



# The strategic management of information technology in UAE hotels: An exploratory study of TQM, SCM, and CRM implementations

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## ABSTRACT

Although IT applications in the hotel industry have largely been devoted to the handling of routine operational problems, it has become increasingly evident for hoteliers that proactively incorporating IT into their services, operations, and strategy is a key element in their quest for service excellence and high profits. Based on a recent survey of IT applications and challenges in four- and five-star hotels in the UAE, this study presents the findings of an exploratory empirical investigation in this understudied, yet one of the fastest growing tourist destination in the world. Insights and recommendations for hotel managers in the region are, thereafter, drawn from the findings.

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## 1. Introduction

Hotel managers around the world are under pressure to increase the profitability with limited resources and under intensifying competition. Customer service has been widely recognized as one of the main areas in which a hotel's product can be differentiated from its competitors. When addressing managerial issues related to service quality and IT, empirical studies in tourism and hospitality have often focused on a specific region such as Australia (Presbury et al., 2005), Cuba (Cervino and Bonache, 2005), Tanzania (Sharma and Upneja, 2005), Hong Kong (Law and Jogaratnam, 2005), Thailand (Sahadev and Islam, 2005), The United States (Piccoli et al., 2003), Canary Islands (Espino-Rodrigues and Gil-Padilla, 2005), and North Cyprus (Nadiri and Hussain, 2005).

There is a significant body of literature that examined IT and information systems (IS) adoption and implementation from various perspectives (e.g., Zmud, 1982, 1984; Fichman and Kemerer, 1997). Most of these studies, however, have focused on issues related to adoption and implementation of such technologies, which are often referred to as either IT, implementation of cutting-edge information and communications technology (ICT), or IS to denote a combination of hardware, software, and networking systems. With respect to the hospitality industry, IT adoption has been gaining an increasing attention. Law and Jogaratnam (2005), for instance, provided empirical evidence for continuous use of IT for operational purposes, as opposed to strategic ones, in Hong Kong hotels. Meanwhile, Sahadev and

Islam (2005) explored the propensity of Thai hotels to adopt ICT; and empirically identified a set of location and firm-related factors that influence hotels decision to adopt ICT. They found that, though hotel size was not related to ICT adoption, higher-grade hotels are more likely to adopt advanced ICT. More focused studies addressed issues such as the strategic use of IT outsourcing from a resource-based view (e.g., Espino-Rodrigues and Gil-Padilla, 2005). In contrast, Singh and Kasavana (2005) performed a DELPHI study to anticipate the upcoming changes in the IT-enabled management of hotel operations.

IT use in hotels may be heading for high levels of sophistication and innovation as evidenced by Lau et al.'s (2005) demonstration of how text mining can be used in hotels. In comparison, little attention has been paid to the adoption and implementation of IT-enabled organizational innovations, such as total quality management—TQM— (e.g., Ravichandran, 2000), customer relationship management—CRM— (e.g., Raisinghani et al., 2005), and supply chain management—SCM— (e.g., Sengupta et al., 2006). These intertwined areas are usually examined separately, although they converge towards service improvement and customer satisfaction.

Recent studies on tourism and hospitality industry have addressed service-quality issues and TQM in various ways and locations (e.g., Arasli, 2002). Keating and Harrington (2003) compiled a comprehensive list of studies related to TQM implementation in hotels. Their review on service-quality literature raised several provocative issues and offered various lessons for hoteliers. Several success stories and case studies have also been published in research journals as well as trade magazines. For instance, Schindlerhoff hotel, in Nuremberg, successfully implemented a quality initiative based on the European foundation for quality management (EFQM) excellence model and consequently won the Award in 1998. The Ritz Carlton was also

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a two-time winner of the Baldrige National Quality Award (in the US) in 1992 and in 1999. Similarly, [Sowder \(1996\)](#) provided a detailed case demonstration of how Hampton Inn successfully implemented TQM.

Empirically, [Presbury et al. \(2005\)](#) interviewed 22 senior managers from 10 Sidney-based luxury hotels, and they found that impediments to developing and maintaining superior service quality include budget constraints, staff attitude, lack of mentoring, and high customer expectations. Earlier, [Breiter and Bloomquist \(1998\)](#) studied 230 US-based hotels and found that small and medium size hotels were less likely than large hotels to implement TQM. As in most TQM studies, [Partlow \(1996\)](#) emphasized the role of human resource practices in the successful implementation of TQM. These practices included cultural transformation, job redesign, employee involvement, better communication, and training, among several others. Issues related to ISO 9000 certification, in a TQM context, have also been addressed (e.g., [Magd, 2005](#)) in the literature. The literature on TQM is also replete with evidence of the use and firms' reliance on ICT to collect, store, analyze, and deliver quality-related information and knowledge to the right people at the right time.

