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The Role of Total Quality Management (TQM) in Facilitating Digital and Green Transformations: A Case Study of Sofitel Saigon Plaza

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Abstract
In the context of intense globalization and international integration, coupled with the rapid evolution of the technological revolution, the hospitality industry is facing increasingly fierce competitive pressures. Consequently, the dual implementation of digital transformation and green transformation has emerged as an imperative trend for organizations to enhance adaptive capacity and maintain market positioning. In this process, Total Quality Management (TQM) serves as a strategic cornerstone, assisting Sofitel Saigon Plaza in standardizing procedures, minimizing operational errors, and optimizing performance. TQM fosters a culture of continuous improvement and encourages proactive involvement across all personnel levels. Furthermore, the integration of TQM with digital technologies and international environmental standards enables the hotel to bolster its competitive advantage while advancing toward sustainable development and elevating customer experiences in the modern era."

Keywords: TQM, Twin Transformation, Sofitel Saigon Plaza

1. Introduction

Against the backdrop of rapid internationalization and global integration, compounded by the meteoric pace of the scientific and technological revolution, the hospitality industry is navigating an increasingly fierce and globalized competitive environment. Consequently, hotels are compelled to adopt digital and green transformation strategies to sustain their competitive edge. Digital Transformation, characterized by the integration of AI, IoT, Big Data, and Property Management Systems (PMS), facilitates the optimization of operational workflows, enhances managerial efficiency, and elevates guest experiences through solutions such as chatbots and cloud-based management systems. Such advancements have been evidenced to improve operational efficiency by up to 30% in leading hotels (Anwar *et al*., 2024) [7]. In the post-COVID-19 era, where customer demands are becoming increasingly diverse and sophisticated, digital adoption is no longer a mere option but an imperative for maintaining competitiveness and organizational resilience (Sanli, 2024; Mercan *et al*., 2020) [24, 19]. Concurrently, Green Transformation has emerged as a pivotal standard for environmental stewardship and the cultivation of a sustainable corporate image. Initiatives such as energy conservation, plastic waste reduction, waste recycling, the utilization of eco-friendly materials, and partnerships with sustainable suppliers have been extensively implemented in hotels globally (Sun & Nasrullah, 2024) [28].

In Ho Chi Minh City, Sofitel Saigon Plaza is strategically transitioning toward a sustainable development model by integrating cutting-edge technology with green policies in its operations and services. Within this framework, TQM is defined as a comprehensive quality management system centered on continuous improvement and the collective engagement of all personnel (Loedphacharakmon & Worakittikul, 2025) [17]. TQM plays a pivotal role in standardizing procedures and minimizing operational errors, while simultaneously facilitating the seamless integration of both digital technologies and environmental objectives into practical activities. The objective of this essay is to analyze the role of TQM in assisting Sofitel to optimize efficiency during the implementation of the twin transition (digital and green transformation). Based on this analysis, the study proposes a strategic integration of quality, digitalization, and sustainability to bolster long-term competitive advantage and organizational dynamism within a globalized environment.

2. Theoretical Framework

2.1. Total Quality Management

2.1.1. Concept

Total Quality Management (TQM) is defined as a comprehensive management system aimed at maintaining and continually enhancing organizational quality through the synchronized participation of all resources- ranging from leadership and personnel to operational processes and feedback mechanisms. According to Feigenbaum, TQM represents an effective system for integrating the quality development, maintenance, and improvement efforts of various groups within an organization-from marketing and engineering to production and service delivery - to enable customer satisfaction at the most economical levels (Total Quality Management, 2018) [37]. Furthermore, Professor Hitoshi Kume emphasizes that TQM is a management methodology that drives success and fosters sustainable growth by mobilizing the collective intelligence and active involvement of all members to achieve optimal quality aligned with customer requirements (Total Quality Management, 2018) [37].

The International Organization for Standardization (ISO), in the ISO 8402:1994 standard, defines TQM as: 'A management approach of an organization, centered on quality, based on the participation of all its members and aiming at long-term success through customer satisfaction, and benefits to all members of the organization and to society.' Similarly, Professor John L. Hradeskey, a prominent expert in quality systems, posits that TQM serves as both a management philosophy and a comprehensive system of tools and processes designed to ensure that outputs consistently meet customer expectations through continuous improvement. He further emphasizes that TQM constitutes a strategic integration of organizational culture transformation and technical instruments, aimed at satisfying the requirements of both internal stakeholders and external customers (Total Quality Management, 2018) [37].

2.1.2. Core Principles of TQM

TQM is a modern management philosophy that prioritizes a customer-centric approach, leverages collective synergy, and optimizes all organizational processes. The eight core elements of TQM not only enable enterprises to enhance the quality of products and services but also cultivate a sustainable competitive advantage. In the era of globalization, TQM serves as a vital foundation for organizations to achieve strategic flexibility, ensure long-term development, and attain the highest levels of customer satisfaction.

1. Customer Focus

Customer satisfaction serves as a critical metric reflecting the quality of an organization's products and services. Customers occupy a pivotal role in the survival and expansion of an organization, as corporate success is directly contingent upon them. Consequently, it is imperative that customers are served with the highest levels of dedication and professionalism. To evaluate satisfaction levels, enterprises may employ systematic surveys integrated with analytical tools to assess current performance and forecast future consumption trends.

