

Boston Hospitality Review

www.bu.edu/bhr

Published by the Boston University School of Hospitality Administration

Hotel Operator Types in the Digital Era

By Marcos Medeiros, Ph.D. student, Rosen College of Hospitality Management at University of Central Florida, Nan Hua, Ph.D., professor and the chair of the hospitality services department at Rosen College of Hospitality Management at University of Central Florida, Arthur Huang, Ph.D., assistant professor at Rosen College of Hospitality Management at University of Central Florida, and Agnes L. DeFranco, Ed.D., professor and Conrad N. Hilton Distinguished Chair at Conrad N. Hilton College of Hotel and Restaurant Management in University of Houston

Accounting & Finance - June 2021

About the Authors

Mr. Marcos Medeiros is pursuing his doctoral degree at the Rosen College of Hospitality Management at the University of Central Florida. Combining his former investment banking experience of more than 25 years dedicated to wholesale and corporate banking, Mr. Medeiros is currently conducting research on the fields of Hospitality Finance, Travel Technology, and Financial Behavior. Mr. Medeiros holds an M.S. degree from the Rosen College of Hospitality Management and an M.B.A. from the IE Business School.

[LinkedIn](#)



Dr. Nan Hua is a professor in hospitality financial management and serves as the chair for the Department of Hospitality Services at Rosen College. His research focuses on Performance Analysis, Information Technology, Intangible Assets analysis, Methodology and Applied Econometrics, and Education Program Evaluation and Education Methodology.

<https://hospitality.ucf.edu/person/nan-hua/>

[LinkedIn](#)

Dr. Arthur Huang is an Assistant Professor affiliated with Rosen College of Hospitality Management and College of Engineering and Computer Science, University of Central Florida. His research interests include big data analytics, applications of artificial intelligence in the travel industry, sustainability, and future of work. He has led multiple projects funded by state and federal agencies.

[LinkedIn](#)



Dr. Agnes DeFranco is a Professor and the Conrad N. Hilton Distinguished Chair at the Conrad N. Hilton College of Hotel & Restaurant Management, University of Houston, where she has also served as the Associate Dean and Interim Dean of the College, and the Associate Vice President for Undergraduate Studies for the University of Houston. In addition to her 120 plus refereed articles, she has a number of non-refereed publications, five textbooks, and grants include a USIA and USDA. Agnes was a global past president of the Hospitality Financial and Technology Professionals and a treasurer of ICHRIE. She currently serves on the Global Finance Committee, working on the 12th edition of the Uniform System of Accounts for the

Lodging Industry.

[LinkedIn](#)

Hotel Operator Types in the Digital Era



Source: Image by [LineTale](#) on [Shutterstock](#)

The rapid advancement of digital applications, adopting artificial intelligence, robotics, the Internet of things, and big data analytics, revealed their potential to revolutionize the current and the future hotel industry, especially after the outbreak of the COVID-19 pandemic. Information technology (IT) developments heavily influence the entire hospitality industry. Nowadays, new IT frameworks are increasingly employed to optimize hotel management processes and improve customer service. Guests have become familiar with technology-facilitated services such as mobile check-in apps, smart speakers, or robotic front desk agents. They have started to frequent AI-based hotels in countries like Japan (e.g., Henn na Hotel) and China (e.g., Flyzoo Hotel). Therefore, investment in information technology has become a critical factor in improving hotel efficiency, competitive advantage, and overall performance (Hua et al., 2015).

The investment in new technology has enabled many hotels and lodging businesses to receive better financial outcomes, especially in organizational productivity (e.g., minimizing energy use and food waste), employee productivity (e.g., improving job efficiency), customer service (e.g., helping in responding to guests' requests and online reviews), and commercialization (e.g., e-commerce and Internet-based distribution channels) (Melían-González & Bulchand-Gidumal, 2016). From the financial perspective, IT applications can help hotels improve performance immensely by a variety of value-adding activities such as creating new products, increasing their competitiveness, and decreasing operating costs and service delivery time. Self-service

solutions, for example, have been successfully introduced to lower labor costs, improve operational efficiency, improve hotel image, and customer experience.

However, IT investments in hospitality businesses do not always guarantee a positive effect on hotel sales. It is not uncommon to find a hotel that did not obtain the expected returns from its IT investments. Therefore, the exploration of the hotel business to identify important drivers that can influence the relationship between IT investment and hotel performance becomes critical.

