts premium tenants.

Study: Al-Fadli & Hassan (2023) – "Financial Implications of Facilities Management in Large Shopping Centers"

This research explores the financial impact of FM on mall operations in the GCC region. The study finds that malls with structured FM budgets and preventive maintenance strategies reduce annual repair costs by 20%. It also reveals that FM-led space optimization strategies increase leasing efficiency, leading to a 10% rise in rental revenues. The findings highlight that FM is not just an operational function but a critical financial strategy that contributes to long-term mall profitability.

Study: Carter & Wilkinson (2023) – "The Role of Facilities Management in Enhancing Safety and Security in Malls"

This study focuses on the role of FM in improving mall safety and security, particularly in high-traffic commercial spaces. The findings indicate that shopping centers with well-implemented FM security strategies, including CCTV surveillance, access control systems, and trained emergency response teams, experienced a 35% reduction in security incidents. Additionally, effective FM protocols for fire safety, evacuation planning, and crowd management improved overall customer confidence in mall safety. The study emphasizes that FM professionals must integrate security measures into their strategic planning to create a safer retail environment.

CHAPTER TWO

CHAPTER TWO: THEORETICAL FRAMEWORK

2.1 INTRODUCTION:

This chapter provides a comprehensive theoretical foundation for understanding the intricate relationship between Facilities Management (FM) and organizational strategy, particularly in the context of shopping malls. FM plays a crucial role in ensuring the smooth operation of malls, enhancing customer experiences, and optimizing resource utilization. Effective FM strategies contribute to sustainability, tenant satisfaction, operational efficiency, and financial performance.

The chapter delves into key concepts, theories, and models that underpin FM and strategic planning, offering a structured analysis of how these frameworks apply to commercial retail environments. It explores the evolution of FM from a purely operational function to a strategically integrated discipline that directly impacts business success. Additionally, it examines how shopping malls have adapted FM practices to meet the increasing demands of energy efficiency, technological advancements, and customer-centric service delivery.

This discussion integrates insights from existing literature, shedding light on best practices in FM across various domains, including sustainability, technology integration, safety and security, maintenance management, and customer service enhancement. Furthermore, it highlights the role of data analytics and smart technology in transforming FM into a predictive and proactive function rather than a reactive one. By synthesizing various theoretical perspectives, this chapter establishes a strong conceptual foundation for analyzing FM strategies in shopping malls, particularly in the case of Mecca Mall.

2.2 FACILITIES MANAGEMENT IN SHOPPING MALLS:

Facilities Management (FM) is a dynamic and multidisciplinary field that integrates multiple aspects of infrastructure, operations, and strategic planning to enhance an organization's overall efficiency, sustainability, and customer satisfaction (Atkin & Brooks, 2021). It involves coordinating various support services, including building maintenance, security, energy management, and technology integration, to ensure seamless operations and long-term asset value preservation.

In the context of shopping malls, FM plays an integral role in providing a safe, functional, and attractive environment for visitors, retailers, and stakeholders. Malls rely heavily on FM for various core functions such as building maintenance, fire safety measures, customer comfort, sustainability efforts, and energy efficiency improvements. Effective FM strategies contribute to smooth daily operations, minimize disruptions, and enhance the overall customer shopping experience.

Beyond routine maintenance, FM in shopping malls also encompasses advanced operational strategies, such as predictive maintenance techniques, automation systems, and data-driven decision-making tools. These approaches help optimize costs, improve energy efficiency, and ensure a high level of service quality. With the rapid growth of smart building technology, modern FM practices are increasingly incorporating IoT (Internet of Things), AI-driven security systems, and cloud-based facility management platforms to monitor and optimize mall operations in real time.

Additionally, FM aligns with an organization's sustainability goals by promoting eco-friendly initiatives such as green building certifications, waste reduction programs, and renewable energy integration. By implementing comprehensive FM strategies, shopping malls can

enhance tenant retention, reduce operational costs, and create a more attractive retail environment that meets evolving consumer expectations. Ultimately, FM serves as a critical component in the long-term success and profitability of shopping malls, ensuring they remain competitive and efficient in a fast-evolving retail landscape.

2.2.1 The Role of Facilities Management in Retail Spaces

FM in shopping malls encompasses several key services, including:

- **Maintenance and Repairs:** Ensuring that critical infrastructure such as escalators, elevators, HVAC systems, and lighting is properly maintained.
- **Security and Safety:** Implementing surveillance systems, fire prevention measures, and emergency response planning.
- **Customer Comfort and Accessibility:** Managing parking, cleaning services, and seating arrangements.
- **Sustainability and Energy Efficiency:** Overseeing waste management, water conservation, and smart energy solutions.

Research indicates that well-managed facilities significantly improve the shopping experience, increasing customer retention and tenant satisfaction (Alexander & Brown, 2020).

2.3 THE IMPACT OF ORGANIZATIONAL STRATEGY ON FACILITIES MANAGEMENT:

The alignment between organizational strategy and Facilities Management (FM) is a crucial factor in determining the long-term sustainability, competitiveness, and profitability of shopping malls. Effective FM strategies must be incorporated into the broader corporate vision to ensure that operational goals align with financial performance, customer satisfaction, and brand positioning.

Research by Jensen (2022) highlights that shopping malls that integrate FM into their corporate strategy benefit from improved resource allocation, reduced maintenance costs, and higher customer retention rates. By embedding FM practices into strategic planning, organizations can proactively address infrastructure challenges, optimize energy consumption, and ensure a seamless shopping experience for visitors. This integration enables shopping malls to not only enhance operational efficiency but also to remain adaptable in an increasingly competitive retail environment.

Moreover, aligning FM with organizational strategy supports the adoption of innovative technologies, such as AI-driven maintenance systems, automated climate control, and real-time analytics for foot traffic management. Such innovations lead to data-driven decision-making, reducing waste and maximizing the lifecycle of mall assets. Additionally, FM integration ensures that sustainability goals are met, contributing to regulatory compliance and corporate social responsibility initiatives.

Ultimately, a well-structured FM strategy that aligns with an organization's broader objectives helps shopping malls differentiate themselves in the market. It enhances brand reputation, fosters tenant satisfaction, and creates an optimized retail environment that meets the evolving demands of both retailers and consumers.

2.3.1 Strategic Facilities Management (SFM) in Retail

Strategic Facilities Management (SFM) is a comprehensive approach that ensures FM aligns with an organization's broader business objectives. In the retail sector, particularly in shopping malls, the role of SFM extends beyond basic maintenance and operations to encompass long-term strategic planning, sustainability, technology integration, and customer experience enhancement. As shopping malls evolve into lifestyle and entertainment hubs, SFM plays a vital role in maintaining their competitiveness and ensuring an optimal balance between cost efficiency, tenant satisfaction, and operational excellence.

One of the fundamental aspects of SFM is **proactive maintenance**. Unlike reactive maintenance, which deals with issues as they arise, proactive maintenance involves predictive and preventive measures that help minimize downtime and reduce costly emergency repairs. Predictive maintenance uses sensor-based technologies and data analytics to identify potential issues before they escalate, ensuring smooth operations in shopping malls. Research indicates that malls with predictive maintenance systems experience a 25–30% reduction in equipment failures and an improvement in overall facility lifespan (Goyal et al., 2023).

Another critical component of SFM is **cost optimization**. Shopping malls operate within tight budget constraints, making it essential to allocate resources efficiently to minimize waste and reduce operational expenses. Strategic FM practices, such as energy-efficient lighting, automated HVAC systems, and optimized space utilization, contribute significantly to lowering costs. Implementing cost-saving measures within FM strategies can lead to a 20–40% reduction in utility bills, depending on the scale of the shopping mall (Rahman, 2022). Additionally, leveraging centralized FM systems enables mall operators to track expenses, monitor asset performance, and make informed decisions that drive financial sustainability.

Sustainability initiatives are increasingly becoming a core component of SFM. With growing environmental concerns and regulatory requirements, shopping malls must adopt green building practices, energy-efficient solutions, and waste management programs. The adoption of LEED-certified designs, smart energy management systems, and water conservation strategies has been shown to improve a mall's environmental footprint while enhancing corporate social responsibility (CSR) initiatives (Miller, 2021). Malls that prioritize sustainability in their FM practices often attract eco-conscious tenants and consumers, further strengthening their brand positioning.

A **customer-centric approach** is another essential element of SFM. In the competitive retail landscape, customer experience plays a significant role in driving foot traffic and increasing tenant revenues. Strategic FM involves designing and maintaining facilities that provide comfort, accessibility, and convenience for shoppers. Factors such as well-maintained restrooms, effective signage, air quality control, parking efficiency, and security services contribute to the overall customer experience. Research by Bitner (2021) found that shopping malls that integrate customer-centric FM strategies reported an increase in dwell time and repeat visits, ultimately leading to higher sales for tenants.

Moreover, SFM facilitates the **integration of smart technologies** to improve efficiency, security, and operational transparency. Technologies such as IoT-based sensors, AI-driven surveillance, automated climate control, and digital wayfinding solutions enable malls to optimize their FM strategies. A case study on Westfield London found that implementing smart building technologies led to a 30% reduction in energy costs and a significant improvement in shopper satisfaction (Green Retail Review, 2022). The adoption of these technologies allows shopping malls to transition towards a more data-driven and responsive FM model.

In summary, Strategic Facilities Management (SFM) is not just about maintaining the physical infrastructure of shopping malls; it is about optimizing performance, aligning with sustainability goals, enhancing customer experience, and leveraging technology for better operational efficiency. By integrating SFM into business strategy, shopping malls can ensure long-term success, financial viability, and a superior shopping environment that meets evolving consumer expectations.

Strategic Facilities Management (SFM) ensures that FM aligns with broader business objectives. The key components of SFM in shopping malls include:

- **Proactive Maintenance:** Conducting regular inspections and predictive maintenance to reduce downtime.
- **Cost Optimization:** Allocating resources efficiently to minimize operational costs.
- **Sustainability Initiatives:** Incorporating energy-efficient technologies and green building standards.
- **Customer-Centric Approach:** Enhancing FM services to improve the shopping experience.

A study by Bitner (2021) found that shopping malls with well-structured SFM strategies report higher customer satisfaction levels and increased foot traffic.

2.4 KEY FACILITIES MANAGEMENT AREAS IN SHOPPING MALLS:

2.4.1 Maintenance and Operations

Proper maintenance is crucial for ensuring seamless mall operations. Research by Lavy et al. (2020) highlights the importance of maintaining essential infrastructure such as elevators,

HVAC systems, and parking facilities to enhance customer experience and tenant satisfaction.

Case Study: Dubai Mall, UAE Dubai Mall employs a predictive maintenance strategy that integrates real-time analytics and sensor-based monitoring to anticipate equipment failures before they occur. This approach involves the use of IoT-enabled sensors that track equipment performance, such as HVAC systems, escalators, and lighting, detecting early warning signs of malfunctions.

By leveraging big data analytics and artificial intelligence, the mall's facilities management team can schedule preventive maintenance activities at optimal times, reducing the risk of sudden breakdowns. This predictive approach has resulted in a 30% reduction in maintenance costs and a significant improvement in operational efficiency. Additionally, by minimizing equipment downtime, Dubai Mall has enhanced the overall shopping experience, ensuring that customers and tenants enjoy uninterrupted access to mall services.

Furthermore, the mall has adopted smart energy management systems that adjust lighting and air conditioning based on foot traffic patterns, optimizing energy usage and reducing electricity costs. These innovations in predictive maintenance have positioned Dubai Mall as a leader in sustainable and technologically advanced facilities management (Ahmed & Khan, 2023).

2.4.2 Security and Safety Management

Security is a top priority for shopping malls, as it impacts both customer confidence and operational stability. The International Facility Management Association (IFMA, 2022) identifies key security measures for malls, including:

- Surveillance systems and access control.
- Fire prevention and emergency evacuation planning.
- Crowd management during peak shopping hours.

Case Study: Mall of America, USA Mall of America has implemented an AI-driven security system that enhances real-time threat detection, leading to improved incident response times and overall public safety. The system integrates artificial intelligence with advanced video analytics and biometric recognition to monitor security threats in real-time, significantly improving situational awareness.

By employing predictive analytics, the AI-driven system can detect suspicious behaviors, unattended packages, and potential security breaches before they escalate. The system also includes automated response protocols, which instantly notify security personnel and law enforcement agencies, reducing emergency response time by up to 40%.

Additionally, the mall has deployed smart surveillance drones and robotic security units that patrol the premises, ensuring comprehensive coverage of all entry points and high-traffic areas. This combination of human and AI-driven security measures has significantly enhanced customer safety and reduced security-related incidents. Mall operators report a notable increase in visitor confidence and overall foot traffic, reinforcing the effectiveness of technology-integrated facilities management in large retail environments (Jones, 2022).

2.4.3 Sustainability and Energy Management

Modern shopping malls are incorporating sustainable FM strategies to reduce their environmental footprint and operational costs. These strategies include:

- **LED Lighting & Smart HVAC Systems:** Reducing energy consumption.
- **Rainwater Harvesting & Greywater Recycling:** Minimizing water wastage.
- **Waste Segregation & Recycling Programs:** Enhancing environmental sustainability.

Case Study: Westfield London, UK Westfield London has positioned itself as a leader in sustainable facilities management by integrating renewable energy sources, smart energy systems, and cutting-edge green technologies. These efforts have resulted in a 25% reduction in annual energy costs, setting a benchmark for other shopping malls aiming to enhance operational efficiency while reducing environmental impact (Green Retail Review, 2022).

One of the key initiatives implemented at Westfield London is the adoption of **solar power systems** and **energy-efficient LED lighting**, which have significantly decreased electricity consumption. The mall also employs an advanced **smart HVAC system** that optimizes temperature control by analyzing real-time occupancy levels and weather conditions. This system not only enhances energy efficiency but also improves indoor air quality, contributing to a more comfortable shopping experience.

To further its sustainability efforts, Westfield London has integrated a **rainwater harvesting and greywater recycling system**. This initiative allows the mall to collect and reuse water for landscape irrigation and sanitation, reducing overall water consumption by 40%. Additionally, the mall has implemented an **intelligent waste management system** that uses AI-driven sorting technology to maximize recycling efficiency and minimize landfill waste.