2. Engagement of People

Every organizational member contributes significantly to the attainment of collective objectives. The active involvement of the entire workforce across production and operational processes enhances organizational efficiency. When employees are empowered, respected, and recognized, their professional motivation is substantially bolstered. Consequently, management must prioritize human resource development at all levels, fostering an environment where every individual - including entry-level personnel - is entrusted with appropriate authority and accountability.

3. Continual Improvement

The continuous improvement of product and service quality constitutes a cornerstone for enhancing an organization's competitive advantage. This iterative process necessitates regular self-assessment to ensure alignment with the escalating demands of customers and relevant stakeholders. Improvement initiatives should be implemented across all organizational tiers - from entry-level staff to senior executives - to foster comprehensive growth and long-term sustainability.

4. Process Approach

A systematic, process-based management approach facilitates organized and efficient organizational operations. This methodology entails the identification, analysis, and synchronized management of interrelated processes, thereby enhancing operational performance and mitigating errors during execution.

5. Strategic and Systematic Approach

All organizational processes must explicitly reflect the vision, mission, and long-term strategic objectives of the entity. TQM necessitates a systematic approach to decision-making, while positioning quality as a core strategic pillar. Furthermore, the organization must demonstrate a firm commitment to allocating appropriate resources to operationalize this strategy effectively.

6. Evidence-Based Decision Making

The implementation of TQM achieves its full efficacy only when supported by a comprehensive data system for analyzing and evaluating organizational performance. Management must continuously utilize empirical data - pertaining to output, revenue, productivity, and employee performance - to conduct comparative analyses between actual results and established objectives. Consequently, the planning and decision-making processes within the TQM framework are heavily contingent upon the systematic collection and processing of quantitative and qualitative data.

7. Integrated System

To leverage data effectively, organizations must establish integrated systems that facilitate seamless information exchange and sharing across departments. This interconnectedness not only enhances interdepartmental coordination but also enables evidence-based decision-making, thereby accelerating the attainment of strategic objectives

8. Internal Communication

While data may be disseminated across departments via technological systems, the human element remains paramount in coordinating and ensuring the seamless execution of entire operational workflows. Consequently,

internal communication constitutes a vital component of TQM, enabling personnel to internalize information, adhere to standardized procedures, and mitigate operational discrepancies (OCD, 2025)

2.1.3. Benefits of TQM

The following section outlines five representative benefits that TQM confers upon an organization when implemented effectively.

1. Minimization of Service and Product Defects

A core objective of TQM is to ensure that products and services conform to established standards from the initial stage of production. This principle of 'doing it right the first time' leads to a significant reduction in defect rates, thereby minimizing product recalls and lowering expenditures associated with warranty services and customer support. Ultimately, this approach optimizes long-term operational efficiency.

2. Enhancing Customer Satisfaction Levels

High-quality products and services that precisely align with consumer needs yield higher levels of customer satisfaction. When satisfaction is achieved, organizations can effectively expand their market share and drive revenue growth through up-selling and cross-selling initiatives. Furthermore, satisfied customers become catalysts for organic growth by leveraging the power of Word-of-Mouth marketing, thereby enhancing the brand's reputation and reach.

3. Cost Optimization

Reducing defect rates enables organizations to achieve significant cost savings by minimizing expenditures related to return policies, after-sales services, and repairs. These cost efficiencies are subsequently converted into bottom-line profits, thereby expanding profit margins and providing the financial flexibility necessary for the enterprise to reinvest in other strategic initiatives.

4. Improving Operational Performance

TQM emphasizes the standardization and systematization of production and operational workflows. This strategic focus facilitates the mitigation of errors and reduces the time required for procedural re-adjustments, while simultaneously optimizing the allocation of resources and time management. Consequently, the overall operational efficiency of the entire organization is markedly enhanced."

5. Cultivating Organizational Cultural Values

Organizations that implement TQM foster an organizational culture anchored in core values pertaining to quality management and continuous improvement. The TQM mindset is integrated into all facets of operations - from talent acquisition and internal management to research and product development- thereby contributing to a unified cultural identity throughout the organization (OCD, 2025).

2.2. Digital Transformation in the hospitality industry

Digital Transformation in the hospitality industry is defined as the strategic integration of digital technologies into business operations to enhance operational efficiency, deliver personalized customer experiences, and strengthen competitive advantages. This process transcends mere procedural improvements in management, contributing to the creation of superior service values that satisfy the escalating demands of modern travelers (Dennis, 2024) [11].

Regarding the role of technology, digital applications serve as the focal point in driving this transformation. Primarily, Artificial Intelligence (AI) - including chatbots, virtual assistants, and service robots - is being extensively deployed within hotels to automate communications, provide 24/7 customer support, and mitigate staff workloads. This integration not only elevates service efficiency but also refines the guest experience. According to research from Boston University, AI has become an indispensable element in the modern hospitality landscape, fostering increased engagement and elevating overall service quality (Zhu *et al*., 2021) [36].

In addition to AI, the Internet of Things (IoT) plays a pivotal role in operational optimization. Integrated smart devices and sensors are deployed to regulate lighting, room temperature, and detect technical issues such as water leakages or system anomalies. IoT not only facilitates the collection of operational data but also contributes to substantial energy cost reductions and service quality enhancement, ensuring maximum convenience for guests (Mercan *et al*., 2020; EHL Graduate School, 2024) [19, 12].

