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INTRODUCTION

Modern property and facility management has become increasingly vital across the globe, underpinning economic productivity and sustainable development in both advanced and emerging markets. As organizations expand and urbanize, the scope of managed facilities has grown to encompass complex building portfolios and infrastructure. This evolution is occurring against a backdrop of dynamic global and regional trends. Economic globalization and changing workplace practices (e.g. flexible work arrangements) are reshaping real estate needs, while technological innovation and environmental imperatives are redefining how facilities are operated (Bröchner et al. 2019). Digitalization and sustainability have emerged as two major forces driving change in the field (Bröchner et al. 2019). Facility management today stands at the intersection of these economic, technological and environmental currents, requiring practitioners to adapt continuously to an era of unprecedented change.

Facility management (FM) is, by definition, a broad and interdisciplinary domain. The International Organization for Standardization (ISO) defines FM as an organizational function integrating people, place and process within the built environment to improve quality of life and core business productivity (ISO 2017) (Lee et al. 2021). Similarly, the International Facility Management Association (IFMA) emphasizes that FM ‘encompasses multiple disciplines to ensure functionality, comfort, safety and efficiency of the built environment by integrating people, place, process and technology’ (IFMA) (Lee et al. 2021). In practice, the interdisciplinary nature of FM is profound – it blends princi-

ples of business administration, architecture, engineering and behavioural science. Facility managers are often required to be ‘diplomats, psychologists, managers, and engineers’ all at once, coordinating diverse teams and technical systems (Ehrlich et al. 2010). They must oversee safe and efficient building operations while also ensuring occupant well-being and regulatory compliance. This breadth of roles underscores the growing complexity of the field, as FM professionals balance technical skills with managerial and interpersonal expertise to meet a facility’s multifaceted needs.

Over the past few decades, facility management has also evolved from a primarily operational concern into a strategic organizational function. The performance of FM is now widely recognized as having direct impact on an organization’s core business. In fact, the success of FM is often measured by the degree to which facilities support and enhance the business’s objectives and performance (Lee et al. 2021). Researchers and industry experts have advocated a more business-focused approach to FM, aligning facility assets and services with corporate strategy to create value (Then et al. 2004). Then and Tan (2004) argue that facility assets should be managed as strategic resources – integrated with business planning and treated through life-cycle asset management – in order to support organizational goals (Then et al. 2004). This strategic perspective means that facility managers are increasingly involved in high-level decision making, ensuring that real estate and facility services contribute to competitive advantage, employee productivity and risk management. At the same time, the expanding role of FM brings new challenges. Managers must anticipate future space and infrastructure needs, adapt to changing user demands, and control costs – all while maintaining performance and long-term asset value (Then et al. 2004). The need to adjust to rapid changes (e.g. technological disruptions or shifts in occupancy patterns) requires FM professionals to be proactive and forward-thinking. The growing complexity and scale of modern facilities thus demand a holistic, interdisciplinary approach and continuous innovation in management practices.

Several global trends underscore the relevance of modern property and facility management. Technological advancement is a key driver: digital transformation is revolutionizing how facilities are monitored and controlled. Smart building technologies, data analytics and automation systems enable

real-time management of building performance, energy use and occupant comfort. Environmental and sustainability pressures form another critical driver. Buildings are responsible for significant energy consumption and carbon emissions, prompting stricter regulations and stakeholder expectations for green building practices. Facility managers are at the forefront of implementing sustainability initiatives – from energy-efficient building systems to waste reduction and indoor environmental quality improvements – as organizations pursue carbon reduction and corporate social responsibility goals (Alfalah et al. 2020).

Additionally, economic and demographic shifts (such as globalization of service delivery, urban population growth and aging infrastructure in some regions) are expanding the demand for professional facility management services and emphasizing the need for efficient asset management. These trends vary in emphasis across different regions – for example, emerging economies may focus on infrastructure development and space management for growing urban centres, whereas developed regions might prioritize improving aging buildings for sustainability – but the overall trajectory is a more complex, technology-infused and sustainability-focused facility management landscape. In response, the profession has been steadily gaining recognition as a distinct discipline and research in the field has grown internationally to address these evolving challenges (Alfalah et al. 2020).

Given this context, the field of property and facility management is characterized by a growing complexity and interdisciplinary scope. Modern facilities are essentially ‘systems of systems’ – integrating structural, mechanical, electrical and digital systems – and their management requires coordinating multiple knowledge domains. For instance, a facility manager may need to understand finance and real estate market dynamics, oversee advanced building engineering systems, ensure regulatory compliance (health, safety, environmental) and deliver quality services for building occupants. This breadth necessitates collaboration among professionals from different backgrounds and the integration of various management approaches. The research literature reflects this diversity: contributions to facility management come from engineering, architecture, management science, information technology and environmental sustainability fields (Alfalah et al. 2020). An

interdisciplinary research review by Alfalah and Zayed (2020) noted that sustainable facility management (SFM) research draws on various disciplines and methods, demonstrating that FM knowledge production spans technical and social sciences (Alfalah et al. 2020). The profession's evolution has thus been one of expanding boundaries – blending hard technical competencies with soft management skills and strategic insight.