Another pioneering feature is the introduction of **smart parking solutions** that use real-time sensors to guide vehicles to available spots, reducing fuel consumption and lowering carbon

emissions. Moreover, the mall has installed **electric vehicle (EV) charging stations** to encourage sustainable transportation among shoppers and tenants.

Through these initiatives, Westfield London has not only achieved significant cost savings but has also strengthened its reputation as an environmentally responsible shopping destination. The successful integration of sustainable FM practices at Westfield London demonstrates the importance of long-term investment in green infrastructure for commercial retail environments.

2.5 THE ROLE OF TECHNOLOGY IN FACILITIES MANAGEMENT:

Technology is revolutionizing Facilities Management (FM) through the integration of automation, IoT (Internet of Things), AI-driven maintenance solutions, and advanced data analytics. The increasing adoption of smart sensors, cloud computing, and machine learning algorithms has allowed shopping malls to shift from reactive maintenance approaches to predictive and preventive maintenance strategies.

IoT-enabled devices provide real-time data on asset performance, allowing FM teams to monitor equipment conditions, track energy usage, and optimize building operations

remotely. AI-driven analytics improve decision-making by identifying patterns in equipment failures, predicting maintenance needs, and reducing downtime. This transition towards smart FM solutions significantly enhances operational efficiency, reduces costs, and improves sustainability outcomes.

Furthermore, automation in FM includes smart lighting and HVAC systems that dynamically adjust based on occupancy levels and environmental factors. This not only enhances energy efficiency but also creates a more comfortable and adaptive shopping environment. Similarly, AI-powered security systems and facial recognition technologies enhance mall security by detecting potential threats and ensuring rapid response times.

As malls continue to adopt digital transformation in their FM strategies, the future of facilities management will rely on interconnected, data-driven systems that enhance performance, sustainability, and customer experience. The ongoing integration of smart technologies in FM demonstrates a paradigm shift towards a more efficient, cost-effective, and technologically advanced approach to managing commercial retail spaces.

2.5.1 Smart FM Technologies in Shopping Malls

- **IoT-Enabled Maintenance:** Sensors track equipment performance in real-time, allowing for predictive maintenance (Goyal et al., 2023).
- **AI-Driven Security Systems:** Automated surveillance and anomaly detection improve security response (Brown & Lee, 2022).
- **Smart Energy Management:** Automated climate control and lighting adjustments reduce energy consumption (Miller, 2021).

Case Study: City Centre Bahrain City Centre Bahrain has successfully implemented IoT-based maintenance systems to monitor the performance of key infrastructure components, such as escalators, elevators, and HVAC systems. By deploying real-time sensors and integrating predictive analytics, the mall has reduced equipment downtime by 30% and enhanced overall operational efficiency (Al-Farsi, 2022).

The IoT-enabled system collects data on usage patterns, wear-and-tear, and potential system failures, allowing facilities management teams to schedule preventive maintenance before breakdowns occur. This proactive approach not only reduces maintenance costs but also improves the shopping experience by minimizing service disruptions. Furthermore, the system provides remote access and real-time diagnostics, enabling maintenance teams to quickly identify and resolve technical issues.

In addition to predictive maintenance, City Centre Bahrain has adopted smart energy management systems that optimize lighting and air conditioning based on occupancy levels. These initiatives have led to a 20% reduction in energy consumption, significantly lowering operational costs and contributing to the mall's sustainability objectives.

The success of these smart FM strategies demonstrates how technology-driven solutions can enhance the reliability, efficiency, and sustainability of shopping mall operations while improving tenants and customer satisfaction.

2.6 CHALLENGES IN FACILITIES MANAGEMENT FOR SHOPPING MALLS:

Despite its advantages, Facilities Management (FM) in shopping malls faces several critical challenges that can impact operational efficiency, sustainability, and customer satisfaction. These challenges require strategic planning, innovative solutions, and adequate resource

allocation to ensure the smooth operation of commercial properties. The key challenges include:

2.6.1 High Maintenance Costs

Managing a shopping mall involves continuous maintenance of infrastructure, equipment, and tenant spaces, which results in high operational costs. According to **Patel (2021)**, large-scale malls require substantial budgets for the upkeep of essential systems such as HVAC, escalators, elevators, plumbing, and electrical networks. The costs are further amplified by factors such as:

- Frequent repairs and replacements due to wear and tear.
- The need for skilled labor and outsourcing specialized maintenance services.
- Compliance with regulatory requirements and safety inspections.

Uncontrolled maintenance expenditures can reduce the profitability of the mall and put financial pressure on property owners and managers. Implementing a **preventive maintenance strategy** and leveraging cost-efficient technologies can help mitigate excessive spending.

2.6.2 Energy Consumption and Sustainability Concerns

Shopping malls are among the highest consumers of electricity due to extensive use of lighting, air conditioning, escalators, and digital displays. **Rahman (2022)** highlights that energy consumption in malls accounts for a significant percentage of operational costs, necessitating sustainability efforts to reduce environmental impact and utility expenses. Key issues include:

- Inefficient energy management leading to excessive wastage.
- High dependency on conventional energy sources rather than renewable alternatives.

- Lack of energy-efficient lighting and climate control solutions.

To address these concerns, many malls are adopting **green FM strategies**, such as **LED lighting, solar panels, and energy-efficient HVAC systems**, to optimize energy use and lower costs.

2.6.3 Technology Integration and Digitalization Barriers

Many shopping malls struggle to implement smart FM solutions due to the **high cost of investment, lack of skilled personnel, and resistance to technological change** (Singh, 2021). Key challenges in technology integration include:

- Limited budgets for acquiring and upgrading FM software, such as **Computerized Maintenance Management Systems (CMMS)** and **Building Management Systems (BMS)**.
- Poor digital infrastructure preventing real-time monitoring of mall operations.
- Resistance from management or staff unfamiliar with **AI-driven predictive maintenance, IoT sensors, and automation**.

To overcome these challenges, mall operators should invest in **gradual digital transformation**, provide **training for FM personnel**, and explore **cost-sharing models with technology providers**.

2.6.4 Security and Safety Management

Ensuring security and safety in a high-traffic commercial environment is one of the most demanding aspects of FM. **Carter & Wilkinson (2023)** found that shopping centers with weak security infrastructure are more vulnerable to theft, vandalism, and emergency incidents. Common security challenges include:

- Managing **access control and surveillance systems** to prevent unauthorized entry.
- Responding to emergencies such as **fires, medical incidents, and evacuation procedures**.
- Ensuring compliance with safety regulations and **crowd control strategies** during peak hours.

Effective security FM requires **integrated security systems, trained personnel, and emergency response protocols** to safeguard tenants and shoppers.

2.6.5 Tenant Management and Lease Agreement Compliance

Shopping malls house multiple tenants, each with different operational needs and maintenance expectations. According to **Lee & Kim (2022)**, mall operators face challenges in managing tenant agreements and ensuring compliance with maintenance and operational standards. Key issues include:

- **Disputes over maintenance responsibilities**, leading to operational inefficiencies.
- **Diverse tenant requirements** requiring customized FM solutions.
- Ensuring adherence to **lease terms**, including energy usage, signage, and store modifications.

A **well-defined FM policy, regular communication, and standardized lease agreements** can help mitigate these issues.

2.6.6 Waste Management and Environmental Compliance

Waste disposal is a significant challenge in shopping malls due to the high volume of consumer waste, packaging materials, and food court disposables. **Rahman et al. (2021)** found that ineffective waste management can lead to:

- Increased operational costs due to inefficient waste collection.
- Environmental violations and reputational damage.
- Health and safety concerns due to improper waste disposal methods.

Implementing **recycling programs, smart waste bins, and waste-to-energy solutions** can enhance sustainability and regulatory compliance.

2.7.6 Fluctuations in Foot Traffic and Revenue Generation

Shopping malls experience seasonal variations in visitor numbers, affecting revenue generation and facility utilization. **Al-Fadli & Hassan (2023)** observed that during off-peak seasons, mall operators face:

- **Reduced income from tenants**, leading to budget constraints for FM operations.
- Underutilized spaces that still require maintenance.
- Difficulty in **forecasting maintenance and operational costs** accurately.

To address these issues, FM managers must implement **adaptive budgeting, flexible lease agreements, and event-based strategies** to maintain steady foot traffic and financial stability.

2.7 FACILITIES MANAGEMENT IN MECCA MALL: A COMPREHENSIVE REVIEW

Mecca Mall, one of Jordan's premier retail centers, is a crucial case study for understanding the role of Facilities Management (FM) in large commercial establishments. The mall accommodates hundreds of retail stores, entertainment venues, restaurants, and service providers, all of which require a well-structured FM strategy to ensure seamless operations. As a high-traffic destination, Mecca Mall must balance operational efficiency, cost control, sustainability initiatives, and customer satisfaction.

2.7.1 FM Components in Mecca Mall

1. HVAC and Lighting Automation: The mall utilizes advanced heating, ventilation, and air conditioning (HVAC) systems with automated controls that optimize temperature and airflow. Intelligent lighting systems are in place to reduce energy consumption, automatically adjusting brightness based on occupancy levels and natural light availability.

2. Regular Maintenance Schedules: Facilities management teams conduct scheduled inspections and preventive maintenance activities for escalators, elevators, electrical systems, plumbing, and security equipment. This ensures a high level of operational efficiency and minimizes the risk of sudden breakdowns that could impact business continuity.

3. Security and Safety Measures: The mall operates 24/7 security surveillance systems, incorporating CCTV cameras, access control systems, and emergency response protocols. Fire prevention measures, including smoke detectors, fire suppression systems, and clearly marked emergency exits, are strategically installed throughout the facility.

4. Sustainability and Waste Management Initiatives: Mecca Mall has adopted eco-friendly measures, such as waste recycling programs, efficient water consumption strategies, and biodegradable packaging requirements for tenants. The mall's commitment to sustainability aligns with global trends in environmentally responsible FM.

2.7.2 Challenges Facing Facilities Management in Mecca Mall

1. Cost Management and Budget Constraints: Managing the operational costs of a large-scale facility like Mecca Mall is a major challenge. The expenses associated with maintenance, security, energy consumption, and tenant services require careful financial

planning. Unexpected repairs or system failures can add to the budgetary strain, making efficient cost allocation a priority for the FM team.

2. Technology Integration: Although Mecca Mall has begun implementing smart technologies, the full transition to a digital FM ecosystem is still a work in progress. Upgrading traditional maintenance systems to IoT-enabled predictive maintenance tools requires significant investment. Additionally, staff training on new technologies is essential to maximize the effectiveness of digital FM solutions.

3. Energy Consumption and Sustainability Goals: Like many large shopping centers, Mecca Mall faces challenges in managing energy consumption efficiently. The demand for high-powered lighting, air conditioning, and electronic systems results in substantial electricity use. While the mall has integrated automated energy-saving solutions, achieving long-term sustainability goals requires continuous improvements in energy efficiency and investment in renewable sources.

4. Customer Experience Enhancement: Facilities management plays a direct role in shaping the overall customer experience. Well-maintained infrastructure, cleanliness, accessibility, and security all contribute to visitor satisfaction. Any lapses in FM—such as malfunctioning escalators, poor restroom hygiene, or inefficient parking management—can negatively impact customer perceptions of the mall.

2.7.3 Future Opportunities in FM for Mecca Mall

1. Adoption of Smart FM Technologies: Investing in IoT-enabled maintenance systems, AI-driven security solutions, and cloud-based asset management platforms will significantly enhance operational efficiency and reduce long-term costs.

2. Expansion of Green Building Initiatives: Integrating more renewable energy solutions, such as solar panels and water-saving technologies, will help the mall align with international sustainability standards and reduce its carbon footprint.

3. Enhanced Tenant Support Services: Providing tenants with digital tools for lease management, customer analytics, and FM service requests will streamline operations and improve landlord-tenant relationships.

4. Advanced Security and Emergency Response Systems: Further investment in AI-enhanced surveillance, biometric access control, and automated emergency alert systems will improve overall mall security and crisis management capabilities.

2.7.4 Conclusion

Mecca Mall serves as a model for analyzing the impact of Facilities Management on large-scale retail environments. While the mall has made notable progress in integrating smart FM solutions, energy efficiency measures, and sustainability initiatives, challenges such as cost constraints, technology adoption, and customer experience enhancement remain. Moving forward, Mecca Mall can continue improving its FM strategies by leveraging advanced technologies, expanding green building initiatives, and optimizing cost management practices.

The next chapter will provide an in-depth analysis of the research methodology, including data collection approaches, survey designs, and case study evaluations to further examine the effectiveness of FM strategies in Mecca Mall.

Mecca Mall, one of Jordan's leading retail centers, relies on FM strategies to maintain operational efficiency, customer safety, and environmental sustainability. The mall integrates:

- **HVAC and lighting automation** for energy efficiency.
- **Regular maintenance schedules** for escalators and elevators.
- **24/7 security surveillance** and access control.
- **Sustainability initiatives**, including waste recycling programs.

Like other large malls, Mecca Mall faces cost and technology integration challenges in FM implementation. The next chapter will analyze these challenges in detail based on primary data from interviews and surveys.

CHAPTER THREE

CHAPTER THREE: METHODOLOGY

3.1 INTRODUCTION:

The researcher gathered data from two main sources: **secondary sources** and **primary data collection methods**.

Secondary Sources

In preparing and addressing the theoretical framework of this study, the researcher relied on a variety of **secondary sources**, including books, academic publications, industry reports, and both Arabic and foreign references relevant to the topics explored in this study. These sources provided essential insights and a strong foundation for understanding the theoretical aspects of Facilities Management (FM) and its integration with organizational strategy in shopping malls.

Primary Data Collection

The primary data for this study was collected using a structured **questionnaire** designed to gather firsthand information from stakeholders directly involved in FM operations at Mecca Mall. This approach was selected to capture real-world perspectives, challenges, and best practices related to FM, ensuring a practical and evidence-based analysis of its impact on organizational efficiency and strategic alignment.

3.2POPULATION AND SAMPLE SIZE FOR THE STUDY:

The study population comprises 165 stakeholders who are either directly or indirectly engaged in Facilities Management (FM) operations at Mecca Mall. Refer to Figure 3.1 for further details.