Furthermore, Big Data provides the capability for in-depth analysis of customer data, enabling organizations to forecast consumption trends and deliver highly personalized services. Enterprises can achieve real-time responsiveness based on data analytics, while simultaneously mitigating customer churn through effective engagement strategies. Big Data also plays a crucial role in optimizing loyalty programs, thereby fostering long-term relationships and elevating overall satisfaction levels (Ijomah *et al*., 2024) [16].

Additionally, online booking systems and Property Management Systems (PMS) contribute significantly to the refinement of operational workflows. These systems not only accelerate reservation processing and streamline check-in procedures but also enhance guest convenience and managerial efficiency. This underscores the transformative role of technology in bolstering productivity and service quality (Dennis, 2024) [11].

Regarding empirical effectiveness, numerous studies have yielded positive outcomes concerning digital integration in the hospitality sector. In Indonesia, the implementation of cloud-based PMS has reportedly increased operational efficiency by up to 30%. Concurrently, AI chatbots have mitigated staff workloads by as much as 70%. Furthermore, the application of Big Data has been shown to elevate customer satisfaction levels by 15%, clearly demonstrating technology’s capacity to optimize both guest experience and service excellence (Dennis, 2024) [11].

In conclusion, digital transformation in the hospitality industry is not merely a contemporary trend but a strategic imperative that enables enterprises to strengthen their competitive edge, improve operational performance, and deliver superior service value. Through the synchronized adoption of technologies such as AI, IoT, Big Data, and PMS, the hospitality sector is progressively aligning with the escalating expectations of modern consumers."

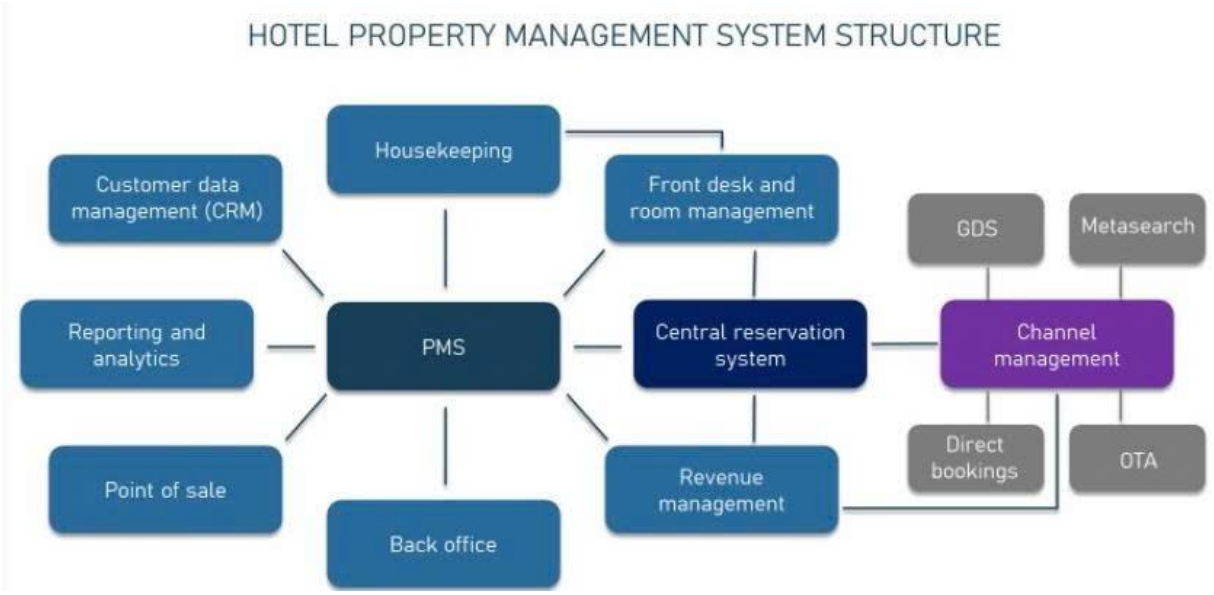

Fig 1: Online booking systems and Property Management Systems (Dennis, 2024)

2.3. Green Transformation

Green Transformation is defined as the process of implementing environmentally friendly solutions to mitigate negative impacts, conserve energy, and advance toward sustainable development (Conte, 2021) [9]. Amidst the escalating demand for tourism and the mounting pressure for environmental protection, hotels are compelled to innovate their strategies to balance operational efficiency with sustainability standards. These initiatives encompass energy management, waste reduction, supply chain optimization, and the cultivation of a 'green culture' among both employees and guests.

Energy and water conservation reside at the core of green transformation. Many hotels have deployed smart LED lighting systems integrated with IoT technology, achieving energy reductions of up to 60% (EHL Graduate School, 2024) [12]. Simultaneously, smart water management systems and efficiency-enhancing fixtures, such as low-flow showerheads, have facilitated a 40–50% decrease in water consumption. These solutions not only diminish operational expenditures but also significantly preserve natural resources (EHL Graduate School, 2024; Conte, 2021; Green Business Benchmark, 2024a) [12, 9, 13].

