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Operation Management in Servuccion Systems of the Hotel Sector of Cartagena de Indias (Colombia): A Systematic Review

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Abstract

The purpose of this paper is to characterize the management of operations in the service systems of the hotel sector in Cartagena de Indias. Servicing, understood as the manufacture of services, together with approaches such as Lean Service and six sigma focused on eliminating waste and improving efficiency in service processes, is a topic of interest. When reviewing the existing literature on operational management in hotels, it is observed that several authors have addressed this topic through studies or analyses. However, little attention has been paid to research on how these approaches, successful in the area of manufacturing, can be effectively implemented in service manufacturing. For the preparation of this document, we chose to use a qualitative research methodology applying the Gavilan model, which will allow us to offer a clearer and more precise vision of what is in the subject in the time horizon of the last 5 years (2014 – 2024). The expected results seek to determine the extent to which these improvement approaches are being implemented in operations management in the hospitality sector, providing valuable insights into areas of

opportunity and challenges. It will also seek to identify potential improvements and offer recommendations to optimize operations management and, therefore, elevate the customer experience in the hotel sector in the city of Cartagena de Indias, Colombia.

Keywords
Hotel Sector, Operations Management, Servuccion Systems, Gavilan Model, Customer Experience.

1. Introduction
The hotel sector is a critical part of the tourism industry worldwide. It refers to the grouping of establishments that offer temporary accommodation services to travelers and tourists. These establishments range from small boutique hotels and hostels to large hotel chains and luxury resorts. (Sánchez Jiménez, Fernández Alles, & Mier-Terán Franco, 2018) The hotel sector is crucial to the economy of many countries, as it not only provides accommodation for visitors, but also generates employment, drives local economic growth, and contributes to the development of tourism in general. Hence our interest in characterizing the management of operations in the service systems of the hotel sector in Cartagena de Indias

Hotels have faced significant challenges over the past few years, particularly during the COVID-19 pandemic, where they experienced a drastic decline in revenue and occupancy. According to data from the National Administrative Department of Statistics (MMH, 2020), in May 2020 the real revenues of hotels in Colombia decreased by 93.5% compared to May 2019. However, it is important to highlight the resilience of this sector in order to overcome this situation and stabilize its indicators at normal parameters in accordance with the trends that the sector brings. Nationally, by February 2024 the occupancy rate was 51.4%, which by February 2023 this percentage was 54.3% (EMA, Monthly Accommodation Survey, 2024), which represents a decrease of 2.9 percentage points compared to the immediately previous year.

According to data from the Monthly Accommodation Survey (EMA, Monthly Accommodation Survey, 2024) in Cartagena, for February 2024, the occupancy percentage was 70.2%, while in February 2023 it reached 73.7%, representing a decrease of 3.5%. This reduction may be due to the decrease in the influx of domestic travelers, and the increase in the participation of accommodation platforms, such as Airbnb, which are competing directly with the offer of traditional hotels (Como vamos, 2024). Despite this slight decrease, leisure continues to be the main reason for travel, contributing a remarkable 52.3% to hotel occupancy. This underlines the continuation of the trend where leisure is positioned as the main driver behind the demand for hotel services.

1.1 Evolution of the Hotel sector
The word hotel originates from the French word hotel, and was used to refer to a hostel, or an urban mansion. A hotel can be defined as a traditional business. The set of numerous hotels and the professionals who work in them is often referred to as the "hotel industry". The hotel industry is the collective of hotels that feed the market of tourists, users and travelers who seek accommodation in tourist destinations during their trips. (Roche, 2020)

The hotel sector has undergone an evolution marked by a series of trends and challenges. A steady growth in demand for accommodation, driven by the increase in domestic and international tourism. This growth has been notable in popular tourist destinations such as Cartagena-Colombia, where the expansion of hotel infrastructure has responded directly to growing demand. (Susana Uribe Montoya, 2003)