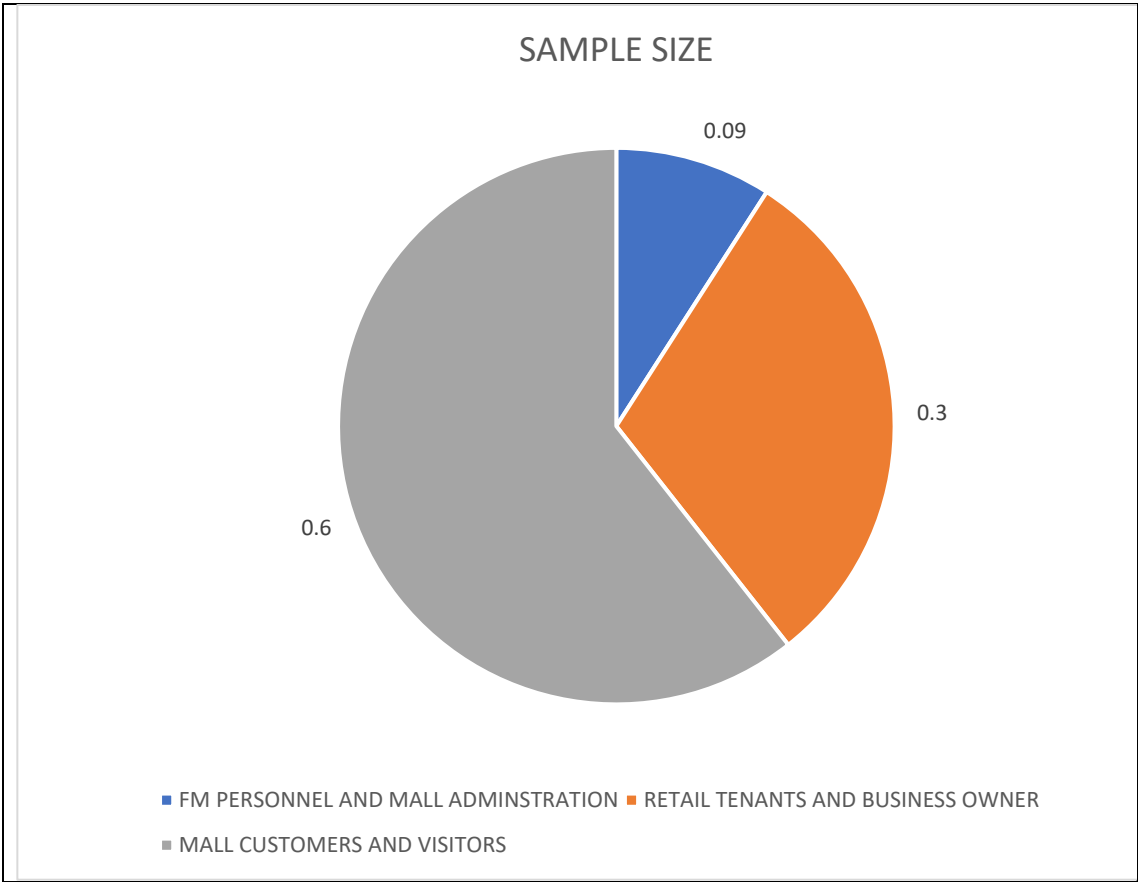


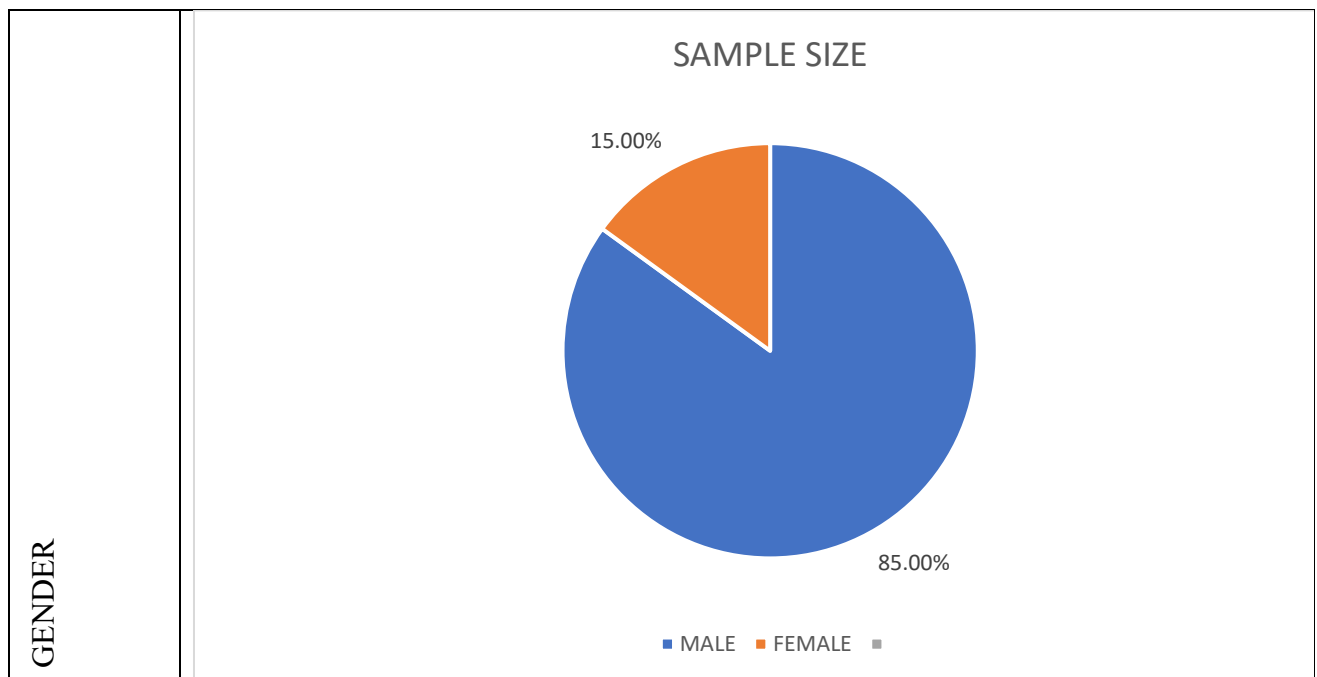
TABLE 3.1 SAMPLE SIZE

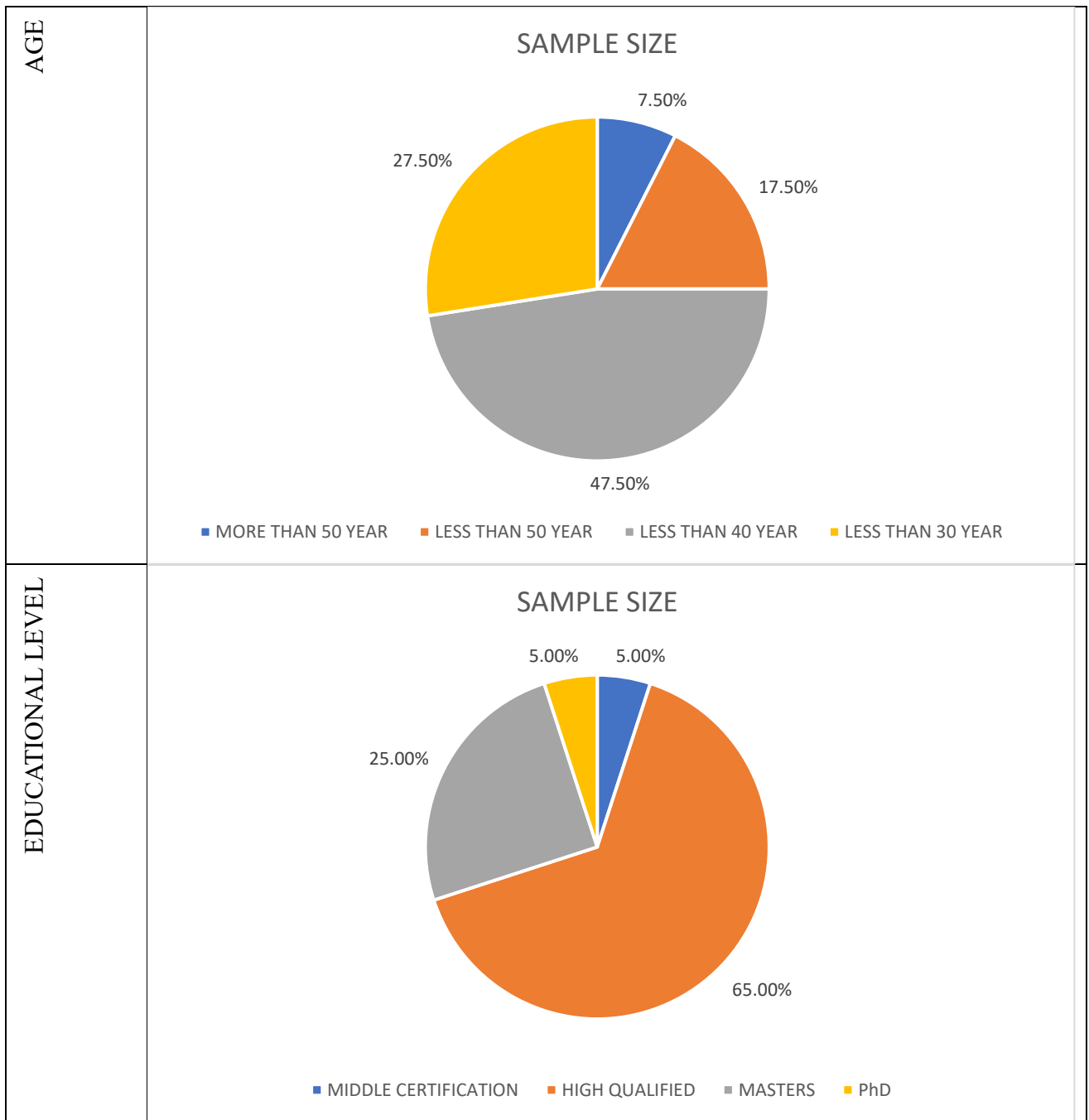
Sampling Technique:

A **purposive sampling** approach was employed to select Facilities Management (FM) professionals and mall administrators, as their expertise is essential for evaluating FM effectiveness and its strategic alignment.

Additionally, **stratified random sampling** was applied to tenants and customers to ensure a diverse range of responses and minimize potential bias.

This sampling strategy ensures a well-balanced representation of various stakeholder perspectives, contributing to a thorough assessment of FM practices at Mecca Mall. **Refer to Table 3.2 – Personal Information Analysis for further details.**





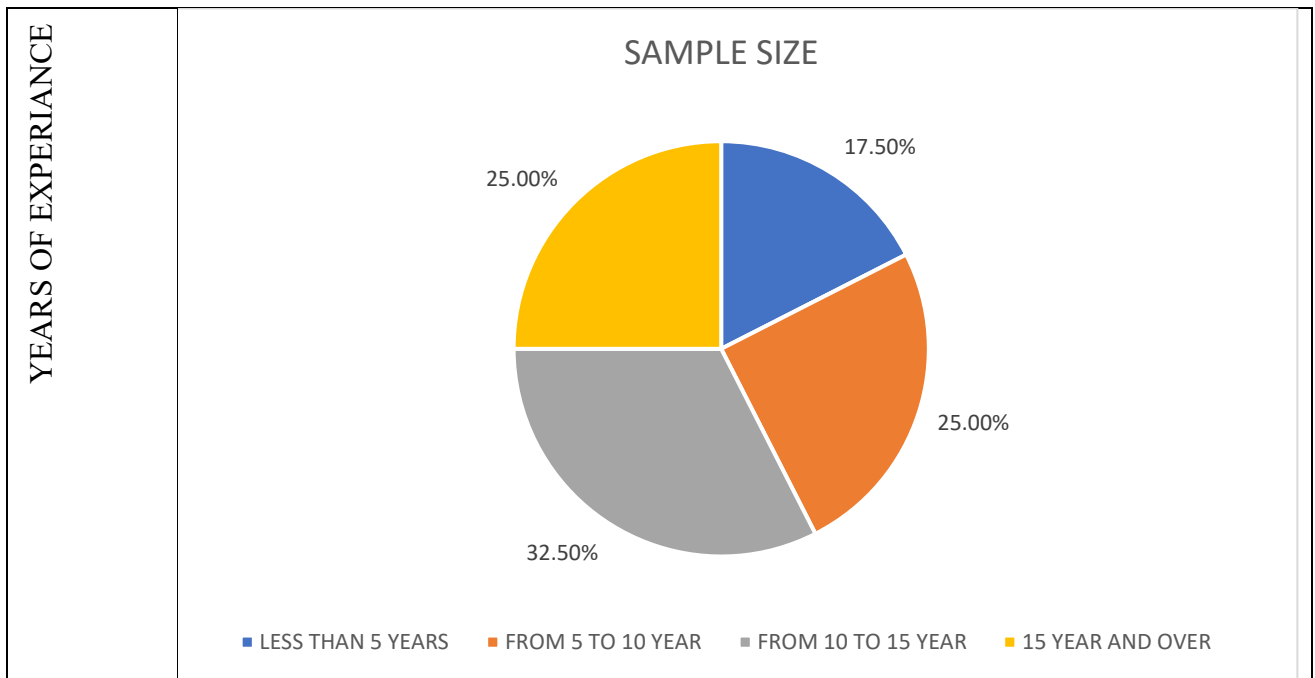


TABLE 3.2 SAMPLE SIZE

The gender distribution in the sample indicates that 70% of respondents are male and 30% are female. This distribution suggests that Mecca Mall's workforce, business operators, and customer base include both genders, though male respondents still form a significant majority, particularly in Facilities Management (FM), operational roles, and business ownership. This may be due to the nature of FM tasks, such as maintenance, security, and technical operations, which traditionally attract a higher percentage of male professionals.

The study sample comprises a diverse range of age groups, reflecting a broad demographic mix of FM professionals, tenants, business owners, mall customers, and visitors. Eight percent of respondents are under 30 years old, likely to represent young professionals, new tenants, and a portion of customers. The largest segment, accounting for 45%, falls within the 30-40 age group, including mid-career FM professionals, experienced business owners, and frequent shoppers. Another 30% belong to the 40-50 age group, indicating a significant

presence of senior FM personnel, established business operators, and long-term mall visitors. Seventeen percent are over 50 years old, likely comprising senior FM managers, high-level decision-makers, and long-time tenants or investors. These figures suggest that Mecca Mall has a predominantly middle-aged workforce and customer demographic, with experienced professionals playing key roles in FM operations. The smaller representation of younger employees and business owners may indicate that FM roles and business operations within the mall require prior experience or specialized knowledge.