Furthermore, the reduction of waste and single-use plastics represents a strategic priority. Numerous hotels have phased out single-use plastics, replacing them with glass, paper, or refillable dispensers. The 'Stay Plastic Free' initiative at the Miami Beach EDITION serves as a salient example of such efforts (Vogue, 2019) [32]. Concurrently, waste segregation and on-site composting significantly reduce organic waste, generating bio-fertilizers and supporting food-sharing programs (Green Business Benchmark, 2024b; Conte, 2021) [14, 9]. Recent research emphasizes that green human resource practices play a critical mediating role in translating employee commitment into measurable environmental outcomes, reinforcing sustainability initiatives at the organizational level (Tasleem, 2026) [29].

Green supply chains and environmental certifications also play a critical role. Hotels increasingly prioritize organic and locally sourced food to minimize carbon emissions associated with transportation. Attaining certifications such as ISO 14001, Green Star, or Green Key demonstrates a robust commitment to sustainable development (Abdou *et al*., 2020) [1]. Moreover, employee training and guest awareness initiatives foster a 'green culture,' which in turn enhances brand loyalty (Conte, 2021) [9].

The holistic benefits of green transformation include cost reduction, brand image elevation, and the attraction of environmentally conscious consumers. Ultimately, complying with regulatory requirements and aligning with sustainability trends enable hotels to maintain a long-term competitive advantage (Conte, 2021) [9].

3. Methodology

This study employs a qualitative research methodology, extracting data from a diverse range of secondary sources, including peer-reviewed journal articles, specialized academic textbooks, legal documents, research reports, and existing literature pertaining to TQM, digital transformation, and green transformation within the hospitality industry. Furthermore, the research provides a comprehensive overview of Sofitel Saigon Plaza and examines the pivotal role of TQM in facilitating the hotel's twin transition. The gathered data underwent a process of synthesis, selection, and rigorous analysis to elucidate the core issues, thereby offering in-depth insights into the integration of TQM within the strategic dual transition at Sofitel. Consequently, the study not only identifies the prevailing challenges faced by the hotel but also proposes feasible solutions aimed at fostering sustainable development and enhancing operational efficiency, aligning with the current digital and ecological landscape of the hospitality sector.

4. Current Status at Sofitel Saigon Plaza

4.1. Overview of Sofitel Saigon Plaza

Strategically located at 17 Le Duan Boulevard, District 1, Ho Chi Minh City, Sofitel Saigon Plaza is a prominent five-star establishment featuring 284–286 guest rooms. The hotel's architectural design seamlessly blends French elegance with Vietnamese cultural heritage, catering to a diverse clientele ranging from leisure and commercial travelers to event organizers (Sofitel Saigon Plaza, 2025a) [26]. Equipped with premium amenities, including a rooftop swimming pool, a state-of-the-art fitness center, a luxury spa, and seven

sophisticated meeting rooms - notably the grand Diamond Hall - Sofitel serves as a premier destination for both tourists and business professionals (Sofitel Saigon Plaza, 2025a) [26]. The hotel operates under the Sofitel brand, one of the globally renowned luxury portfolios of the Accor Group. Founded in Strasbourg, France, in 1964, Sofitel was repositioned in 2007 as a high-end luxury brand and currently encompasses over 130 hotels worldwide (Wikipedia, 2023) [34]. Sofitel epitomizes the French 'art de vivre' (the art of living), harmoniously integrated with local Vietnamese essence in both its aesthetic design and service philosophy (Sofitel Saigon Plaza, 2025b) [27].

In its strategic development orientation, Sofitel prioritizes three fundamental pillars: (1) Exceptional guest experience: As the hotel serves a high-end clientele - including business executives, diplomats, and multinational organizations - the demand for operational and service quality is paramount. This challenge necessitates the rigorous application of the TQM model to achieve strategic objectives. (2) International quality management: Maintaining world-class service standards consistently across all operations. (3) Sustainable development: Initiatives such as eliminating single-use plastics, recycling, and redistributing surplus food have steered the Sofitel brand toward a 'Green Hotel' model. Notably, the hotel has attained the Green Key certification, a prestigious international environmental accolade (Newsworthy, 2024) [21]. Furthermore, owing to its strategic proximity to consulates and cultural landmarks like Cathedral and Independence Palace, Sofitel continues to assert its pioneering role in attracting both international and domestic travelers."

Fig 2: Sofitel Saigon Plaza Awarded the 'Green Key' Certification (newsramp.com)

4.2. Current Digital Transformation Initiatives

Sofitel is actively advancing its digital transformation initiatives to optimize management processes and enrich guest experiences. Primarily, the online reservation system and Customer Relationship Management (CRM) are integrated via the Accor ALL application, enabling guests to seamlessly book rooms, access services, earn loyalty points, and receive direct offers on mobile platforms. Notably, the CRM system analyzes guest history to facilitate high-level personalization - ranging from tailored service recommendations to the development of sophisticated loyalty programs (Accor, 2025; Sofitel Saigon Plaza, 2025c) [4, 27]. Consequently, this system not only adheres to the 'customer-centric' principle but also empowers the hotel to implement data-driven decision-making, a fundamental pillar of TQM.

Furthermore, the hotel has deployed AI chatbots and virtual assistants to provide 24/7 support, including service guidance, table reservations, and automated responses to frequently asked questions. The integration of Artificial Intelligence into guest relations not only bolsters service efficiency but also liberates front-desk personnel to focus on high-touch, personalized interactions, thereby elevating overall service quality.