Technology has played a pivotal role in transforming the hospitality industry over the past ten years. From implementing online reservation systems to using mobile apps and smart in-room technology, hotels have sought to improve operational efficiency and offer a more personalized experience to their guests. In addition, digitalization has allowed hotels to collect data on guest preferences and behaviors, allowing them to offer more personalized services and improve customer loyalty. (Joaquim Martínez, 2006)

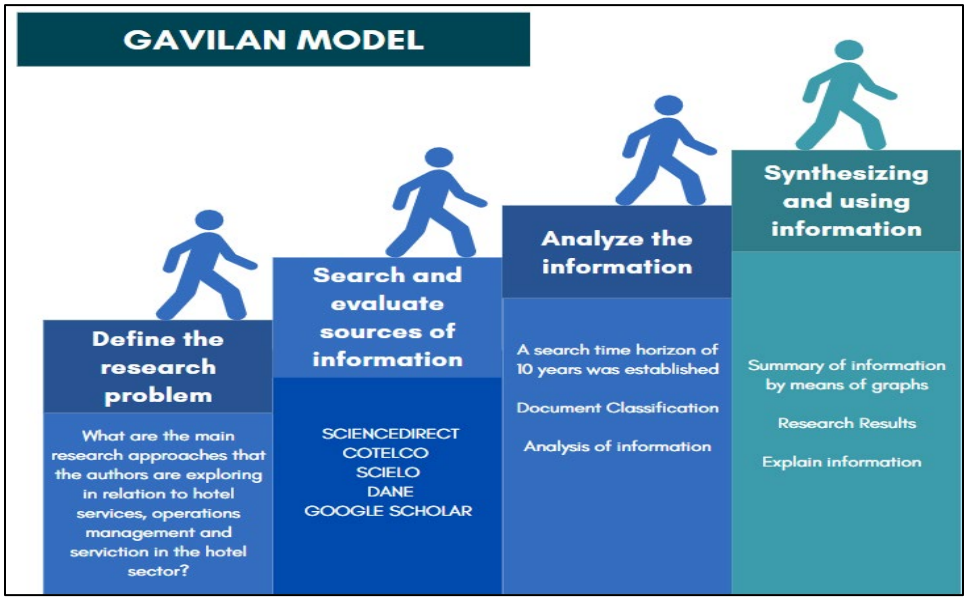
2. Objectives
- Characterize the management of operations in the service systems of the hotel sector in Cartagena de Indias.
- Identify the main research approaches that the authors are exploring in relation to hotel services, operations management and service in the hotel sector.
- Analyze the behavior of the hotel sector after the economic recovery following the crisis caused by the COVID-

19 pandemic.

3. Methodology

The Sparrowhawk Model is presented as a methodology whose main objective is to develop the Competence to Handle Information (CMI). This methodology provides an organized and logical structure for solving Information Problems in the educational context.

Figure 1. Gavilan Model



Source: Authors' own creation (2024)

Figure 1. establishes the methodological stages for the development of the Gavilan model, which are described in detail as follows:

3.1 Define the Problem

To start the research process, it is crucial to formulate a problem question that guides the approach to the problem at hand and, eventually, leads to a satisfactory solution.

What are the main research approaches that the authors are exploring in relation to hotel services, operations management and Servuccion in the hotel sector?

3.2 Finding and evaluating sources of information

Sources of information are essential in all research, as they are the ones that support its validity in the scientific community. In an environment where massive data generation is a constant and where anyone can publish information online, it is essential to apply selective criteria when choosing sources. Therefore, the following criteria were defined in this document to ensure the reliability and relevance of the information collected:

- Recognition in the area of research
- Sources of statistics at the national level
- Representative authors in the field
- Hospitality industry trade groups

Therefore, the databases used in this document were: SCIENCEDIRECT, Google Scholar.

3.3 Analyze the information

To ensure the robustness and reliability of the research, a time horizon of 10 years was established. This allows us

to analyze the behavior of the hotel sector over a significant period of time. A total of 59 articles related to operations management, service, production administration and hotel operations management were evaluated. This in-depth analysis provides us with a broad and detailed view of trends and practices in these key aspects of the hospitality sector during the study period.