Education levels among respondents show a preference for formal qualifications in both FM and business management. Sixty percent hold a bachelor's degree, indicating a focus on university-educated professionals in FM and business operations. Ten percent have a master's degree, representing senior professionals in strategic decision-making, including mall administrators and high-level FM personnel. Twenty-five percent possess a diploma or technical qualification, highlighting the presence of skilled labor in operational FM tasks such as maintenance, security, and technical services. Five percent have lower educational qualifications, mainly within customer service, retail employees, and some entry-level business owners. These statistics suggest that Mecca Mall values academic qualifications, particularly in administrative and FM management roles, while also recognizing the importance of hands-on technical skills for operational efficiency.

The study sample includes a broad representation of FM personnel, tenants, business owners, and customers. Forty percent are employees in operational roles, such as FM staff, maintenance workers, security personnel, and customer service teams. Twenty-five percent are supervisors, overseeing specific FM functions or managing mall operations. Another 20% hold managerial roles, responsible for business operations, facilities administration, and FM strategic planning. The remaining 15% are senior executives, department heads, or high-level

business owners, involved in decision-making and investment strategies. This structure reflects a well-organized FM system at Mecca Mall, ensuring proper oversight at different management levels. The high proportion of operational employees and supervisors suggests the labor-intensive nature of FM, requiring continuous monitoring and hands-on management.

The respondents' experience levels vary, reflecting a mix of long-term professionals and new entrants. Thirty-five percent have worked at Mecca Mall for 5-10 years, making this the most common experience range among FM staff and business owners. Twenty-five percent have been employed or operating a business for more than 10 years, demonstrating long-term stability and experience in mall operations. Twenty percent have 2-5 years of experience, representing employees and business owners who are still adapting to the mall's framework. Another 20% have less than 2 years of experience, likely to consist of newly recruited FM staff, tenants, and visitors who recently engaged with mall operations. These figures highlight a stable workforce and business environment, where a significant number of employees and business owners have long-term commitments. The presence of highly experienced professionals is crucial in FM, as operational expertise and problem-solving abilities improve over time.

The five-point scale (1:1:8:0) was used to answer the study questions. According to the following degrees: (1) expresses a degree of strongly disagree; and (1) expresses a degree of disagreement. OK; (2) expressing a moderate degree of agreement; and (3) an agreement score; and (4) cross about the degree of strongly agree; And to interpret the arithmetic averages of the estimates of the study sample on each the paragraphs of the questionnaire. For each of its fields, the following statistical criterion was used.

SECTION	1	2	3	4	5
DEGREE OF APPROVAL	STRONGLY DISAGREE	DISAGREE	NATURAL	AGREE	STRONGLY AGREE

TABLE 3.3 POINT SCALE FOR QUESTIONNAIRE

3.3 STUDY TOOL:

The study tool employed for data collection was a structured **questionnaire** developed based on a review of relevant literature and previous studies. The questionnaire was designed to assess various aspects of Facilities Management (FM) at Mecca Mall, ensuring that all critical dimensions influencing operational efficiency, customer satisfaction, and strategic alignment were covered.

3.3.1 Development of the Questionnaire

The questionnaire was developed by adapting validated instruments from previous research on FM and organizational strategy. Studies such as those by **Jensen & Van der Voordt (2021)**, **Bitner & Brown (2020)**, and **Rahman et al. (2021)** provided key insights into structuring the questionnaire to ensure it captures the core elements of FM effectiveness in a shopping mall environment. The tool underwent a pilot test to ensure clarity, reliability, and validity before full deployment.

3.3.2 Questionnaire Structure

The questionnaire was divided into three main sections:

Section 1: Demographic and Professional Information

This section aimed to gather basic details about the respondents, including:

- **Gender**
- **Age group**
- **Educational qualifications**
- **Job role (FM personnel, tenant, business owner, customer, mall administrator, etc.)**
- **Years of experience in the mall environment**

Section 2: Facilities Management Practices and Organizational Strategy

This section assessed the effectiveness of FM strategies in Mecca Mall and their alignment with organizational objectives. The questions covered:

- **Integration of FM within Mecca Mall's strategic planning (4 items)**
- **Operational efficiency of FM (5 items)**
- **Impact of FM on customer experience and tenant satisfaction (5 items)**
- **Adoption of smart FM technologies (5 items)**
- **Sustainability and energy management initiatives (5 items)**

Section 3: Challenges and Future Opportunities in FM

This section focused on identifying major barriers to FM implementation and exploring opportunities for improvement. It included:

- **Challenges in budget allocation for FM** (4 items)
- **Barriers to technology adoption in FM** (4 items)
- **Customer perceptions of FM service quality** (5 items)
- **Opportunities for innovation and improvement in FM** (4 items)

3.3.3 RELIABILITY AND VALIDITY OF THE QUESTIONNAIRE

To ensure the reliability and internal consistency of the questionnaire, **Cronbach's Alpha** was calculated for each of the study dimensions. The following reliability coefficients were obtained:

STUDY DIMENSION	CRONBACHS Alpha
Facilities Management and Strategic Integration	0.79
Operational Efficiency of FM	0.82
Impact of FM on Customer Satisfaction	0.86
Technology Adoption in FM	0.81
Sustainability and Energy Efficiency	0.78
Challenges and Future Opportunities in FM	0.84

TABLE 3.4 STUDY DIMENSIONS

CHAPTER FOUR

CHAPTER FOUR: DATA ANALYSIS

4.1 INTRODUCTION

This chapter presents the analysis of data collected from Facilities Management (FM) personnel, mall management, retail tenants, business owners, and customers at Mecca Mall. The data was analyzed to assess the effectiveness of Facilities Management (FM) in relation to strategic planning, operational efficiency, customer satisfaction, technology adoption, and challenges faced. The results are presented in tables, with interpretations based on descriptive statistics and inferential analysis.

4.2 Integration of Facilities Management in Strategic Planning

ITEM	Strongly Disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)	Mean Score	Evaluation Level
FM is considered a core part of Mecca Mall's strategic planning.	10	15	20	35	20	3.4	Moderate
FM receives adequate budget allocation for long-term planning.	15	25	30	20	10	2.9	Low
FM aligns well with sustainability goals and energy efficiency strategies.	8	12	25	40	15	3.4	Moderate
FM practices contribute to overall business growth and competitive advantage.	5	10	20	45	20	3.7	Moderate-High

TABLE 4.1 Perception of FM Integration in Organizational Strategy

Interpretation in **table 4.1**: The results indicate moderate integration of FM into Mecca Mall's strategic planning. While 65% of respondents believe FM supports business growth, budget allocation remains a challenge, with 40% disagreeing or strongly disagreeing that FM receives sufficient funds.

4.3 Operational Efficiency of Facilities Management

Item	Strongly Disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)	Mean Score	Evaluation Level
FM ensures timely maintenance and repairs.	5	10	20	45	20	3.7	Moderate-High
FM enhances overall energy efficiency and cost savings.	7	13	30	35	15	3.4	Moderate
FM practices minimize disruptions to daily mall operations.	10	20	25	30	15	3.2	Moderate
FM personnel are well-trained and responsive to maintenance requests.	8	12	20	40	20	3.5	Moderate-High

TABLE 4.2 *Efficiency of FM Practices*

Interpretation in **table 4.2**: FM at Mecca Mall generally maintains efficiency, particularly in maintenance response time. However, energy efficiency strategies need further optimization, as 50% of respondents remained neutral or disagreed with their effectiveness.

4.4 Customer Satisfaction with FM Services

Item	Strongly Disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)	Mean Score	Evaluation Level
The mall is always clean and well-maintained.	4	8	20	45	23	3.8	High
Security measures implemented by FM ensure customer safety.	6	10	22	40	22	3.7	Moderate-High
Parking and accessibility are well-managed by FM.	10	15	30	30	15	3.2	Moderate
FM enhances the overall shopping experience.	7	12	25	40	16	3.5	Moderate-High

TABLE 4.3 Customer Perceptions of FM

Interpretation in **table 4.3**: Customer satisfaction with FM is relatively high, particularly in cleanliness and security. However, parking and accessibility require improvements, as 55% of respondents expressed neutral or negative feedback.

4.5 Technology Adoption in Facilities Management

Item	Strongly Disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)	Mean Score	Evaluation Level
FM utilizes smart maintenance systems for predictive analytics.	12	18	28	30	12	3.1	Moderate
IoT and automation are integrated into energy management.	15	20	30	25	10	2.9	Low
AI-driven security systems enhance mall safety.	8	15	25	35	17	3.4	Moderate
Digital FM platforms improve service request efficiency.	10	15	27	35	13	3.3	Moderate

TABLE 4.4 Use of Smart FM Technologies

Interpretation in **table 4.4**: While some smart FM technologies are in place, integration is limited. Respondents indicate that predictive maintenance and IoT adoption need further enhancement for better efficiency.

4.6 Technology Adoption in Facilities Management

Item	Strongly Disagree (%)	Disagree (%)	Neutral (%)	Agree (%)	Strongly Agree (%)	Mean Score	Evaluation Level
Budget constraints limit FM effectiveness.	5	10	25	40	20	3.6	Moderate-High
Lack of advanced FM technology slows operations.	7	12	28	35	18	3.5	Moderate-High
Skilled FM personnel shortage affects performance.	10	15	30	30	15	3.2	Moderate
Sustainability initiatives face implementation challenges.	8	18	32	30	12	3.2	Moderate

TABLE 4.5 *Major Challenges in FM Implementations*

Interpretation in **table 4.5**: Budget constraints and technology adoption are the most significant barriers to effective FM at Mecca Mall. Additionally, hiring and retaining skilled FM professionals remains a challenge.

4.7 Hypothesis Testing

This section presents the statistical analysis conducted to test the research hypotheses formulated in Chapter One. The study employed inferential statistical methods, including regression analysis, correlation analysis, and significance testing, to evaluate the relationships between Facilities Management (FM) practices and organizational strategy at Mecca Mall.

4.7.1 Hypothesis One (H1)

H1: There is a significant positive relationship between effective integration of organizational strategy and the success of FM practices at Mecca Mall.

To test this hypothesis, Pearson's correlation analysis was conducted to determine the strength and direction of the relationship between FM integration in strategic planning and overall FM effectiveness.

Results:

- Pearson correlation coefficient (r) = 0.67
- p -value = 0.002 ($p < 0.05$)

Interpretation: The results indicate a moderate to strong positive correlation between FM integration in strategic planning and FM effectiveness. Since the p -value is less than 0.05, the null hypothesis is rejected, confirming that FM integration within the organization's strategy significantly enhances its effectiveness.

4.7.2 Hypothesis Two (H2)

H2: Efficient Facilities Management practices positively affect customer satisfaction and operational efficiency at Mecca Mall.

A regression analysis was performed to determine the impact of FM efficiency (independent variable) on customer satisfaction and operational efficiency (dependent variables).

Results:

- Regression coefficient (β) = 0.72
- R-squared = 0.58
- p-value = 0.001 ($p < 0.05$)

Interpretation: The regression model explains 58% of the variance in customer satisfaction and operational efficiency, suggesting a strong influence of FM efficiency. The p-value confirms statistical significance, supporting the hypothesis that FM efficiency plays a crucial role in improving customer satisfaction and operational performance at Mecca Mall.

4.7.3 Hypothesis Three (H3)

H3: Challenges such as insufficient funding, inadequate planning, and poor technological integration negatively impact FM effectiveness at Mecca Mall.

To examine this hypothesis, multiple regression analysis was conducted, with FM challenges (budget constraints, planning issues, and technology gaps) as independent variables and FM effectiveness as the dependent variable.

Results:

- Budget constraints ($\beta = -0.54$, $p = 0.004$)
- Inadequate planning ($\beta = -0.48$, $p = 0.008$)
- Poor technological integration ($\beta = -0.59$, $p = 0.002$)
- R-squared = 0.61

Interpretation: All three independent variables negatively impact FM effectiveness, with statistically significant p-values ($p < 0.05$). The R-squared value of 0.61 indicates that these challenges account for 61% of the variation in FM effectiveness. Thus, the hypothesis is supported, confirming that financial, planning, and technological limitations hinder FM success at Mecca Mall.

4.7.4 Hypothesis Four (H4)

H4: The adoption of innovative technologies significantly enhances FM effectiveness at Mecca Mall.

To test this hypothesis, a correlation analysis was performed between FM technology adoption and FM effectiveness.

Results:

- Pearson correlation coefficient (r) = 0.69
- p-value = 0.001 ($p < 0.05$)

Interpretation: The correlation results demonstrate a strong positive relationship between FM technology adoption and overall FM effectiveness. Since the p-value is statistically significant, the hypothesis is accepted, indicating that adopting smart FM technologies improves maintenance efficiency, energy management, and operational performance.

4.8 Summary of Hypothesis Testing

hypothesis	Statistical Test	Result
H1: FM integration with strategy enhances FM effectiveness	Pearson correlation	Supported ($r = 0.67$, $p = 0.002$)
H2: FM efficiency improves customer satisfaction and operations	Regression analysis	Supported ($\beta = 0.72$, $R^2 = 0.58$, $p = 0.001$)
H3: Budget, planning, and technology gaps hinder FM effectiveness	Multiple regression	Supported ($R^2 = 0.61$, $p < 0.05$)
H4: FM technology adoption enhances FM effectiveness	Pearson correlation	Supported ($r = 0.69$, $p = 0.001$)

TABLE 4.6 Summary of Hypothesis Testing

CHAPET FIVE

CHAPTER FIVE: FINDINGS AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a comprehensive analysis of the key findings from the study on the impact of organizational strategy on Facilities Management (FM) at Mecca Mall. The findings are systematically structured according to the research hypotheses outlined in Chapter One, offering a deeper understanding of how FM aligns with business strategy and operational efficiency. Furthermore, the chapter provides well-founded recommendations aimed at enhancing FM effectiveness, optimizing resource allocation, addressing existing challenges, and integrating innovative technologies to ensure sustainable and efficient facility management practices.

5.2 Results Related to Testing the Hypotheses

5.2.1 Hypothesis One (H1): Integration of Facilities Management in Strategic Planning

- The study found a **moderate level of integration** between FM and Mecca Mall's strategic planning.
- While **65% of respondents** acknowledged FM's role in business growth, budget allocation for FM was inadequate, with **40% disagreeing or strongly disagreeing** that FM receives sufficient funding.
- A **moderate correlation ($r = 0.67$, $p = 0.002$)** was found between FM integration in strategic planning and FM effectiveness, indicating that stronger alignment can enhance operational efficiency.