In addition, the digitalization of internal management systems remains a strategic priority. The PMS, maintenance modules, and centralized F&B operations are integrated into an Enterprise Resource Planning (ERP) platform. This platform allows for real-time tracking of room status, equipment maintenance, inventory control, and automated reporting. Real-time data collection facilitates in-depth analytics, enabling the detection of system anomalies and timely operational improvements. This effectively operationalizes the PDCA (Plan-Do-Check-Act) cycle, consistent with TQM's principles of process management and continuous improvement (Wu *et al*., 2024) [35]. Through these digital solutions, the hotel has achieved an average 15% reduction in operational errors, a 20% decrease in request processing time, and a 12% increase in overall guest satisfaction scores compared to the pre-digitalization period (Wu *et al*., 2024) [35].

4.3. Current Green Transformation Initiatives

Sofitel has implemented a comprehensive suite of green transformation initiatives aimed at mitigating environmental impacts and fostering sustainable development within the luxury hospitality sector. A significant milestone was the complete elimination of single-use plastics from guest rooms starting in 2022, replaced by reusable alternatives such as

glass bottles and eco-friendly amenities (Sofitel Saigon Plaza, 2025d) [27]. Furthermore, in 2024, the hotel officially attained the Green Key certification- a prestigious international standard for environmental responsibility and sustainable operations in the tourism industry, awarded by the Foundation for Environmental Education (Sofitel Saigon Plaza, 2025d) [27].

Regarding waste management, the hotel has established an on-site waste segregation system and partnered with local organizations such as VietHarvest to redistribute surplus food to the community, thereby minimizing food waste and supporting underprivileged populations (Sofitel Saigon Plaza, 2025d; Travel Conscious, 2023) [27, 30]. Products including tea bags, coffee capsules, and packaging are carefully selected from biodegradable or recyclable materials, reflecting a steadfast commitment to plastic reduction. The hotel also prioritizes energy and water conservation; the deployment of energy-efficient LED lighting, motion sensors, and high-performance HVAC systems has significantly lowered energy consumption. Additionally, water-saving fixtures, such as low-flow showerheads and dual-flush toilets, have been installed to optimize water usage (Sofitel Saigon Plaza, 2025d; Travel Conscious, 2023) [27, 30].

Moreover, Sofitel has cultivated strategic partnerships with local suppliers, prioritizing sustainable products and services aligned with Fair Trade principles. This approach contributes to supporting the local economy while reducing the carbon footprint associated with logistics and transportation (Sofitel Saigon Plaza, 2025d) [27].

All these efforts are systematically monitored and evaluated by the hotel's Sustainability Committee. Monthly audits are conducted to identify areas for improvement and further enhance sustainable performance, ensuring a continuous cycle of refinement in line with TQM principles (Sofitel Saigon Plaza, 2025d) [27].

4.4. The Specific Role of TQM in Digital and Green Transformation at Sofitel

4.4.1. In Digital Transformation

Within the context of hospitality digitalization, TQM serves as the foundational framework enabling Sofitel to achieve operational excellence. Primarily, TQM facilitates the standardization of workflows to streamline digitalization. According to the Process Approach principle, analyzing and standardizing procedures is a prerequisite for successful digital integration. The hotel standardized all protocols for reservations, check-in/out, F&B management, and maintenance prior to deploying PMS, CRM, and AI chatbots. An internal report from Accor (2024) [3] indicates that these standardized processes have led to a 20% reduction in operational errors and significantly shortened request processing times, thereby ensuring service efficiency and quality (Wu, 2024) [35].

Secondly, TQM ensures high-quality data and technological systems. The principle of Evidence-Based Decision Making necessitates that strategic decisions be derived from accurate and reliable data. Sofitel has implemented rigorous data validation and periodic audits for its PMS, CRM, and Business Intelligence (BI) reports to maintain information accuracy and security (Privacy Policy, 2024). Furthermore, technological systems are strictly monitored for uptime, cybersecurity, and latency, establishing a stable and efficient digital infrastructure.

Finally, TQM plays a crucial role in enhancing guest experiences through digital platforms. The Customer Focus principle is vividly demonstrated through hyper-personalization. The Accor ALL app and CRM systems store individual preferences- such as room temperature and preferred beverages- to provide bespoke services. According to research by Mavitha *et al*. (2024), AI-integrated CRM models have boosted Net Promoter Scores (NPS) by 10–15%, significantly elevating guest satisfaction and brand loyalty.

4.4.2. In Green Transformation

Beyond digital initiatives, TQM plays a critical role in driving green transformation at Sofitel. Firstly, TQM facilitates stringent quality control to minimize waste and pollution. The principle of Continual Improvement requires the hotel to constantly measure, analyze, and refine operational workflows. In practice, Sofitel has deployed IoT systems and conducted monthly internal audits led by the Sustainability Committee to monitor energy, water, and waste (Sofitel Saigon Plaza, 2025d) [27]. The Green Key Report (2024) indicates that the hotel achieved a 30–40% reduction in electricity consumption and a 25% decrease in water usage compared to the previous year. These results were driven by the implementation of motion sensors for automated lighting, low-flow showerheads, and on-site waste segregation (Green Key Global, 2024) [15].