According to previous research (e.g., Sainaghi, 2010), a hotel's organizational size, operation sophistication, and marketing complexity may all affect the success of IT investments. Various hotel-specific factors can also influence hotel performance, competitiveness, and customer satisfaction (Hua et al., 2017). From the practical perspective, it is critical to ask the following questions: Can the choice of operator type influence the effectiveness of IT expenditures? Which operator type is the most effective in utilizing the investments in technology? In other words, for every dollar spent on technology, which hotel operator type is the most effective in generating the highest financial return? Hua et al. (2020) shed light on these important questions.

Hotel Operator Types

Hotel owners can adopt different types of operating arrangements in business practices. Joint ventures, strategic alliances, consortia, independent, franchised, chained-managed, chain-owned, chain-leased, and specialized management companies are some examples. Each operator type is unique in the level of risk, ownership control, managerial power, the commitment of equity, decision for capital expenditures, financial and intellectual resources required, potential return on investment, and financial performance. Despite the many different operating arrangements, the majority of hotels can be categorized into three hotel operator types: independently owned and operated hotels (IOHs), franchised hotels, and hotels managed by a management firm (Walker & Walker, 2017).

Independently Owned & Operated Hotels (IOHs)

IOHs are typically owned by a single person or families who don't depend on any third parties for their hotel name or brand. The lack of bureaucracy and restrictive marketing policies enables an IOH owner to have complete control over appropriate marketing strategies. For example, an IOH can select Online Travel Agencies (OTA) for marketing and advertising, while franchise hotels may have certain agreements which might restrict the use of certain OTAs. In addition, IOHs could be more efficient and flexible in operating and promoting hotels than large companies and do not need to pay royalties and additional marketing fees. IOH owners have the flexibility of developing their own IT networks, personalized web pages, and booking systems.

On the other hand, compared with franchised hotels, IOHs' performance may face some challenges in IT decision-making, employee selection, and managerial experience which are likely constrained by restricted expertise and resources from the relatively

smaller ownership. For example, IOHs often face a lack of expertise and information in the development and implementation of advanced IT technologies. Furthermore, when compared to franchised hotels, a lack of financial capital to invest in new technology and IT predictive tools can put an IOH in a more vulnerable market position, jeopardizing its overall performance. In short, the lack of market power, financial vulnerability, and credit restrictions can make an IOH more susceptible to failure during volatile market conditions or periods of demand downturns.

Franchised Hotels

Franchised hotels operate under the same globally, nationally, or locally branded chain. The franchisor provides the IT infrastructure, marketing distribution strategy, and other secondary administrative resources such as human resources, procurement and finance management. Franchised hotels share many important resources and substantial investments with other franchisees in a number of fields, (e.g., marketing, IT management software, trademarks, online booking systems, service quality, and employee training). Despite the substantial royalty fees and the risk of restrictive policies, hotels operating under franchise agreements can benefit from an established IT system structure that is proven working. They can access many market-tested IT tools and systems offered by hotel franchisors, such as central reservations systems, yield/revenue management services, global distribution systems, loyalty programs, brand recognition, and marketing activities. In addition, franchised hotels can benefit from a variety of shared resources and economies of scale, including cost-cutting steps, frequent-stay, efficient revenue management, e-commerce, and advertisement costs. Research shows that utilizing franchises can have a significant and positive impact on hotel performance (Hua et al., 2017).

The advantages of franchised hotels come with a cost. A franchised hotel must adhere to a fairly standardized franchise agreement that includes specific operating guidelines, standard protocols, and territorial limits. Franchised hotels typically need to make both initial and ongoing payments such as royalties, marketing, and maintenance costs to the franchisor. Prior studies suggest that early years of switching from an independently owned hotel to a franchised hotel tend to see a slight drop in financial results and an immediate sharp drop in service quality (Hesford et al., 2015). Moreover, the more comprehensive and sophisticated a hotel's service is, the greater the hotel's reliance on IT services.

Management Companies

Independent hotels can be managed by specialized third-party companies under a management contract, which is a signed agreement between an owner and operator. The operator is to manage and maintain the hotel on behalf of the owner; a signed agreement outlines the operator's duties, limits, and remuneration in great detail. This agreement allows an individual hotel owner to maintain legal ownership of the hotel, including the land, structures, facilities, and equipment, while the property operator oversees the hotel's day-to-day operations. Franchisors tend to be strict in complying with their chain conversion standards such as furniture, colors, policies and employee training procedures. Hiring a management company can be a wise decision in saving

hoteliers' time and resources. A specialized management company provides hotel owners with an IT bundle that can be similar to that offered by a hotel franchisor. Although a management agreement does not usually include hotel branding, hotel owners tend to benefit from the economy of scale and lower initial costs by using management firms' IT systems to improve loyalty schemes and centralize booking systems. Furthermore, hotel management companies' IT management systems tend to be more powerful and capable of accurately forecasting demand, thus offering system users a competitive edge in enhancing operational efficiency. Over the years, this operational approach has become more popular, especially for independent hotels with more than 20 rooms.