Considering the rapid changes and broadening scope, this monograph covers several major themes to provide a comprehensive overview of modern property and facility management. Each theme represents a crucial dimension of the field:

- **Asset Management:** Emphasizes the strategic management of property assets over their life cycle. This theme covers how facilities and building assets are planned, acquired, operated and renewed to maximize value and performance. Effective asset management aligns maintenance, capital investment and utilization of facilities with long-term organizational goals (Bröchner et al. 2019), ensuring that buildings remain functional and financially sustainable over time;
- **Building Systems:** Examines the complex building systems and technologies that facility managers must oversee – including structural components, HVAC (heating, ventilation and air conditioning), electrical and lighting systems, security and plumbing. Modern facility management involves integrating building automation systems and smart building technologies to monitor and control these systems for efficiency and reliability. Research highlights that ‘smart buildings’ – equipped with sensors, IoT (Internet of Things) devices and intelligent controls – are transforming how facilities are managed (Alfalah et al. 2020). This theme discusses managing building systems for optimal performance, energy efficiency and occupant comfort, as well as the technical skills and knowledge required to do so;
- **Sustainability:** Focuses on the environmental and social responsibilities of facility management, often framed as sustainable or green FM. This theme addresses how facility managers implement sustainability practices such as energy management, waste reduction, water conservation and green building certifications (e.g. LEED). Sustainable facility mana-

gement has been shown to deliver economic, environmental and social benefits – the ‘triple bottom line’ of sustainability (Alfalah et al. 2020). By integrating sustainability into operations, facility managers add value through lower operating costs, improved occupant health and satisfaction, and enhanced corporate reputation (Alfalah et al. 2020). The monograph explores strategies for sustainability in the built environment and how FM can contribute to broader climate and sustainability goals;

- Digitalization (PropTech, BIM, IoT): Investigates the impact of digital technology and innovation on property and facility management. PropTech (property technology) refers to the wave of digital tools transforming real estate and FM, from Building Information Modeling (BIM) and IoT sensors to data analytics platforms and AI-driven systems. This theme reviews how digitalization enables data-driven decision-making in FM, improves maintenance processes (through predictive analytics and smart sensors) and creates more connected, ‘intelligent’ buildings. The literature indicates that Industry 4.0 technologies – such as BIM, geographic information systems, and IoT – are increasingly being integrated into FM to capture and utilize building data throughout the facility life cycle (Lee et al. 2021). However, challenges remain (e.g. interoperability and high implementation costs) and simply adopting one technology like BIM in isolation is often insufficient to realize all the benefits of digital transformation (Lee et al. 2021). This monograph highlights emerging digital innovations (including BIM-based facility management, digital twins, smart infrastructure and PropTech startups) and their implications for improving efficiency and service delivery in FM;
- Organizational Strategy: Explores the alignment of facility management with organizational strategy and structure. As FM matures into a strategic function, it must connect with corporate real estate strategy, workplace strategy and overall organizational objectives. This theme discusses how facility managers can contribute to strategic planning – for example, by right-sizing property portfolios, enabling new ways of working or ensuring that facilities support the organization’s mission and culture. Research and industry practice emphasize that integrating FM decisions with business strategy leads to better outcomes, as facility assets are

leveraged to support core business activities (Then et al. 2004). Topics under this theme include governance of FM (centralized vs. decentralized models), outsourcing and contract management strategies, performance measurement (e.g. balanced scorecards for FM) and the role of FM leadership in cross-functional executive teams. By treating facilities as strategic resources, organizations can gain competitive advantages such as increased productivity, flexibility and risk mitigation.

Together, these themes contribute to a picture of an increasingly complex, interdisciplinary field that is critical to organizational success and sustainable development. The chapters in this monograph provide a scholarly examination of each of these areas, drawing on contemporary research findings and professional best practices. Property and facility management today is not only about maintaining buildings – it is about proactively managing assets, technology and services in a way that supports people, business innovation and environmental governance.

To sum up, the introduction and subsequent chapters aim to equip readers with a deep understanding of the evolving nature of the field. By synthesizing insights on asset life cycles, building systems engineering, sustainability initiatives, digital transformation and strategic management, the monograph offers a comprehensive foundation for advanced study and practice in modern property and facility management. This integrated perspective is essential for navigating the challenges and opportunities facing property and facility managers in an era of rapid change, ensuring that the built environment effectively serves both organizational needs and societal goals.