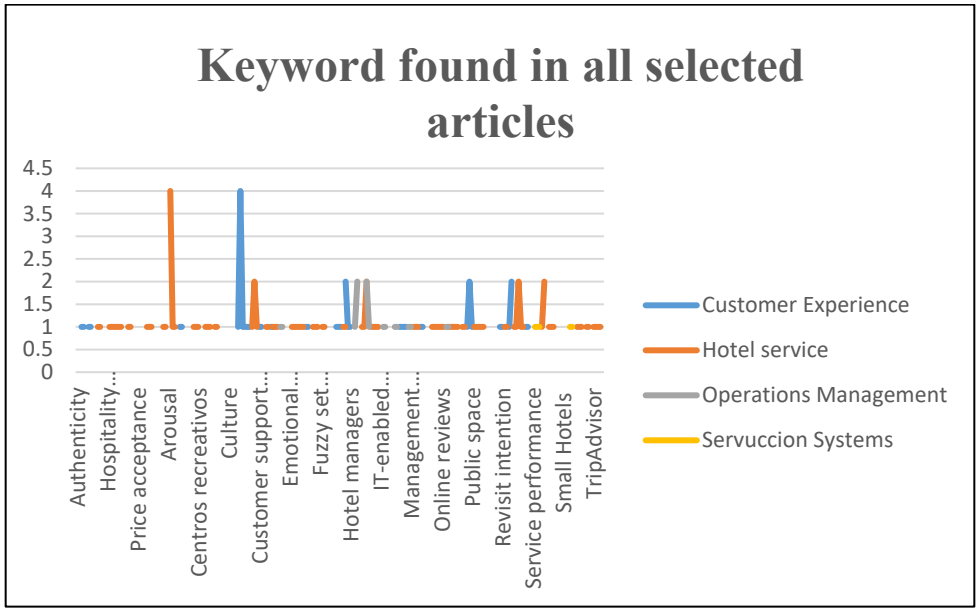
3.4 Synthesizing and using information

At this stage of the methodology, we will focus on the elaboration of statistical graphs. These charts will serve as a visual summary of the previous stages and help answer the initial research question.

4. Results

4.1. Define the Problem

The definition of the problem was a crucial point in the elaboration of this article. At this stage, it was possible to clearly establish the purpose of the review, highlighting the relevance of the hotel sector at a global level and its impact on the development of a country. For us, the most important thing was to identify the main research approaches that the authors are exploring in relation to hotel services, operations management and service in this specific sector. See Figure 2.



Source: Authors' own creation (2024)

Figure 2. shows the trends with different research approaches, highlighting the focus on customer experience and asymmetry studies.

3.2 Finding and evaluating sources of information

A variety of databases were used, including Google Scholar, Scielo and SCIENCEDIRECT due to their strong reputation and recognition in the scientific community. These platforms offer a wide range of articles related to the hospitality industry, making them reliable and valuable resources for research. For example, Google Scholar is a renowned platform that indexes an extensive amount of academic and scientific literature in various disciplines. In addition, DANE is a public entity in Colombia in charge of collecting, processing and disseminating official statistical information about the country, while COTELCO is a trade association that brings together various actors in the tourism sector in Colombia, including hotels, restaurants and tourism companies. Together, these databases provide comprehensive access to relevant and up-to-date information for research in the hotel field.

3.3 Analyze the information

Prior to the emergence of the coronavirus, the global tourism sector had experienced continuous growth for decades. According to the following graph, it can be seen that the two most significant crises of recent decades, the SARS epidemic in 2003 and the global financial crisis in 2009, were considered as "small difficulties" compared to the impact generated by the Covid-19 pandemic, as concluded (Richter, 2024) In Figure 3. The growth trend of the sector is observed and the biggest crises they have faced are pointed out.