However, management fees could affect a hotel's profit. The fees may include a base fee, an incentive fee, or a mix of both. While in some cases base fee may be a lump sum, most management fees are calculated as a percentage of gross sales. The revenue-driven compensation arrangement allows management companies to promote capital investment plans that treat revenue-earning as a priority. Therefore, management firms are more concerned with short-term cash flows, while owners are likely more concerned with long-term cash flows. Capital budgeting, including IT investment, should be carefully evaluated when considering use management companies to operate a hotel.

Which operator type is the most efficient for IT expenditures?

In order to measure the effects of the operator type and IT expenditures on the hotel operating performance, same-store data of 2,238 hotels across 50 states in the US were requested from CBRE Hotels Research. Data over the years 2010–2017 for the 2,238 properties were analyzed; the hotels' revenue ranged from \$536,201 to \$435,000,000, with an average of \$10,200,000. The average annual IT spending was \$188,168 with the maximum \$42 million for the biggest hotels with more than 2,000 rooms. The average annual spending on loyalty programs was \$ 115,476 with the highest reaching over \$3 million.

After a series of rigorous statistical tests, we found that the impact of IT expenditure on hotel revenue depends on the operator type. Franchised hotels and management-company-operated hotels use the money on IT more efficiently than IOHs. In other words, these two operator types appear to bring in more revenue for every dollar they spend on IT than IOHs. In addition, the study revealed that paying hotel franchise royalties and management fees can add value to hotel owners in revenue improvement. The franchised hotels overall receive worthwhile performance returns from their investment in royalty fees. For illustration purposes, we provided below Table 1 that shows by operator type the mean annual total IT expenses, the mean annual gross operating profit margin (GOPM=Gross Operating Profit/Total Revenue), and the mean annual RevPAR (Revenue per available room).