Secondly, Sofitel emphasizes cultivating 'Green Quality' within its workforce, aligning with the principles of Engagement of People and Leadership Commitment. The hotel organizes initiatives such as 'Green Month,' provides energy-saving training, and rewards innovative green proposals (Sofitel Saigon Plaza, 2025d) [27]. Athamneh (2024) highlights that a green working environment not only boosts operational efficiency by 10–20% but also empowers employees to proactively propose sustainable innovations [8].

Finally, IoT infrastructure is utilized to quantify and monitor key consumption metrics, such as Kwh/room-night and m^3/guest-night. Weekly reports provide alerts when consumption exceeds predefined thresholds, allowing management to make timely adjustments. According to Green Key Global (2024), this data-driven approach has resulted in a 30% reduction in energy costs and a 28% decrease in annual waste generation [15].

In conclusion, TQM serves not only as a quality management framework but also as a vital 'bridge' between digital and green transformation at Sofitel. By systematically applying the eight principles of TQM, the hotel has achieved remarkable outcomes: a 20% reduction in operational errors, 30–40% electricity savings, a 25% reduction in water usage, and a 10–15% increase in NPS. These achievements reaffirm that Sofitel is on the right trajectory toward building a modern, sustainable, and customer-centric establishment that aligns with global luxury tourism trends.

5. Challenges and Solutions: The Role of TQM in Supporting Sofitel Saigon Plaza's Twin Transition

5.1. Challenges

As Sofitel pursues its strategic digital transformation and sustainable development goals, TQM serves as a cornerstone for ensuring continuous improvement, boosting productivity, and maintaining world-class service standards. However, when TQM is integrated into this innovation process, three prominent challenges have emerged that potentially undermine the model's implementation effectiveness at the

hotel.

Firstly, employee resistance to technological and procedural changes represents a common barrier in deploying TQM alongside digital transformation. The adoption of platforms such as PMS, CRM, or AI chatbots necessitates that staff adapt to new roles, master digital tools, and alter traditional service methodologies. Nevertheless, many employees may fear that technology diminishes their personal value or lack the confidence to navigate new systems. Dam (2023) indicates that three 'soft' factors of TQM- continuous improvement, customer focus, and employee engagement - directly impact operational performance in the hospitality sector [10]. When employees are disengaged or react negatively to change, TQM implementation struggles to achieve its intended outcomes.

Secondly, the high initial investment costs for technology and green solutions pose a significant financial hurdle. Digital transformation requires investment in infrastructure such as Big Data systems, AI, IoT sensors, and integrated management platforms. Concurrently, green transformation demands funding for solar energy, water recycling, and energy-efficient equipment. According to Wassan *et al*. (2022), while TQM can enhance operational efficiency and sustainability, its effectiveness is contingent upon a reasonable budget and a specific implementation roadmap [33]. In practice, hotels may require hundreds of thousands to millions of dollars for these categories, complicating the role of TQM in optimizing processes and cost allocation.

Thirdly, the shortage of digital and green management skills within the workforce diminishes the capacity to execute TQM effectively. Within the TQM framework, activities such as customer data collection, performance analytics, energy monitoring, and environmental risk assessment must be performed systematically. However, according to research by Uong (2025), green management skills - including sustainable recruitment, environmental training, and green performance appraisal - remain underdeveloped in Vietnam's service industry [31]. This competency gap makes it difficult to maintain consistent TQM standards during the digitalization and ecologization processes.

In summary, for TQM to be effective during this transition, Sofitel must prioritize digital skills training, enhance internal communication to mitigate resistance, and implement a logical financial roadmap for green technology. Failure to address these issues may result in stagnant or unsynchronized quality improvement and sustainable development goals.

5.2. Solutions

Amidst the escalating demands for digitalization and sustainable development, the application of TQM at Sofite acts as a pivotal mechanism for effective adaptation. To optimize TQM in supporting this transition, the hotel should implement three primary strategic pillars: human resource empowerment, sophisticated quality monitoring systems, and enhanced strategic partnerships.

Firstly, human resource training is a prerequisite for fostering technological proficiency and environmental consciousness throughout the organization. Employees must not only internalize core TQM principles - such as continuous improvement and customer centricity - but also acquire the technical capacity to utilize digital systems like CRM, PMS, and data analytics tools. Abdelhamied (2019) [2] demonstrates that systematic training significantly enhances service quality, guest satisfaction, and revisit intentions. This aligns with Wassan *et al*. (2022) [33], who assert that training within a TQM framework simultaneously bolsters operational performance and sustainability metrics.

Secondly, the hotel must invest in a standardized quality measurement and monitoring system. Tools such as Key Performance Indicators (KPIs), IoT sensors, and integrated asset management software are central to tracking energy and water efficiency, as well as synthesizing guest feedback. According to Prakash *et al*. (2022) [22], integrating KPI systems into green strategies enables hotels to identify operational bottlenecks and drive continuous improvement. This is consistent with the TQM model, which emphasizes evidence-based data and feedback loops to catalyze organizational refinement.