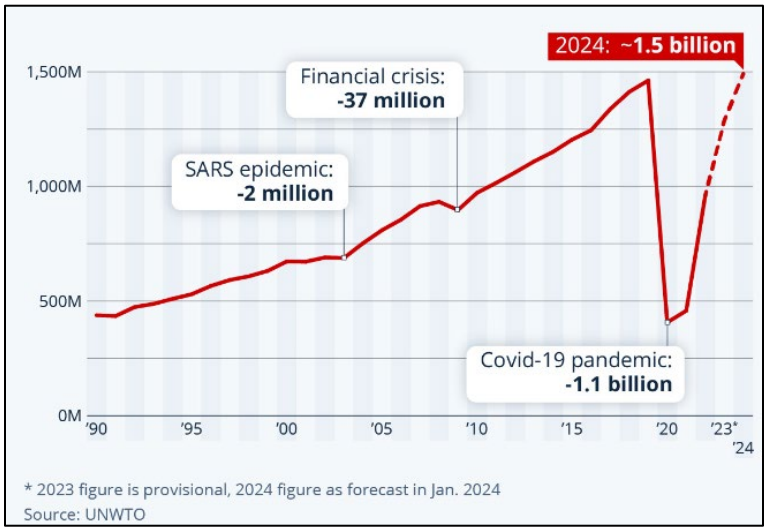


Figure 3. International tourist arrivals worldwide since 1990
Source: Statista (2024)

In graph number 3, we can observe the trend of the hotel sector and see in proportion how the two previous crises affected it compared to the COVID-19 crisis. Looking ahead to 2024, travel volumes will continue to recover thanks, among other factors, to "the release of remaining pent-up demand, increased air connectivity and a stronger recovery in Asian markets and destinations", according to the (UNWTO, UNWTO World Tourism Barometer, 2024)The dizzying changes taking place in today's market, suggest to companies that want to be competitive and stay in the middle (Sánchez-Comas, 2016), that they must incorporate innovative processes, products and services and promote technological developments, capable of generating added value and adjusting to the needs of consumers (Steffens, 2017); hence, innovation and technological development are two management strategies that favor the continuous improvement of the processes managed by contemporary organizations, which, according to (García-Fernández, 2014), are immersed in the age of knowledge (Figure 4).

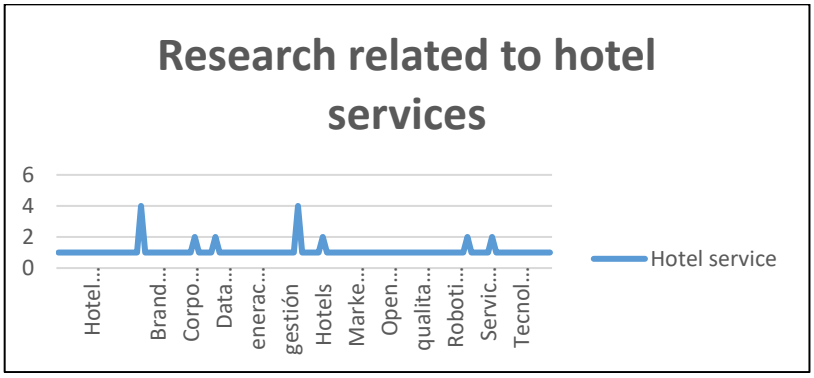


Figure 4. Investigated specifically related to hotel services
Source: Authors' own creation 2024

Figure 4 shows the research related to the area of hotel services. It highlights the crucial role that meals and food play in the hospitality industry. Ongoing research on the integration of 4.0 technologies in hotel services, including the implementation of robots in service delivery, is also highlighted.

3.4 Synthesizing and using information

After analyzing and compiling several articles, we have generally identified trends in research related to the hotel sector. The importance of incorporating people in areas with a focus on the customer in order to improve hotel experience and services is highlighted, together with studies of asymmetric relationships. This approach reflects a growing concern to understand and improve the interaction between guests and the services offered by hotels, which undoubtedly impacts the overall quality of the customer experience in the hospitality industry.

In this section, the result of the trend validation and prioritization exercise carried out through five focus groups with experts from the tourism sector, including representatives of trade unions, entrepreneurs, public administration, academics and researchers, is presented. The main objective of these groups was to interact to validate previously identified trends through secondary sources that sought to validate both specific trends and general trends, and, in addition, the possibility of including other topics relevant to the research was explored. (Qualifications, 2021).

