

# Information Systems in Sustainable Hospitality and the Creation of Business Value

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## Abstract

The primary study areas of this research are Information Systems, Sustainable Development and Hospitality Industry. During the last few years, many surveys have examined the connection of the above concepts and how they could lead to business performance, aiming for a competitive advantage and economies of scale. There is a gap in the international literature review regarding the above meanings and the business value. So, the main goal of this research is to find this gap and propose a conceptual framework for future research. The methodology used in this paper is based on a literature review, which tries to find the gap in the international literature and understand the concepts under examination. The main finding of this research is the development of a conceptual framework, which explains how the sustainability and the resources of Information Technology could lead to the creation of business value. Finally, hotel managers and companies could benefit from this added value and strengthen their position inside their task environment.

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## Introduction

According to Melian-Azola et al. (2020), hotel managers have to face a lot of difficult situations affecting the tourism industry, including environmental issues, economic crises, pandemics, regulatory changes, and new customer demands. Moreover, due to the new regulations and policies of the European Union and the United Nations, tourism companies have to adopt a new philosophy and traditions regarding sustainable development. However, the tourism industry is one of the entrepreneurs because it is one of the first sectors to establish definitions and principles for 'sustainable tourism', strategies, and action plans (Budeanu et al., 2016).

In addition, the Tourism and Accommodation Industries could not be functional and efficient without the use of Information Systems (IS), which provide companies with enormous possibilities. IS allows hotel managers to identify customer needs so they can adapt their products and services. Moreover, hotel managers, through the use of IS, can choose and collaborate with suppliers and strategic partners who share the same philosophy (Piccoli et al., 2008).

In addition, hotel companies have to deal with the Coronavirus Disease 2019 (COVID-19) crisis and the energy crisis, which are truly global problems. More specifically, this new crisis has created wide-ranging problems for the hospitality industry, driving it into uncharted waters (Jones et al., 2020). So, hospitality companies need to come closer to customers and understand their needs and preferences. This is the most effective way for hotel companies to increase their customer loyalty and their business value.

## Literature Review

Authors conduct a literature review analysis to understand the meaning of these concepts and develop a conceptual framework (Stroumpoulis et al., 2021). Therefore, the main concept of the literature review is to understand the main topics and theories associated with the phenomenon under study.

### *Sustainability in the hospitality industry*

Apart from the original and the main definition of sustainable development, there have been a number of issues with how sustainability is defined within the hospitality industry. According to the World Commission on Environment and Development and its definition, "sustainable hospitality" is defined as: "... hospitality industry development and management that meets the needs of today's guests, hoteliers and stakeholders without compromising the ability of future guests, hoteliers and stakeholders to enjoy the benefits from the same services, products and experiences" (Jones et al., 2016). However, during the last few years, some researchers have claimed that hospitality management and tourism sustainability are still underdeveloped and not at the desired levels (Ertuna et al., 2019).

The hospitality industry embraces and includes a wide variety of accommodation facilities, from resorts and hotel buildings to Airbnb apartments; food and beverage services and facilities, including restaurants, bars and cafes, coffee shops and nightclubs; and travel and tourism, such as package holiday tours and different type of cruises (Jones et al., 2020). However, hotel companies will indeed deal with new sustainability strategies and invest in new technologies and policies in order to meet a number of the SDGs or to map their existing strategies onto the SDGs (Jones et al., 2016).

### *Smart Hospitality Impact on Business Value*

Nowadays, customers are living “inside their phones.” These customers could become content creators and post their opinions at any time, which could influence the reputation and the number of reservations in the hotel industry and create added customer brand value. So, a new challenge is being created in hotel management, following the new trends in technology (Gonzalez et al., 2019). Tourist experiences are set in a traditionally highly technology-dependent industry context and, for a long time, have been greatly affected by information technology design, both in relation to the use of specialised interactive systems (e.g. destination management systems, in-room entertainment, self-check-in kiosks) (Lehaney et al., 1999) or based on general-purpose systems for the delivery or enhancement of services (e.g. provider websites, mobile phone applications) (Slivar et al., 2019; Wani et al., 2017). Therefore, a hotel company needs to adopt new technologies and train its staff in order to follow all the new technologies and cover all the demands of the new generation. Thanks to information technologies and systems, many hotel companies have increased their financial performance after adopting new technologies (Hua et al., 2020).