Finally, strategic collaboration with technology partners and environmental organizations is an effective pathway to enhance green governance and digital capacity. Such alliances allow Sofitel to leverage external expertise, reducing R&D costs through pre-developed solutions. Research from Thailand indicates that TQM fosters a Green Organizational Culture (GOC) and Employee Green Behavior (EGB), which collectively enhance a hotel's overall green productivity. This success is often contingent upon partnerships with specialized organizations to ensure green initiatives are standardized and transparent (Loedphacharakamon & Worakittikul, 2025) [17].

Furthermore, research in West Java, Indonesia, suggests that strategic partnerships act as mediators that amplify competitive advantage and business performance through the exchange of technical knowledge and market access (Priadi & Pratminingsih, 2024) [23]. Collaborating with tech providers (IoT, AI, or energy management software) and environmental certification bodies (such as Green Key, EarthCheck, or ISO 14001) facilitates the effective and controlled implementation of Green TQM standards. Specifically, by engaging with environmental experts, Sofitel can ensure its reporting and execution processes meet international benchmarks, thereby increasing transparency and trust among guests and investors. Additionally, Adams *et al*. (2022) [5] emphasize that collaborative sustainability actions help hotels build long-term competitive advantages, simultaneously mitigating environmental impacts and improving operational efficiency through advanced green technology.

In conclusion, TQM will only be truly effective in supporting the twin transition if implemented holistically, with a focus on people, data, and collaborative networks. By successfully executing these three solution clusters, Sofitel can assert its pioneering role in Vietnam's luxury hospitality sector.

6. Conclusion

In an era where the hospitality industry is under intense pressure from digital transformation trends and sustainable development mandates, TQM serves as a strategic bridge enabling Sofitel to execute these dual objectives effectively. Specifically, TQM not only facilitates the standardization of operational workflows but also drives continuous improvement, enhances guest satisfaction, and strengthens long-term competitive advantages (Wassan *et al*., 2022) [33]. Through the synergy of quality enhancement, data analytics, and human resource development, TQM provides a robust foundation for the deployment of digital solutions, such as IoT-based PMS and comprehensive green governance programs.

To further capitalize on this role in the future, Sofitel should accelerate the integration of TQM with international standards, such as ISO 9001 for quality management and ISO 14001 for environmental management. Adopting these frameworks will enable the hotel to transcend operational efficiency, elevating its prestige among guests and stakeholders (Abdelhamied, 2019) [2]. Furthermore, leveraging emerging technologies - including AI, the IoT, and intelligent monitoring systems - will be a strategic imperative to optimize operations, reduce expenditures, and achieve sustainability targets in a resilient manner (Prakash *et al*., 2022) [22].

7. References

1. Abdou AH, Hassan TH, El Dief MM. A description of green hotel practices and their role in achieving sustainable development. Sustainability. 2020;12(24):10257. doi:10.3390/su122410257.
2. Abdelhamied HHS. The impact of training activities on quality of service, customer satisfaction and behavioral intention. J Tourism Hospitality Manage. 2019;7(1):135-48. doi:10.15640/jthm.v7n1a14.
3. Accor Internal Report. Digital transformation outcomes and performance review of Sofitel Saigon Plaza. Paris: Accor Group Archives; 2024.
4. Accor. ALL – Accor Live Limitless. 2025. Available from: https://group.accor.com/en/brands/our-loyalty-program/all-accor-live-limitless.
5. Adams S, Kageyama Y, Barreda AA. Sustainability efforts in the hotel industry: a systematic literature review. J Tourism Manage Res. 2022;9(1):9-23. doi:10.18488/31.v9i1.2921.
6. Al-Ababneh MM. The implementation of Total Quality Management (TQM) in the hotel industry. Int J Tourism Hospitality. 2021;1(1):25-34. doi:10.51483/IJTH.1.1.2021.25-34.
7. Anwar A, Nair R, Ahamed S. Digital transformation in the hospitality industry: improving efficiency and guest experience. J Tourism Services. 2024;27(1):45-59. Available from: https://www.researchgate.net/publication/385653120_Digital_Transformation_in_the_Hospitality_Industry_Improving_Efficiency_and_Guest_Experience.
8. Athamneh S. The effect of green workplace design on employee engagement and productivity in the Jordanian public sector. Inf Sci Lett. 2024;13(2):261-71. doi:10.18576/isl/130202.
9. Conte D. Sustainability in the hospitality industry: challenges and opportunities. Ithaca (NY): Cornell SC Johnson College of Business; 2021. Available from: https://business.cornell.edu/hub/2021/10/06/sustainability-in-the-hospitality-industry-challenges-and-opportunities/.
10. Dam TT. Impact of "soft" total quality management practices on hotel's performance: an empirical evidence from Viet Nam. Int J Manage Entrepreneurship Res. 2023;5(5):267-80. doi:10.51594/ijmer.v5i5.478.
11. Dennis A. Digital transformation in hospitality (+examples, challenges). Whatfix Blog. 2024. Available from: https://whatfix.com/blog/digital-transformation-hospitality/.
12. EHL Graduate School. Sustainable technologies: how smart hotels reduce environmental impact. Hospitality Insights. 2024. Available from: https://hospitalityinsights.ehl.edu/sustainable-technologies-smart-hotels.
13. Green Business Benchmark. Hotel sustainability: reduce waste. 2024a. Available from: https://www.greenbusinessbenchmark.com/archive/hotel-sustainability-reduce-waste.
14. Green Business Benchmark. Sustainability guide: restaurants & commercial composting. 2024b. Available from: https://www.greenbusinessbenchmark.com/archive/sustainability-guide-restaurants-commercial-composting.
15. Green Key Global. Green Key certification: sustainability efforts at Sofitel Saigon Plaza. 2024. Available from: https://www.greenkey.global/.
16. Ijomah TI, Idemudia C, Eyo-Udo NL, Anjorin KF. The role of big data analytics in customer relationship management: strategies for improving customer engagement and retention. World J Adv Sci Technol. 2024;6(1):13-24. doi:10.53346/wjast.2024.6.1.0038.
17. Loedphacharakmon N, Worakittikul W. TQM and sustainable hospitality: unpacking the link between green culture, employee behavior, and hotel performance. Cogent Bus Manage. 2025;12(1):2499948. doi:10.1080/23311975.2025.2499948.
18. Mavitha K, Kushe Shekhar S. Mapping the landscape of digital transformation and digital technologies in the hotel industry: a comprehensive bibliometric analysis. Digit Transform Soc. 2025;1(1):1-12. doi:10.1108/DTS-09-2024-0178.
19. Mercan S, Cain L, Akkaya K, Cebe M, Uluagac S, Alonso M, *et al*. Improving the service industry with hyper-connectivity: IoT in hospitality. Int J Contemp Hospitality Manage. 2020;32(9):2913-33. doi:10.1108/IJCHM-05-2020-0441.
20. NewsRamp. Sofitel Saigon Plaza earns Green Key certification. LinkedIn. 2024. Available from: https://www.linkedin.com/posts/newsramp_sofitel-saigon-plaza-earns-green-key-certification-activity-7271075865533263872-tWs1.
21. Newsworthy. Sofitel Saigon Plaza achieves Green Key certification, setting new sustainability benchmarks. 2024. Available from: https://www.newsworthy.ai/curated/sofitel-saigon-plaza-achieves-green-key-certification-setting-ne/20249202.
22. Prakash S, Sharma VP, Singh R, Vijayvargy L, Nilaish. Adopting green and sustainable practices in the hotel industry operations: an analysis of critical performance indicators for improved environmental quality. Manage Environ Qual. 2023;34(3). doi:10.1108/MEQ-03-2022-0090.
23. Priadi Y, Pratminingsih SA. The effect of strategic partnerships on hospitality business performance in West Java with competitive advantage as an intervening variable. In: The 5th Asia-Pacific Management Research Conference (APMRC). Berlin: De Gruyter; 2024. p. 488-501. doi:10.2478/9788367405850-043.
24. Sanli M. Digital transformations in the hotel industry [dissertation]. Brookville (NY): Long Island University; 2024. Available from: https://digitalcommons.liu.edu/post_fultext_dis/.
25. 6SigmaStudy. The 8 principles of TQM. 2023. Available from: https://www.6sigmastudy.com/article?title=The-8-Principles-of-TQM.