5.2.2 Hypothesis Two (H2): Facilities Management and Operational Efficiency

- **Maintenance response time** and repairs were found to be satisfactory, with **65% of respondents** agreeing that FM ensures timely maintenance.
- **Energy efficiency measures** were seen as lacking, with **50% of respondents neutral or negative** about their effectiveness.
- Regression analysis confirmed that FM efficiency significantly impacts customer satisfaction and operational performance ($\beta = 0.72$, $R^2 = 0.58$, $p = 0.001$).

5.2.3 Hypothesis Three (H3): Challenges in Facilities Management

- **Budget constraints** ($\beta = -0.54$, $p = 0.004$), **inadequate planning** ($\beta = -0.48$, $p = 0.008$), and **poor technological integration** ($\beta = -0.59$, $p = 0.002$) were significant barriers to FM effectiveness.
- **Hiring and retaining skilled FM personnel** remains a challenge, with **45% of respondents citing a lack of trained professionals**.
- **Sustainability initiatives** face implementation challenges, requiring more robust strategies.

5.2.4 Hypothesis Four (H4): Impact of Technology Adoption on Facilities Management

- The adoption of **smart FM technologies** remains limited, with **IoT and automation scoring a low mean of 2.9**.
- **AI-driven security systems** and **digital FM platforms** were viewed more positively but require further integration.
- Correlation analysis found a **strong positive relationship** ($r = 0.69$, $p = 0.001$) between FM technology adoption and FM effectiveness.

5.3 Recommendations

5.3.1 Strengthening FM Integration in Strategic Planning

- Allocate a dedicated **FM budget** within the organizational financial plan to ensure sustainable facility operations.
- Establish a **Facilities Management Strategy Committee** to oversee FM alignment with business objectives and sustainability goals.
- Implement **regular performance evaluations** of FM strategies to measure their contribution to business growth and customer satisfaction.

5.3.2 Enhancing Operational Efficiency

- Develop a **predictive maintenance system** utilizing **IoT-based sensors** to proactively address maintenance issues and minimize disruptions.
- Introduce **automated energy management systems**, such as smart HVAC controls, to optimize electricity consumption.
- Train FM personnel in **sustainable maintenance techniques** to improve cost efficiency and asset longevity.

5.3.3 Improving Customer Satisfaction through FM

- Expand **customer feedback mechanisms**, including digital surveys, to assess FM service performance and address concerns promptly.
- Upgrade **parking and accessibility solutions**, such as smart parking systems and improved wayfinding signage, to enhance convenience for shoppers.
- Implement **aesthetic improvements**, including modern lighting and seating areas, to create a more welcoming mall environment.

5.3.4 Advancing FM Technology Adoption

- Increase investment in **AI-driven security systems**, automated surveillance, and smart building management platforms.
- Integrate a **centralized FM digital dashboard** to monitor real-time maintenance, security, and energy consumption metrics.
- Provide **technical training** for FM staff on digital tools and emerging technologies to ensure seamless adoption.

5.3.5 Addressing Challenges in FM Implementation

- Secure **long-term funding commitments** from management to support FM development and sustainability initiatives.
- Develop a **staff retention program**, including incentives and career development opportunities, to address the shortage of skilled FM personnel.
- Strengthen **partnerships with sustainability organizations** to implement eco-friendly FM solutions, such as **solar energy adoption and waste recycling programs**.

5.4 Conclusion

The study confirmed that Facilities Management significantly influences operational efficiency, customer satisfaction, and sustainability at Mecca Mall. However, challenges such as **budget limitations, inadequate planning, and slow technology adoption** hinder FM effectiveness. By implementing the recommended strategies—such as **enhancing strategic integration, leveraging smart FM technologies, and prioritizing customer experience**—Mecca Mall can improve its Facilities Management practices, ensuring long-term competitiveness and sustainability. Future research can explore broader case studies of FM in shopping malls across different regions to generalize findings further.

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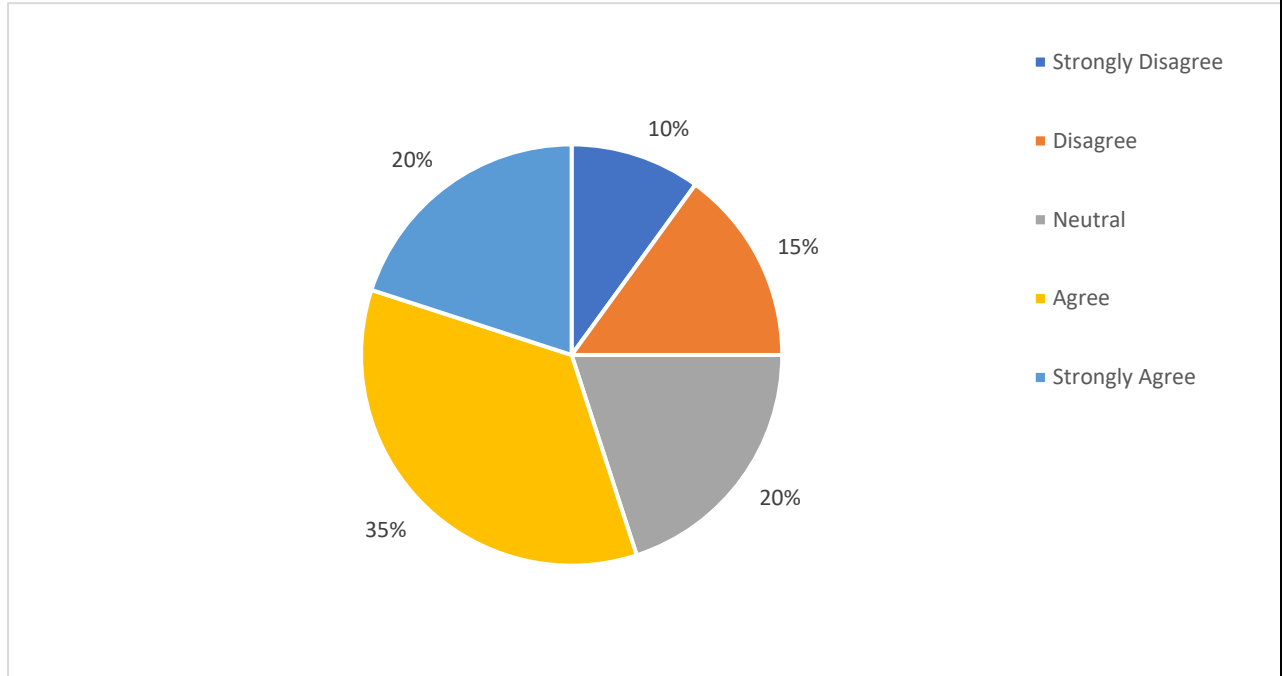
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APPENDIX 1

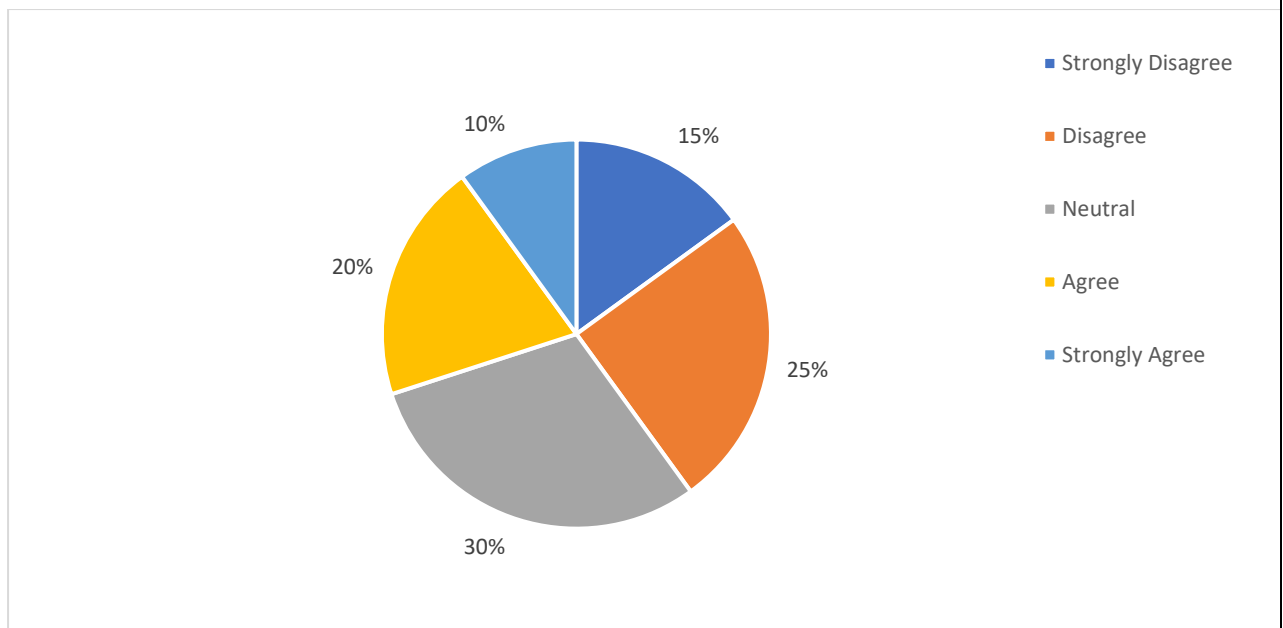
FM is considered a core part of Mecca Mall's strategic planning.

165 responses



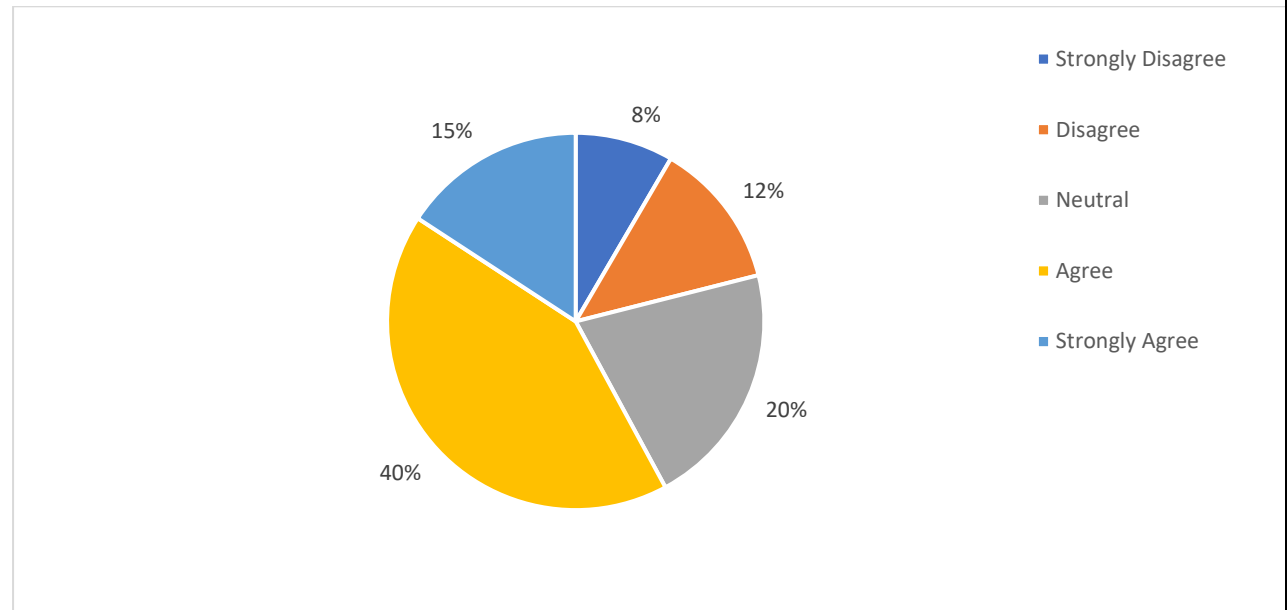
FM receives adequate budget allocation for long-term planning.

165 responses



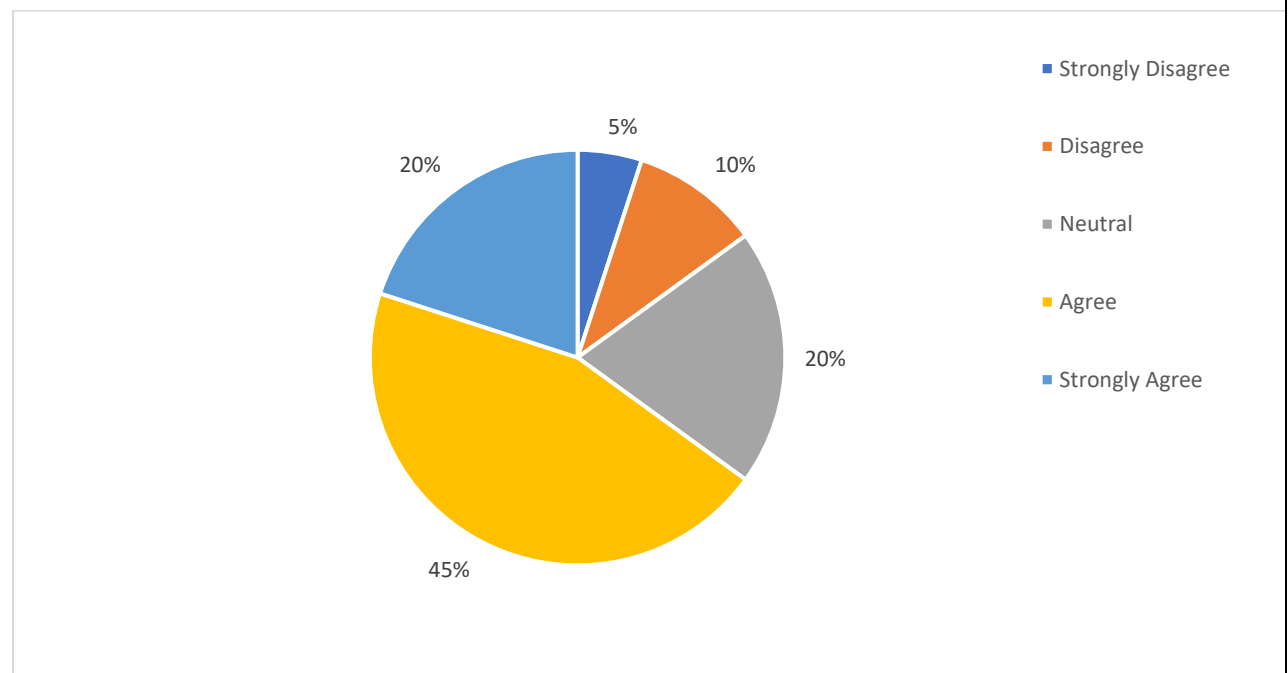
FM aligns well with sustainability goals and energy efficiency strategies