Though directly tied to customer satisfaction, CRM has been somewhat neglected by researchers in tourism and hospitality management especially in comparison to TQM and service quality. Of the few research studies on CRM in the hospitality industry, [Piccoli et al. \(2003\)](#) provided an overview of the benefits and challenges of CRM implementation in the lodging industry with a special emphasis on data-ownership dilemma, which they claim to be an important obstacle for a comprehensive CRM implementation in US hotels. Still, CRM remains an attractive way for hotel chains to differentiate themselves from competitors. For instance, Marriott International implemented in 2001 a CRM package to serve about 2000 salespeople and other marketing employees ([Rosen, 2001](#)). A more IT and knowledge-intensive study was proposed by [Lau et al. \(2005\)](#). They provided a technical overview of *text mining* and a detailed demonstration of how it can be used by hotels to analyze customer data and manage customer-related knowledge.

As for CRM, research on the hospitality industry has allocated relatively little attention towards developing a more complete understanding of SCM-related challenges and current practices in hotels. Whereas the management literature is replete with entire journals dedicated to SCM, a database search of empirical, conceptual, and case studies related to SCM implementation and related IT issues in this industry yielded very few entries. [Avery \(2006\)](#), for instance, described how Royal Caribbean Cruises won back the confidence of its supply chain customers, namely the cruise line's marine operations and hotel operations. This was achieved by hiring quality people, significantly improving delivery reliability, simplifying internal processes, upgrading their IT systems, and segmenting their suppliers using a comprehensive scorecard. Meanwhile, by compiling expert opinions from renowned hotel chains, [Atkinson \(2006\)](#) identified some global trends that show the growing importance of SCM in the hospitality industry. While admitting that SCM in their industry is overall years behind manufacturing, they identified several SCM challenges and risks. Still, some hotels are making significant improvements in SCM by, for instance, adopting e-procurement solutions and developing closer relations with key suppliers.

These three somewhat overlapping best practices are widely adopted cross-functional and information technology-enabled enterprise initiatives that, if managed well, might become sources of sustainable competitive advantage. Strategic information systems here are defined as organizational level and far-reaching systems that should be distinguished from strategic-level systems, such as executive support systems (ESS) that support

long-range planning activities of senior managers. Granted, not all organizations need the level of complexity and integration provided by enterprise systems ([Davenport, 2000](#)). Indeed, such systems can be quite costly, overwhelmingly complex, inflexible, and fraught with uncertainty. Still, empirical and conceptual research on tourism and hospitality have paid relatively limited attention to these strategic information systems, a gap in the literature that needs to be bridged.

This study uses a descriptive approach to report on a recent exploratory investigation of the current IT uses and related strategic challenges in hotels located in the United Arab Emirates (UAE). More specifically, we attempt to: (1) analyze and report findings of a recent survey on IT applications and related challenges in four- and five-star hotels in the UAE, (2) assess the degree to which these hotels are using IT strategically to integrate and improve back-end operations and customer service with special focus on TQM, CRM, and SCM, and (3) explore opportunities for more effective strategic management of IT in four- and five-star hotels in this region and elsewhere. The following three sections outline some basic principles of these three IT-enabled enterprise initiatives.

### 1.1. Total quality management

Total quality management is a comprehensive management approach aiming at satisfying and even delighting customers. Whereas, customer satisfaction is considered to be the main purpose of TQM, continuous improvement is essentially the main factor ensuring that customer expectations are met and eventually exceeded. TQM is an organization-wide philosophy that focuses on systemically and continuously improving the quality of products, and processes and services. The key components of TQM are, hence, customer focus, continuous improvement in products, processes and services, statistical measurement, benchmarking, as well as the employee empowerment ([Ross, 1993](#)). More specific tools for quality improvement include, for example, Pareto analysis, cause-and-effect diagrams, check sheets, and statistical process control charts.

Since TQM calls for constant improvements and innovation in order to achieve a competitive advantage ([Damanpour, 1991](#)), there exists a critical need for training, learning, and innovation. Moreover, communication structures should support both internal and external flow of information. Internally, this means that information about the actual sources of problems and the results of subsequent improvement activities are conveyed to employees who are actually performing the work as well as a greater use of bottom-up data gathering techniques such as statistical process control ([Ittner and Larcker, 1995](#)). Internal cross-functional communication is important among departments like operations, finance, marketing, IT, and customer service. Better external communication includes, but is not limited to, customer involvement in design of product and identification of new products and services to improve product and service quality as perceived by the customer, as well as supplier involvement in the identification of opportunities for cost reduction and revenue generation.

### 1.2. Customer relationship management

As it has become one of the newest tools in today's business, customer relationship management is briefly defined as a set of activities aimed at generating the maximum corporate profit by achieving an optimum balance between an organization's investments and customers' needs satisfaction ([Gebert et al., 2003](#)). It includes people, cross-functional processes, and technological aspects associated with marketing, and sales and service

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