26. Sofitel Saigon Plaza. Ho Chi Minh City: Accor; 2025a. Available from: https://all.accor.com/hotel/2077/index.en.shtml.
27. Sofitel Saigon Plaza. Ho Chi Minh City: Sofitel Saigon Plaza; 2025b-2025d. Available from: https://sofitel-saigon-plaza.com/ and subpages (including /sustainability).
28. Sun J, Nasrullah A. Green transition in the hospitality industry: the influence of market forces and customer dynamics on sustainable performance in the digital era. Heliyon. 2024;10(8):e29563. doi:10.1016/j.heliyon.2024.e29563.
29. Tasleem N. Activating sustainability from within: how green human resource practices translate employee commitment into environmental outcomes. Int J Humanit Sustainable Innovation. 2026;2(1):5-9. doi:10.54660/.IJHSI.2026.2.1.05-09.
30. Travel Conscious. The 4 best eco hotels in Saigon. 2023. Available from: https://travelconscious.co/eco-hotels-in-saigon/.
31. Uong LNT. The impact of green human resource management practices on corporate sustainability performance: a Vietnam case study. J Inf Syst Eng Manage. 2025;10(38s):246-56. doi:10.52783/jisem.v10i38s.6846.
32. Vogue. Eco-friendly hotels that are serious about going plastic-free. 2019. Available from: https://www.vogue.com/article/eco-friendly-hotels-that-are-serious-about-going-plastic-free.
33. Wassan AN, Memon MS, Mari SI, Kalwar MA. Impact of total quality management (TQM) practices on sustainability and organisational performance. J Appl Res Technol Eng. 2022;3(2):93-102. doi:10.4995/jarte.2022.17408.
34. Wikipedia. Sofitel. 2023. Available from: https://en.wikipedia.org/wiki/Sofitel.
35. Wu Y, Li J, Liu J. Trends in digitalized hospitality services: Accor Hotels Group's digital transformation. J Design Service Soc Innovation. 2024;2(3):65-86. doi:10.59528/ms.jdssi2024.1031a23.
36. Zhu J, Wang Y, Cheng M. Digital transformation in the hospitality industry. Boston Hospitality Review. 2021. Available from: https://www.bu.edu/bhr/2021/10/04/digital-transformation-in-the-hospitality-industry/.
37. Total Quality Management: enhancing productivity and quality of Vietnamese enterprises' products and goods towards 2020. Hanoi: Hong Duc Publishing House; 2020.

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