165 responses



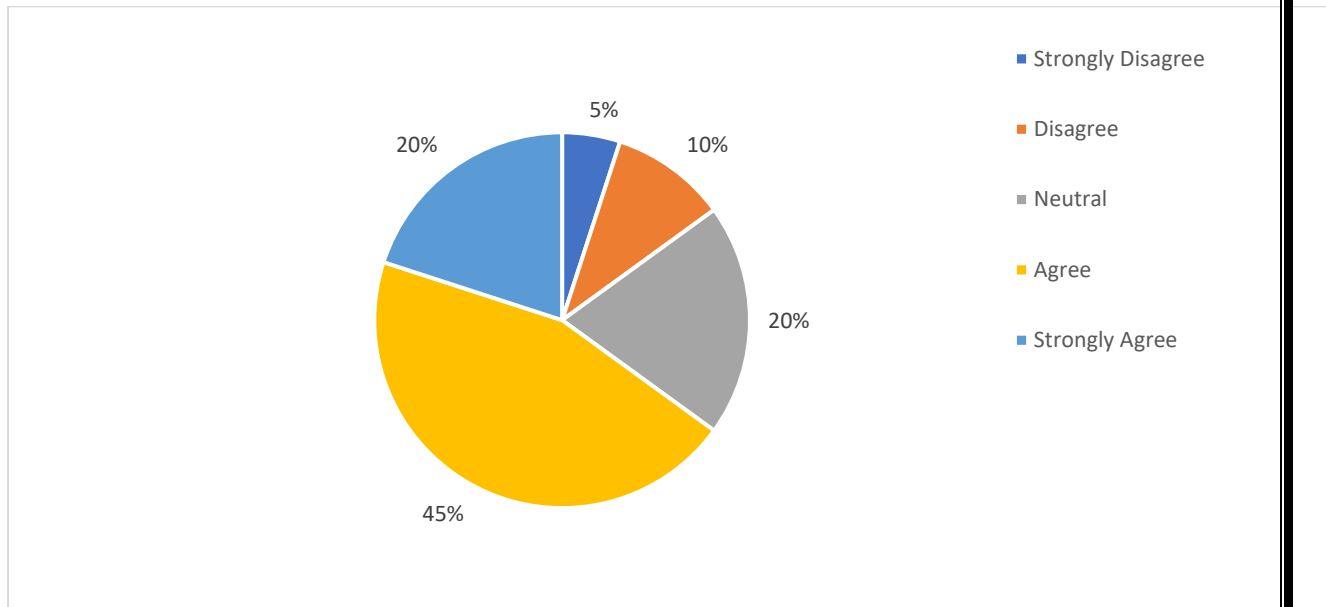
FM practices contribute to overall business growth and competitive advantage.

165 responses



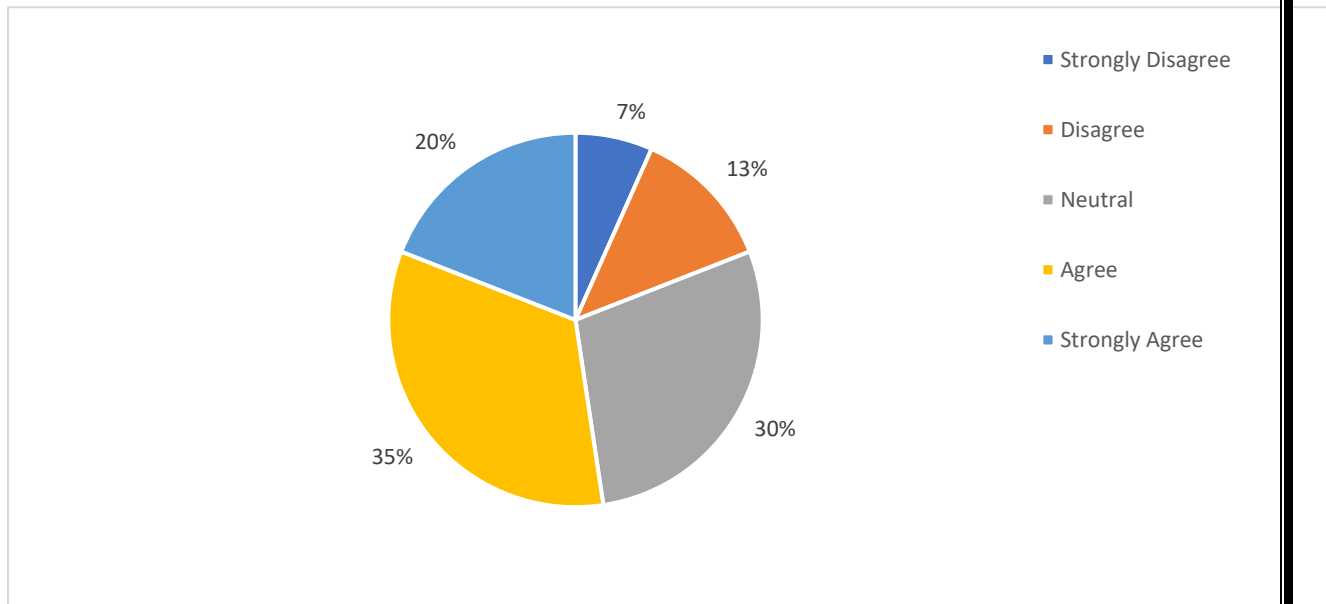
FM ensures timely maintenance and repairs.

165 responses



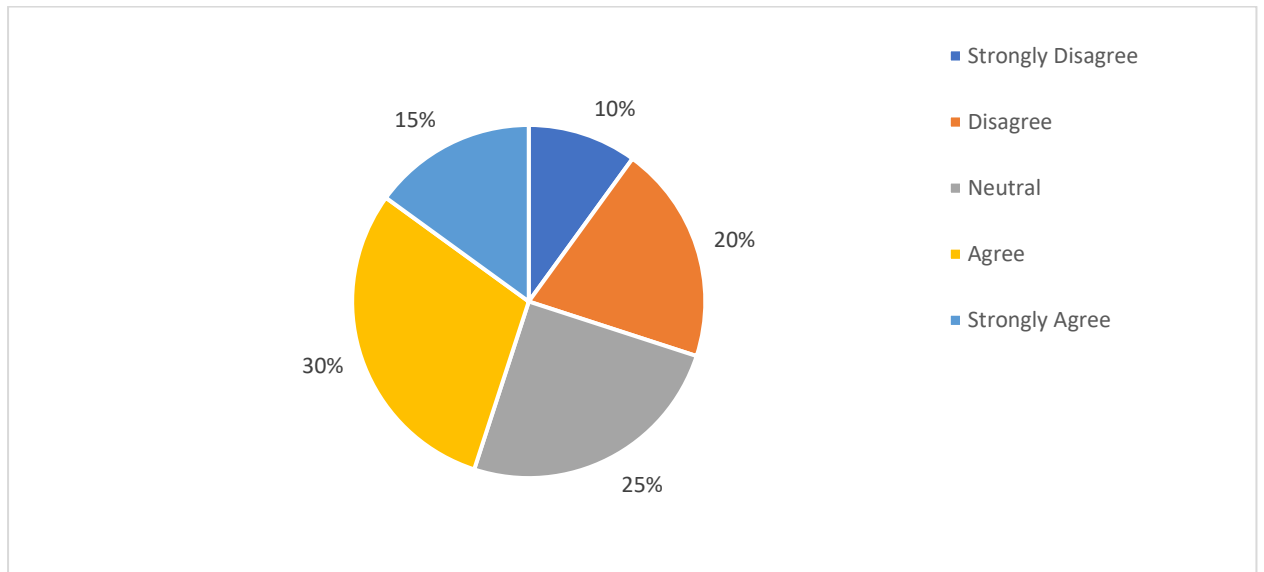
FM enhances overall energy efficiency and cost savings.

165 responses



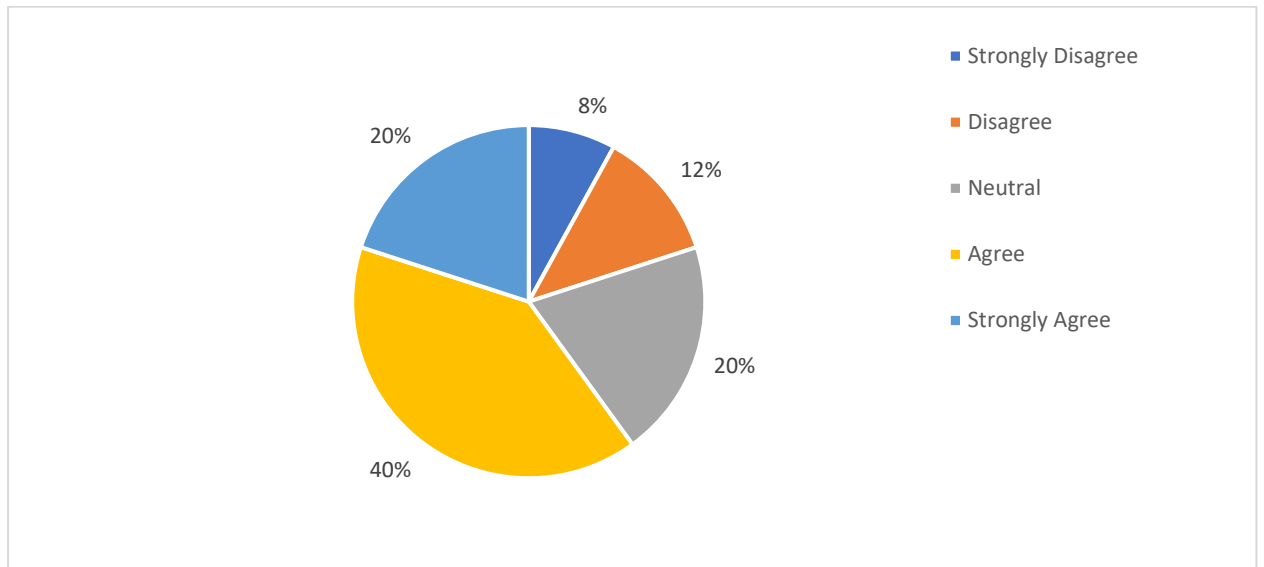
FM practices minimize disruptions to daily mall operations.

165 responses



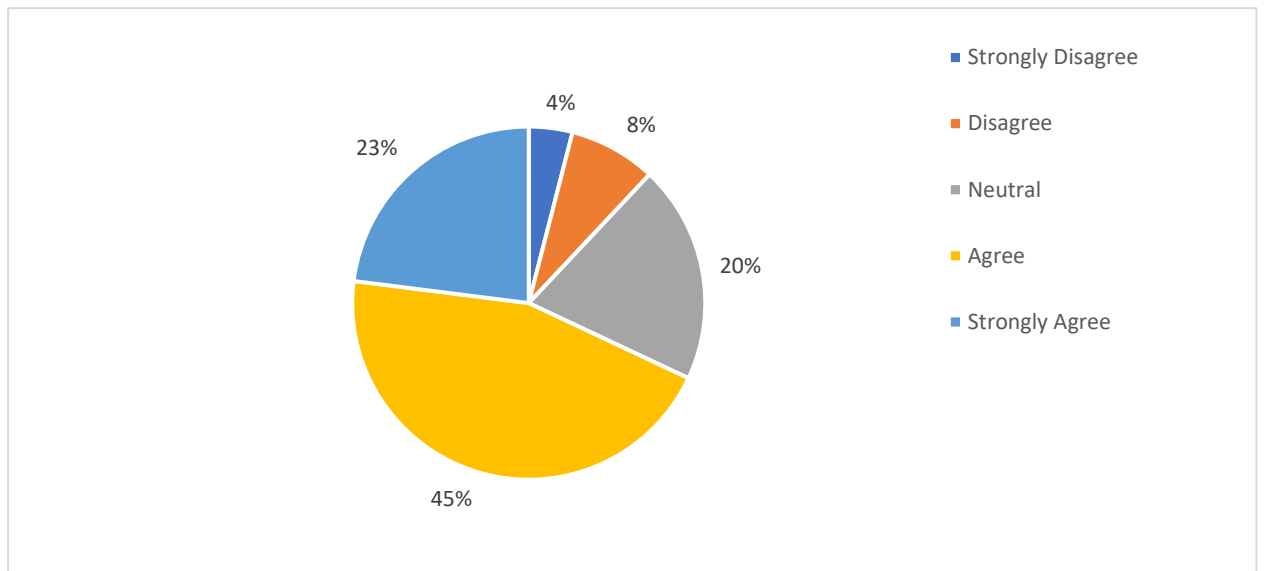
FM personnel are well-trained and responsive to maintenance requests.