In the focus groups, the IMI instrument was used as a tool to review the importance, materialization and occupational impact of each of the identified trends. When analyzing the importance of these specific trends, it was observed that most were classified as "important" or "very important". Among a total of 21 trends (Figure 5).

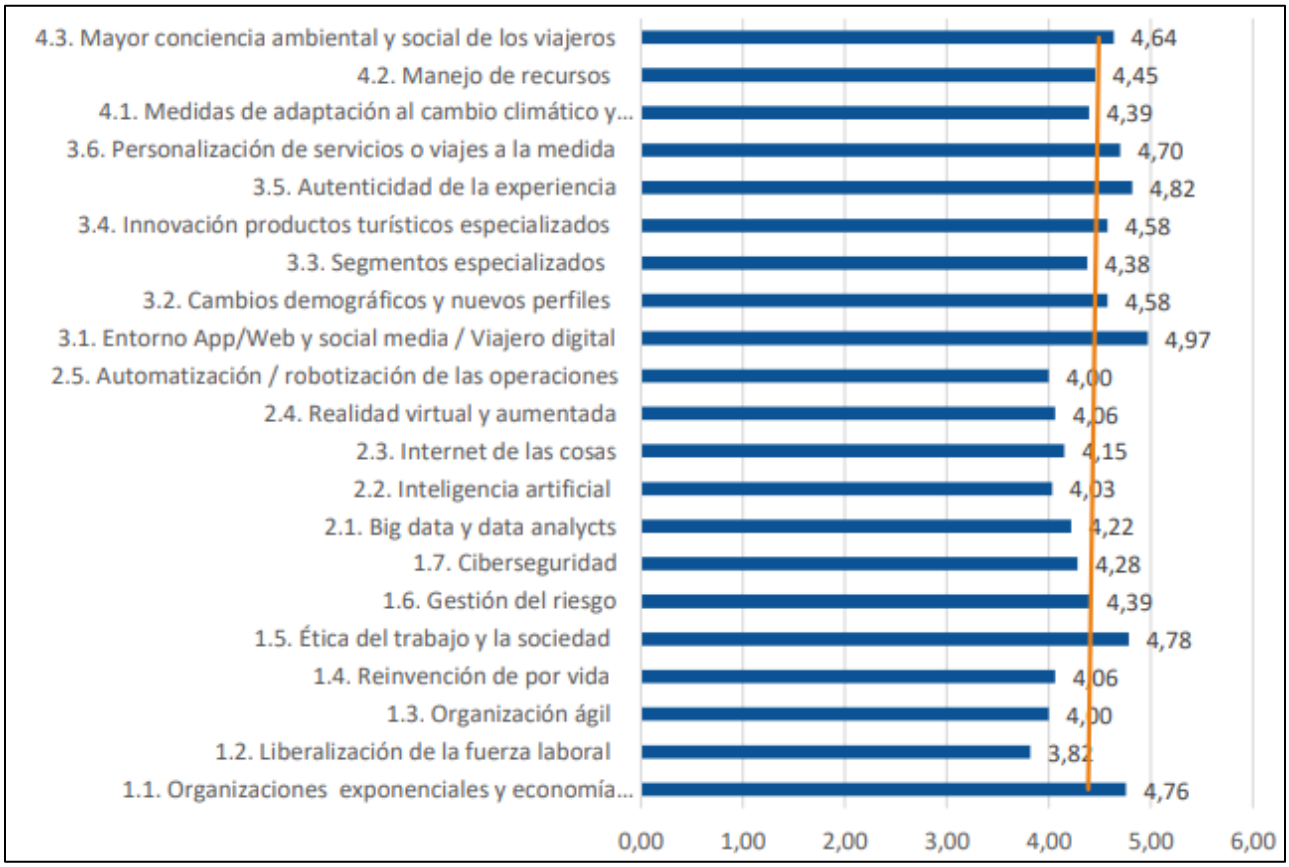


Figure 5. Importance of Specific Trends in the Tourism Sector
Source: National Qualifications Framework (NQF) based on foresight group results (2021)