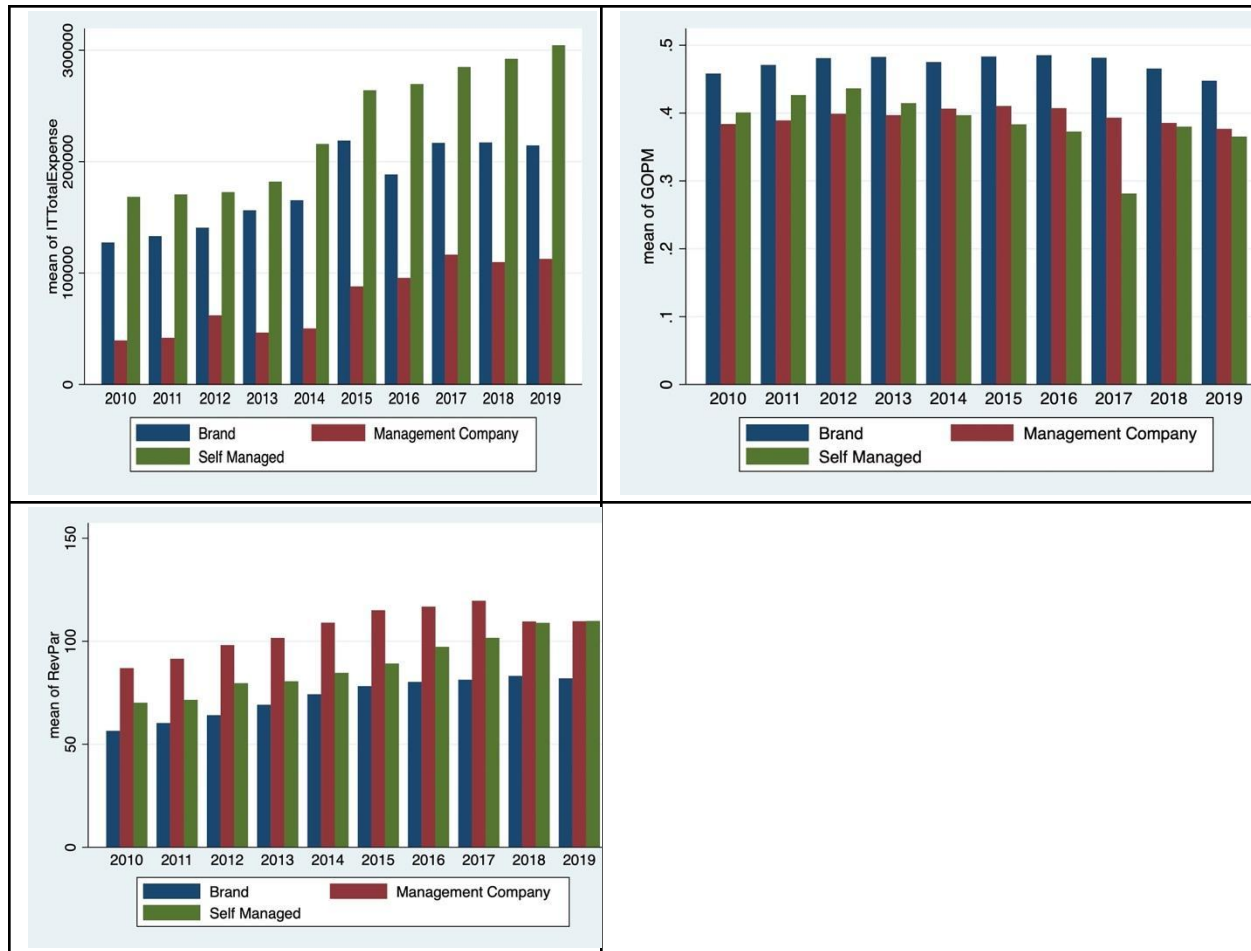


Table 1: Mean Annual Total IT Expenses by Operator Type (Top Left), Mean Annual Gross Operating Profit Margin (GOPM) by Operator Type (Top Right), and Mean Annual RevPAR by Operator Type (Bottom Left)

Discussions and Conclusions

Hoteliers would benefit greatly from a deeper understanding of how IT expenditures influence hotel operating efficiency, as IT plays an increasingly important role in hotel operations. The impact of IT on hotel performance depends on the operator type. Understanding the intricacies and choices available will support appropriate use of IT in hotel business operations.

Hotel owners can make different types of business arrangements. Some examples are joint ventures, strategic alliances, consortiums, independent, franchised, chain-owned, chain-leased hotels, and companies' specialized management. Each operational model is associated with a certain level of risk, control of ownership, management strength, equity commitment, investment expenditure decision, necessary financial and intellectual means, the potential return on investment, and financial performance. The most commonly seen operator types include IOHs, franchised hotels, and hotels managed by a management company.

This study sheds light on the decision-making process of hotel operator types. There is robust evidence that operator types such as franchise and management companies have a significant and positive effect on IT expenditures effectiveness. Therefore, hoteliers using franchise agreements and management companies seem to have used their technological expenditures more efficiently than independent hotel owners. This is critical because IT expenditures can support hotel performance in different areas, such as operations, productivity of employees, customer service, commercialization, energy saving, water and food management, guest interaction, online reviews management, reservations, and overall service quality. Regarding the gross operating profit from IT investment, both hotels using management companies and IOHs seem to be inferior to franchised hotels. Thus, hotel owners should take a much more comprehensive view of each operator type's pros and cons in their decision-making processes. In addition to the efficiency of technology expenditure, franchise affiliations can offer hotel owners the possibility of exploring additional profit and revenue sources, including branding, loyalty programs, and access to centralized reservation systems. Therefore, it is critical to choose the appropriate type of operator for maintaining a high return of investment from IT expenditures.

References

- CBRE (2020, June 17). *CBRE hotels research*.
<https://www.cbre.us/cbre%20hotels/our-services/cbre-hotels-america-research>
- Hesford, J.W., Pizzini, M. and Potter, G. (2015), *An empirical analysis of performance impacts resulting from conversion to franchise operations*, AAA 2015 Management Accounting Section (MAS) Meeting, available at:
<https://ssrn.com/abstract=2482838>
- Hua, N., & Yang, Y. (2017). Systematic effects of crime on hotel operating performance. *Tourism Management*, 60, 257-269.
- Hua, N., Morosan, C., & DeFranco, A. (2015). The other side of technology adoption: examining the relationships between e-commerce expenses and hotel performance. *International Journal of Hospitality Management*, 45, 109-120.
- Hua, N., Huang, A., Medeiros, M., & DeFranco, A. (2020). The moderating effect of operator type: the impact of information technology (IT) expenditures on hotels' operating performance. *International Journal of Contemporary Hospitality Management*.
- Hua, N. (2020). Do information technology (IT) capabilities affect hotel competitiveness?. *Journal of Hospitality and Tourism Technology*, 11(3), 447-460.
- Melián-González, S., & Bulchand-Gidumal, J. (2016). A model that connects information technology and hotel performance. *Tourism Management*, 53, 30-37.

Sainaghi, R. (2010). Hotel performance: state of the art. *International Journal of Contemporary Hospitality Management*, 22(7), 920-952.

Walker, J.R. and Walker, J.T. (2004), *Introduction to Hospitality Management*. Prentice Hall.