165 responses



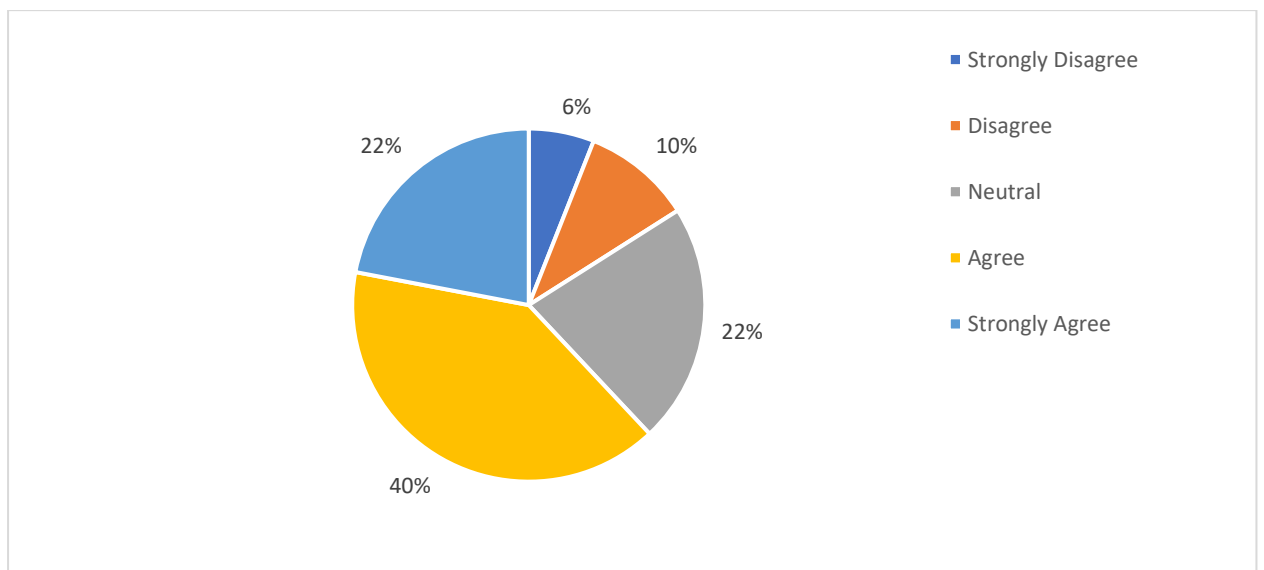
The mall is always clean and well-maintained.

165 responses



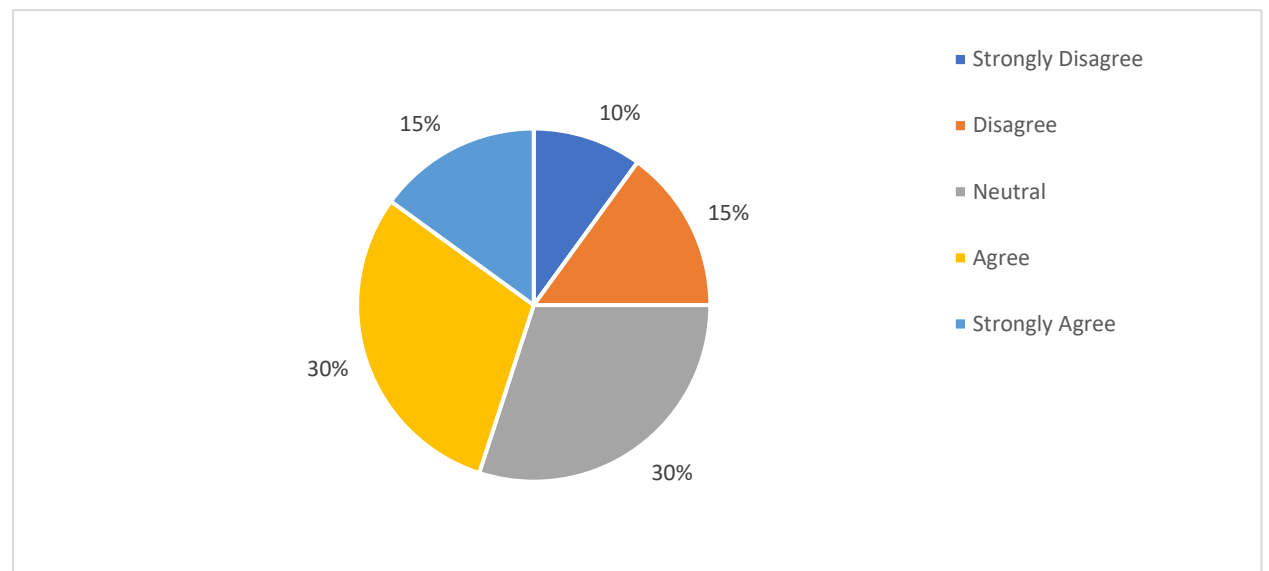
Security measures implemented by FM ensure customer safety.

165 responses



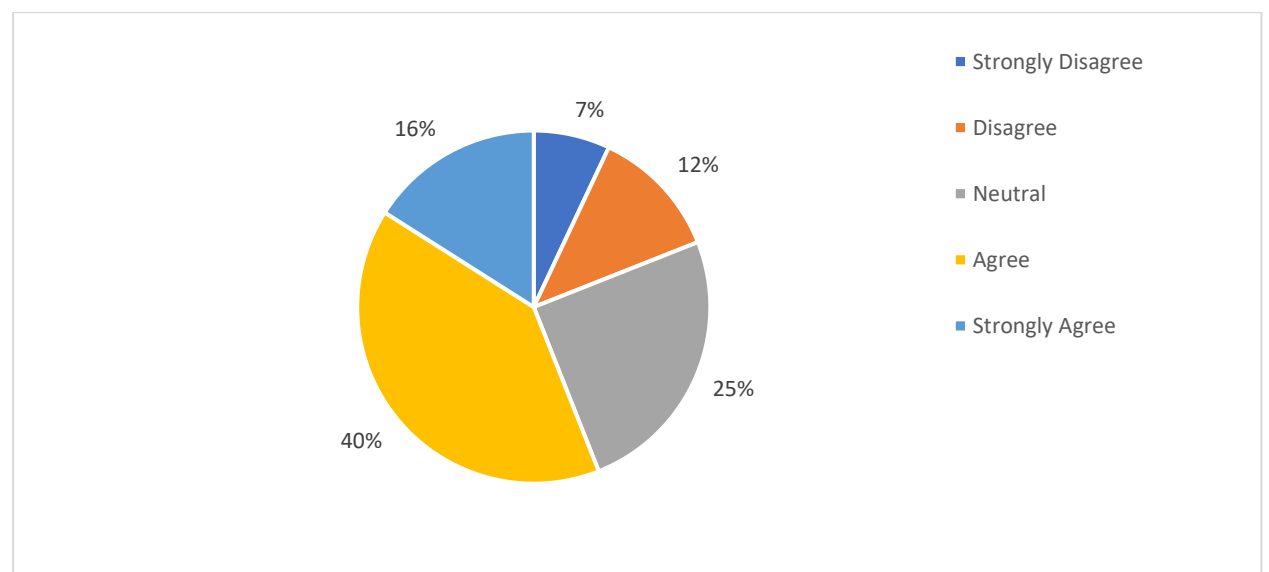
Parking and accessibility are well-managed by FM.

165 responses



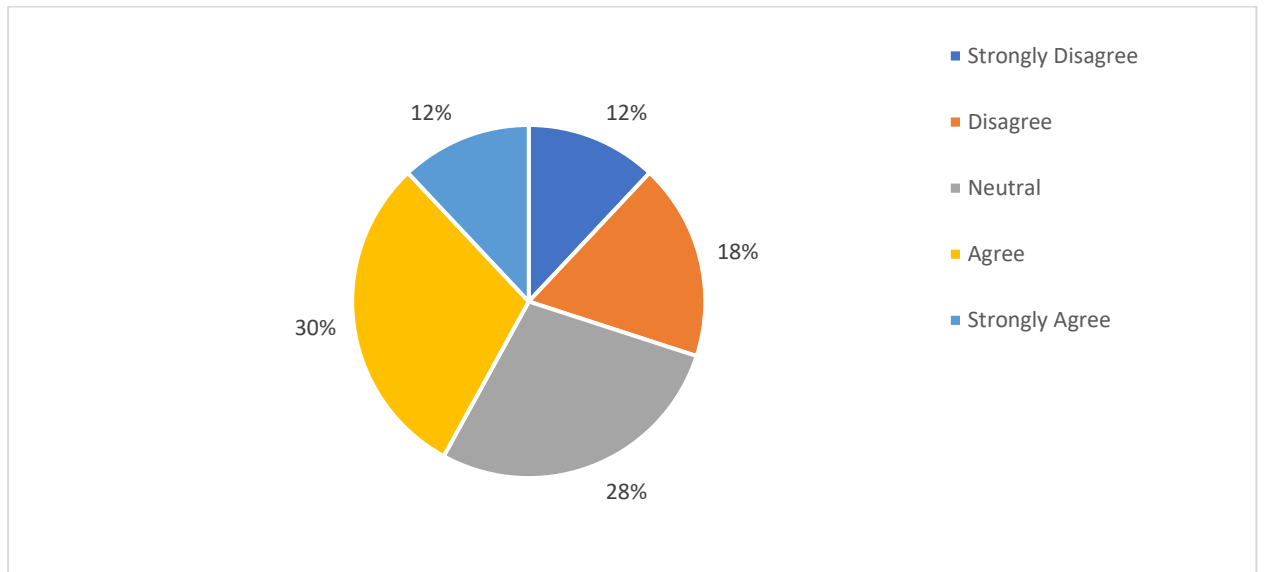
FM enhances the overall shopping experience.

165 responses



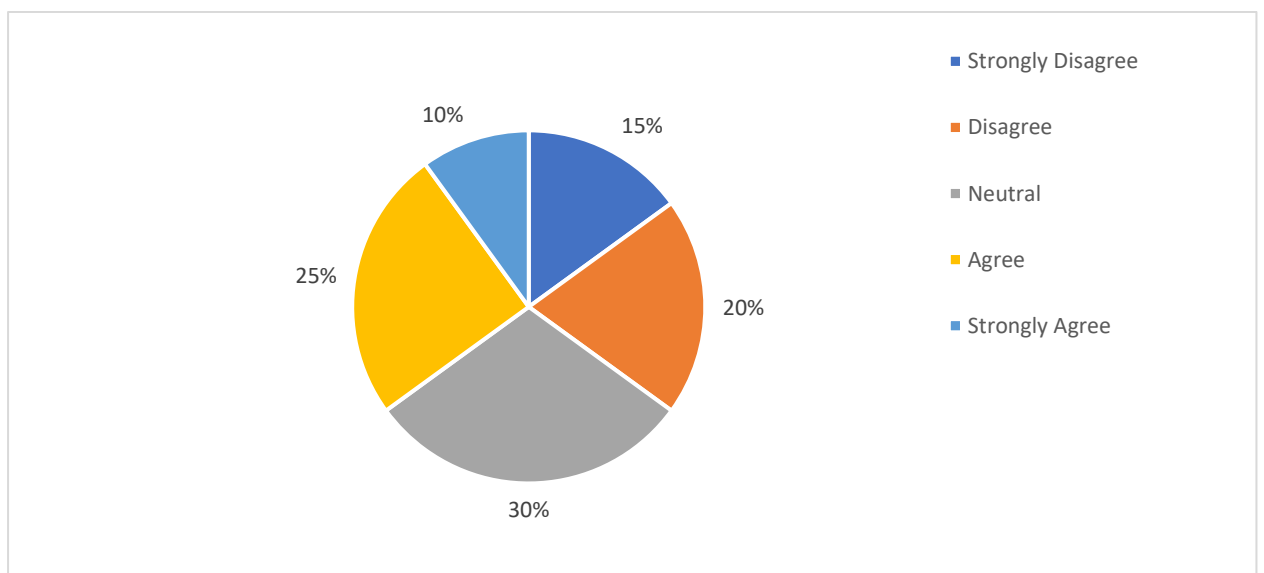
FM utilizes smart maintenance systems for predictive analytics.

165 responses



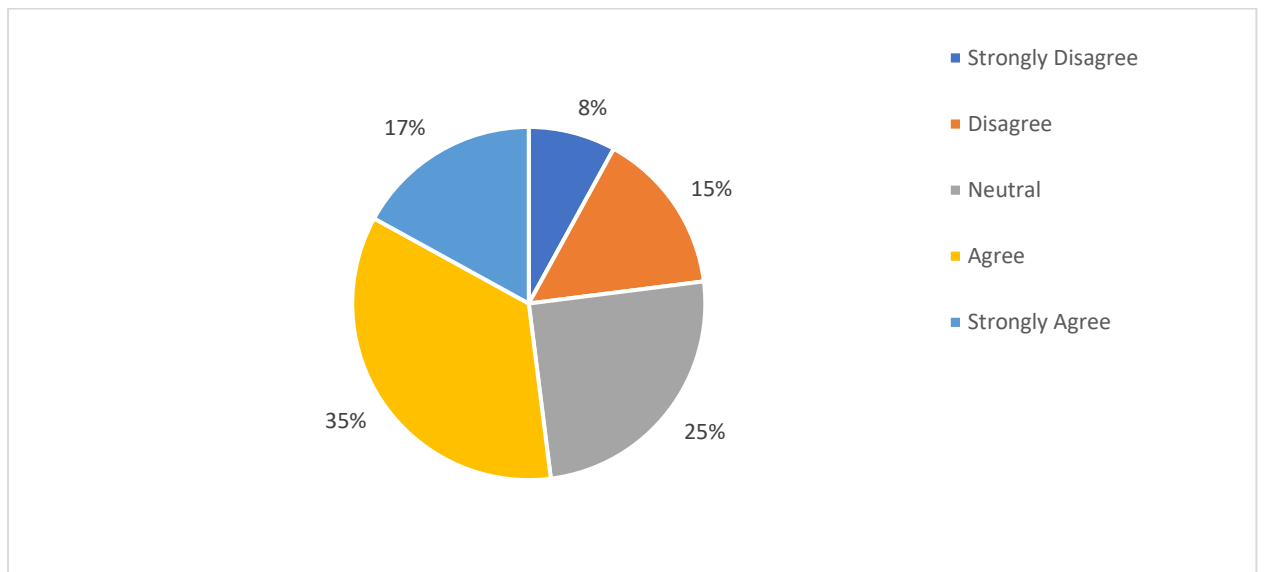
IoT and automation are integrated into energy management.