We can see that among those considered most relevant in order of importance were the following:

1. App/Web and social media environment / Digital traveler
2. Authenticity of the experience
3. Work Ethic and Society
4. Exponential Organizations and the Sharing Economy
5. Customization of services or tailor-made trips
6. Increased environmental and social awareness among travelers

Roadmap: Digitalization in the Hotel Business

Objective: To drive operational efficiency and improve the customer experience by digitizing key processes in the hotel business (Figure 6).

Benefits of Digitalization:

• Improved operational efficiency.
• Increased customer satisfaction.
• Optimization of resource and cost management.

Digitization Areas:

Customer Service:
• **Action:** Digitize customer service, allowing bar and restaurant staff to take orders digitally.
• **Benefits**: Greater convenience for customers when ordering from any location in the hotel, facilitating activity bookings through the guest app.

Internal Operations:
Action: Provide floor staff with devices and technical services to unify the activity in the Property Management System (PMS).
Benefits: Centralized planning of activities between departments, facilitating personnel management and improving task coordination.

Document Management:
Action: Automate procurement document management through automated templates and approval flows.
Benefits: Reduction of errors, streamlining of purchasing processes, and creation of a centralized repository of documents.

Monitoring and Evaluation:

• Hold regular meetings to monitor the progress of the implementation of each action.
• Collect feedback from employees and customers to adjust strategies if necessary.
• Regularly evaluate the results obtained in terms of operational efficiency and customer satisfaction.

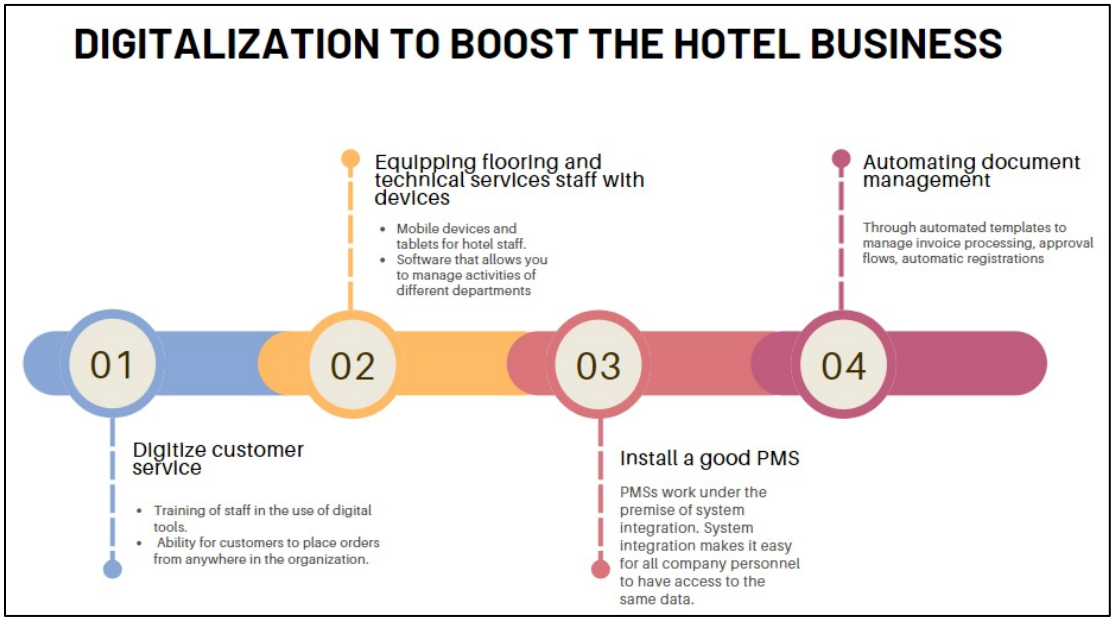


Figure 6. Proposed roadmap
Source: Authors' own creation

5.4 Regulatory framework for the hotel sector

The regulatory framework (Table 1) for the hotel sector (Fontur, 2022) provides a detailed overview of the requirements necessary for the operation of these accommodation establishments. It not only establishes the necessary regulations for their operation, but also the tax contributions they must make based on the services offered. In addition, this regulatory framework may include provisions related to support by the State to address various challenges faced by the hotel sector, such as investment incentives, training programs, safety and security measures, among other relevant aspects.