According to specific surveys (Varelas et al., 2021), IT and mobile applications are able to increase hotels' competitive advantage by lowering operational costs, improving financial results, adding extra values, increasing agility, reducing internal processing time and developing new products and services. Value could be created and added to an organisation when the costs of producing/ delivering goods or services are at a lower level than the benefits which would be gained by selling them. In other words, value should not only be considered in monetary units because it may include different types of social results, such as the creation of jobs. Besides the social impact, the value may include environmental results, such as recycling (Cavagnaro, 2018). Moreover, due to the COVID-19 pandemic, customers prefer to use technologies to have a self-service experience, reducing the time spent with other people (Oliveira et al., 2021). So, e-commerce technologies have an overall positive impact on hotel image and revenues (Hua et al., 2015). Therefore, the adoption of IT helps companies create business value (Piccoli et al., 2008).

### *Conceptual Framework*

Based on the literature review analysis, the authors try to develop a new conceptual framework for better printing and analysing business value so that hotel companies can understand the full potential of the above combination and start investing in new technologies. Figure 1 presents the business value conceptual framework.

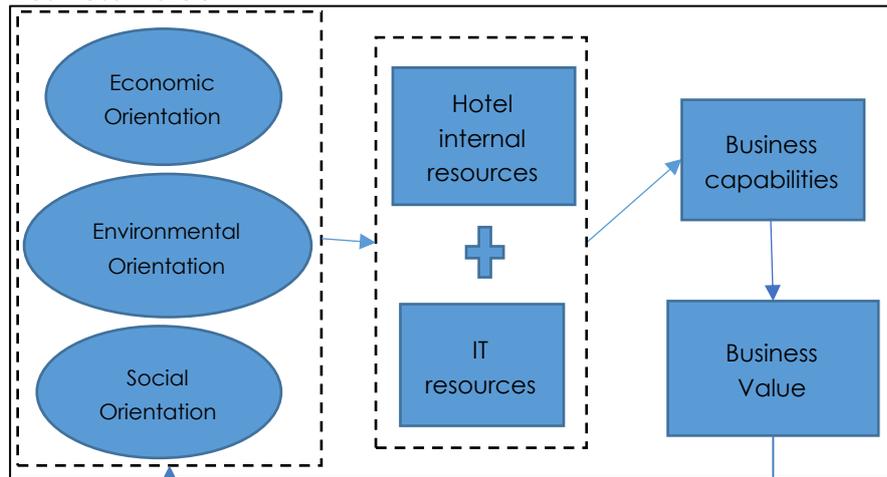
According to Xiang et al. (2021), during the last decade, there has been a significant evolution of information technologies and systems which affect tourism management. IT resources are the backbone of a company and could support all hotel management operations (Maemunah et al., 2021). Therefore, IT can improve customer satisfaction, staff productivity, internal operations, and operating costs (Cai et al., 2021).

Apart from the IT resources, hotel companies should use their hotel management resources and combine them with those of IT. These resources are human resources and operation resources (Leonidou et al., 2013). The above combination of resources leads to the development of specific business capabilities that hotel companies could benefit from (Lu et al., 2011).

The above capabilities lead to the development of business value. According to the “stakeholders” theory (Freeman, 2001), hotel managers are obliged to publish and inform all the different groups of people (who are related to the company), such as the society, shareholders, etc., so that they will be aware of the company's policies

etc. By doing that, the company could create a legitimate image (Ouyang et al., 2019). This image could lead to an increase in business value because the customer's loyalty is going to increase, which would turn into more bookings and monetary units, improving both the social and economic dimensions of the company's sustainability. Moreover, according to the stakeholder theory, the company will have the chance to collaborate with all the trading partners, internal staff, and society. This collaboration could lead to respect for society and the environment. So, the business value will increase, helping the company to fulfil its goals and develop new strategies.

Figure 1  
Business Value



Source: Author's illustration

## Conclusion and Future Work

According to the above conceptual framework, hotel companies must use their resources and combine them with new IT resources in order to make their internal processes, collaboration with partners and provided services to clients more effective and efficient (Varelas et al., 2021). The combination of the above resources can create business capabilities that lead to the creation of business value and increased performance (customer loyalty and financial results). This new business value, which is derived from the customers, leads companies to develop sustainable strategies in order to adapt and survive inside their task environment. In the near future, the authors plan to develop specific case studies in the Greek Tourism environment with hotel companies that are leading the adoption of new technologies and sustainable policies to find out to what degree business value is added to their companies.

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