165 responses



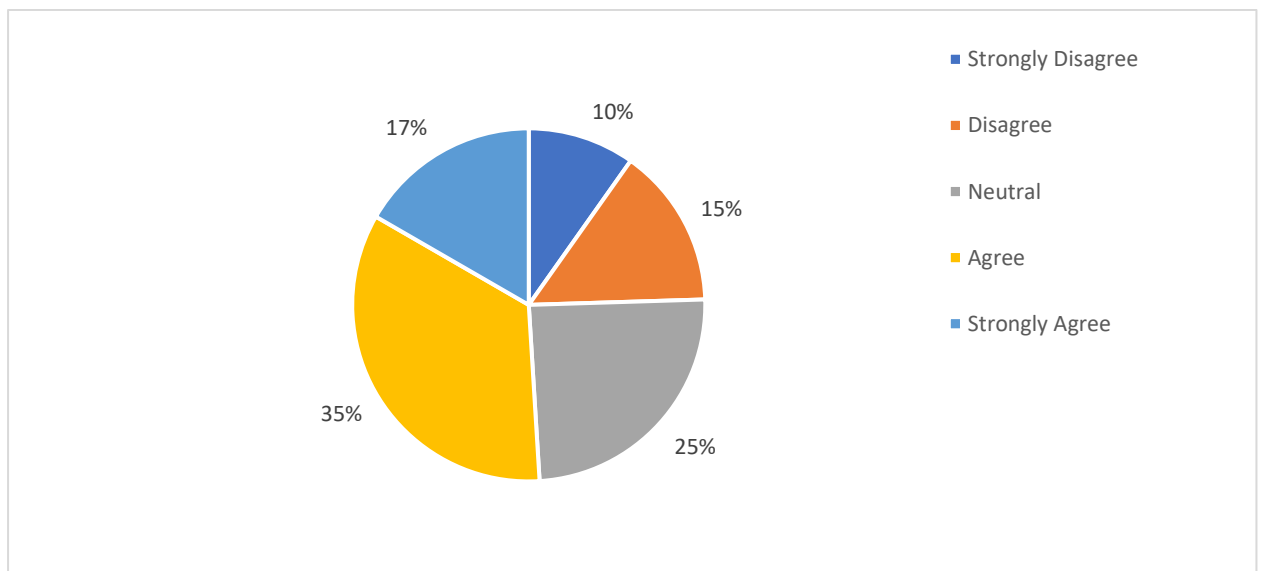
AI-driven security systems enhance mall safety.

165 responses



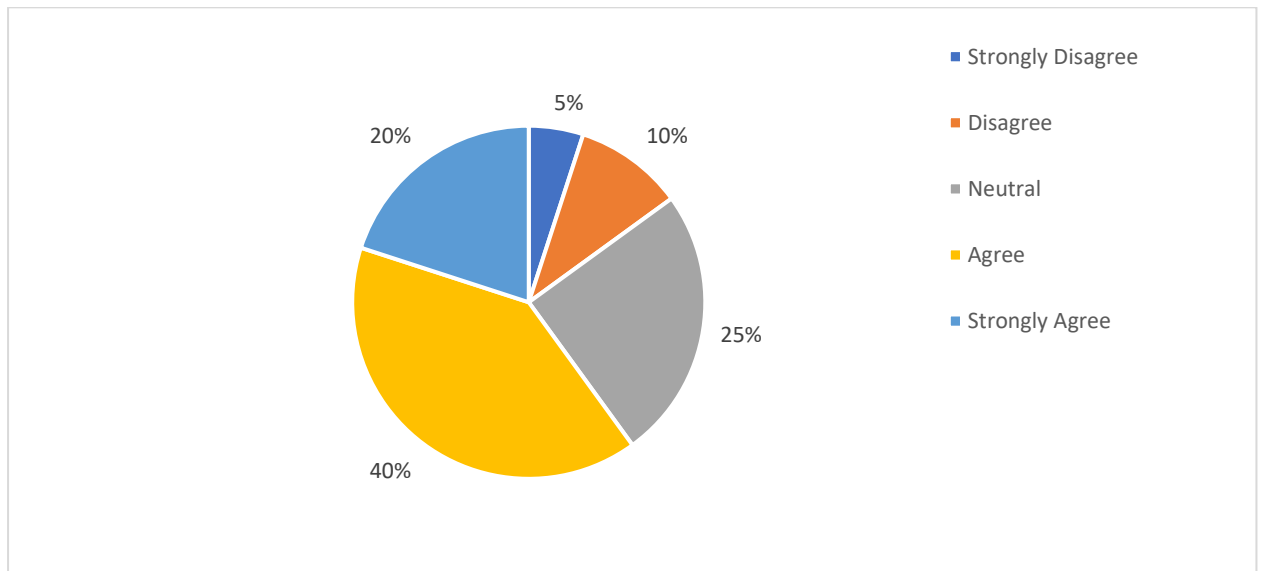
Digital FM platforms improve service request efficiency.

165 responses



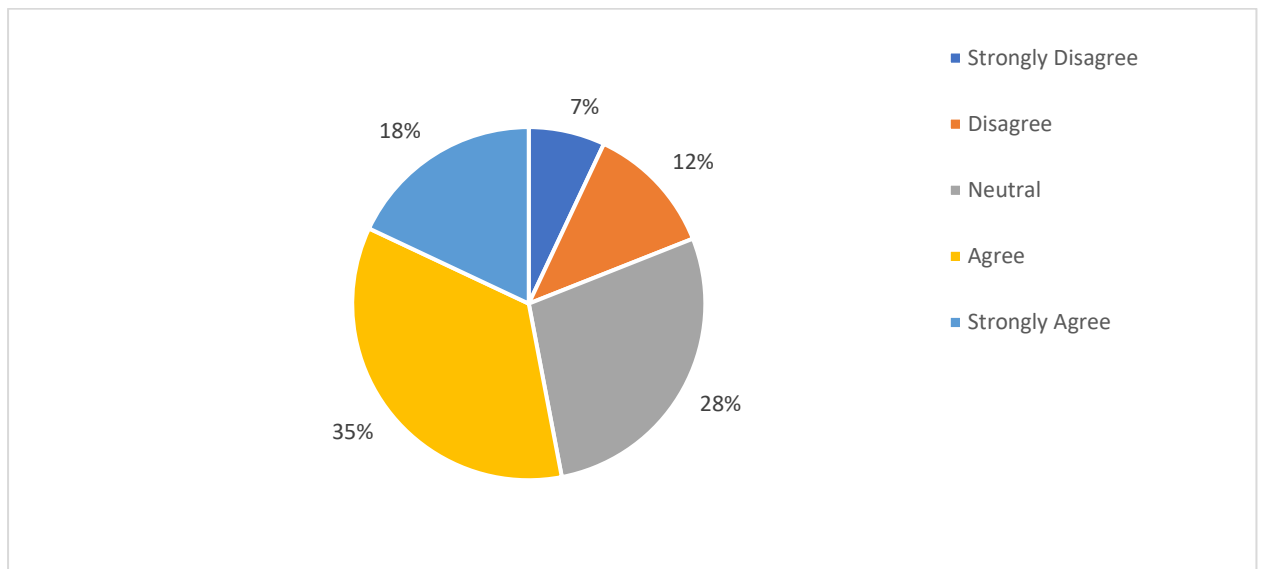
Budget constraints limit FM effectiveness.

165 responses



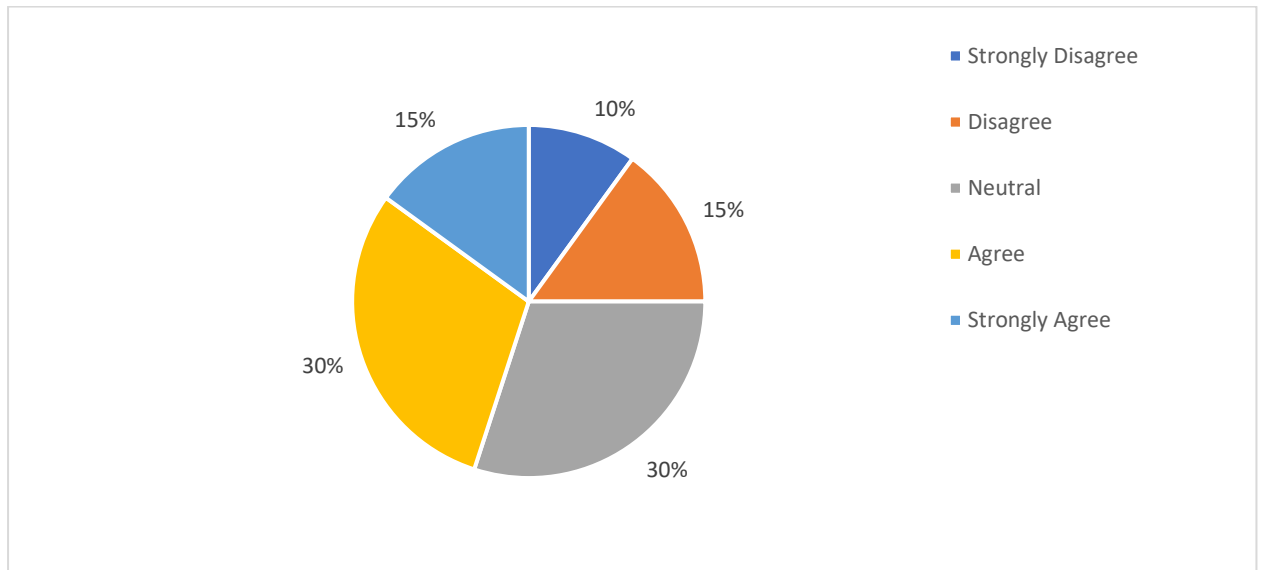
Lack of advanced FM technology slows operations.

165 responses



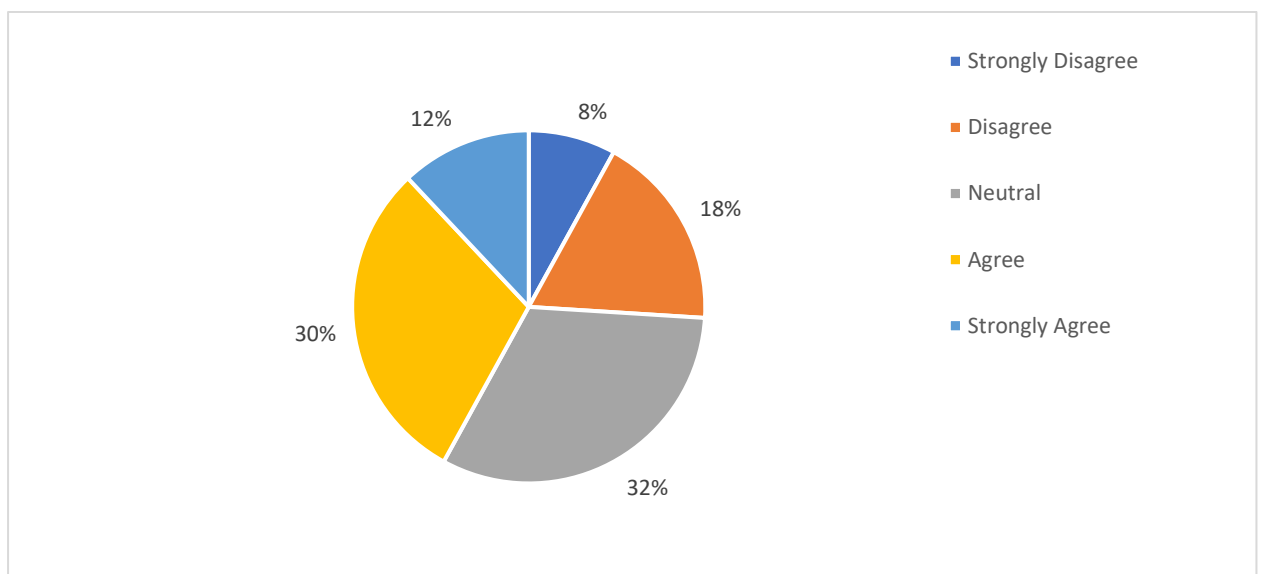
Skilled FM personnel shortage affects performance.

165 responses



Sustainability initiatives face implementation challenges.

165 responses



APPENDIX 2: QUESTIONNAIRE

QUESTIONNAIRE FORM TEMPLATE

Section 1: Respondent Information

1. **Gender:**
 - ☐ Male
 - ☐ Female
 - ☐ Prefer not to disclose
2. **Age Group:**
 - ☐ Below 25
 - ☐ 25 - 35
 - ☐ 36 - 45
 - ☐ 46 - 55
 - ☐ Above 55
3. **Educational Level:**
 - ☐ High School
 - ☐ Diploma
 - ☐ Bachelor's Degree
 - ☐ Master's Degree
 - ☐ Ph.D.
4. **Years of Experience in Facilities Management or Retail Operations:**
 - ☐ Less than 2 years
 - ☐ 2 - 5 years
 - ☐ 6 - 10 years
 - ☐ More than 10 years
5. **Current Position:**
 - ☐ Facilities Manager
 - ☐ Tenant/Business Owner
 - ☐ Mall Employee
 - ☐ Customer/Visitor
 - ☐ Other (Please specify): _____

Section 2: Facilities Management E

Effectiveness

Using the scale below, please indicate your level of agreement with the following statements:

1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree

Statement	1	2	3	4	5
FM is considered a core part of the mall's strategic planning.	☐	☐	☐	☐	☐
FM receives adequate budget allocation for long-term planning.	☐	☐	☐	☐	☐
FM aligns well with sustainability goals and energy efficiency strategies.	☐	☐	☐	☐	☐
FM contributes to overall business growth and competitive advantage.	☐	☐	☐	☐	☐
FM ensures timely maintenance and repairs.	☐	☐	☐	☐	☐
FM practices minimize disruptions to mall operations.	☐	☐	☐	☐	☐
FM personnel are well-trained and responsive.	☐	☐	☐	☐	☐

Section 3: Customer and Tenant Satisfaction

Statement	1	2	3	4	5
The mall is always clean and well-maintained.	☐	☐	☐	☐	☐
Security measures implemented by FM ensure customer safety.	☐	☐	☐	☐	☐
Parking and accessibility are well-managed by FM.	☐	☐	☐	☐	☐
FM enhances the overall shopping experience.	☐	☐	☐	☐	☐

Section 4: FM Technology and Innovation

Statement	1	2	3	4	5
FM utilizes smart maintenance systems for predictive analytics.	☐	☐	☐	☐	☐
IoT and automation are integrated into energy management.	☐	☐	☐	☐	☐
AI-driven security systems enhance mall safety.	☐	☐	☐	☐	☐
Digital FM platforms improve service request efficiency.	☐	☐	☐	☐	☐

Section 5: Challenges in Facilities Management

Statement	1	2	3	4	5
Budget constraints limit FM effectiveness.	☐	☐	☐	☐	☐
Lack of advanced FM technology slows operations.	☐	☐	☐	☐	☐
Skilled FM personnel shortage affects performance.	☐	☐	☐	☐	☐
Sustainability initiatives face implementation challenges.	☐	☐	☐	☐	☐