Table 1. framework for the hotel sector

Norma	***Expedition***	***Modification***	***Resume***
Resolution 700	2021-07-15	2022-07-25	whereby the Accommodation Registration Card is implemented
Decree 646	2021-06-16	2022-07-25	Whereby the Public Policy of Sustainable Tourism - United by Nature is adopted
Decree 981	2020-07-07	2022-07-25	Whereby the payment of the Parafiscal Contribution for the Promotion of Tourism is deferred, within the framework of the health emergency declared by the Ministry of Health and Social Protection
Decree 355	2018-11-16	2022-07-25	Whereby Articles 1, 3, 5 and 7 of Decree 945 of 2014 are amended, which regulated the formation and operation of the National Council for Tourism Safety and the Departmental Committees for Tourism Security referred to in Article 11 of Law 1558 of 2012.
Decree 297	2016-02-23	2022-07-25	Which regulates the exemption from sales tax for tourism services, established in paragraph d) of article 481 of the Tax Statute, modified by article 55

			of Law 1607 of 2012
Circular 004	2016-02-16	2022-07-25	Information on the impact of VAT on services.
Resolution No. 3160	2015-10-05	2022-07-25	Which establishes the requirements for certification in mandatory and voluntary Sectoral Technical Standards through the virtual platform for certification in tourism quality.
Decree 1820 de 2015	2015-09-15	2022-07-25	Whereby measures are dictated within the state of emergency to encourage economic activity and job creation.
Resolution 2877 de 2015	2015-08-27	2022-07-25	Whereby the Internal Committee of Projects of the National Tourism Fund (FONTUR) is formed and its functions are established.

Source: Fontur Colombia 2022

6. Conclusions

The growing relevance of research on the implementation of 4.0 technologies in the hospitality sector highlights a significant shift in operational focus. In this context, studies are underway to understand the psychosocial impact that could arise from relying on services provided by robots. This reflection underscores the need for broader, more ethical considerations in human interaction with technology within the hospitality industry.

The Covid-19 pandemic has left a deep mark on the tourism industry, radically transforming the way we travel and how services are managed in the hospitality sector. However, despite the unprecedented challenges faced by tourism during the health crisis, current data shows renewed interest and increased importance attached to the act of travel. According to (Expendia, 2023), 46% of travelers consider travel to be more important now than before the pandemic, a trend even more pronounced among Millennials (52%) and Gen Z (50%). This evidence suggests that while Covid-19 has marked a significant milestone in the history of tourism, it has also triggered a shift in perception in the value and relevance of exploring the world and enjoying new experiences. Adapting to this new traveler mindset will require continued innovation and attention to changing market expectations, but it also presents exciting opportunities to revitalize and reinvent the tourism industry in the post-pandemic future.

Hotel management systems (PMS) are indispensable tools for the efficient operation of hotels, ranging from reservation management to data analysis for strategic decision-making. Its importance lies in its ability to improve service quality, increase customer satisfaction, and maximize profitability. (Calderón Fajardo & Para-González, 2022) By facilitating resource management, understanding guest preferences, and adapting nimbly to market demands, PMSs become crucial strategic advantages in a competitive environment such as the hotel industry. Their implementation and effective use not only simplify the daily tasks of staff, but also support long-term planning and sustainable growth of hotels.

In the regulatory framework of the hotel sector, there are various provisions that regulate fundamental aspects for the operation of the tourism industry. From the implementation of measures to promote sustainable tourism to the regulation of taxes and parafiscal contributions, these regulations reflect the concern for the balanced development of the sector.

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