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A Longitudinal Analysis of Revenue Management Strategies and Measures Implemented in the Hospitality Industry during the COVID-19 Crisis

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Purpose

This research aims to answer two major research questions related to the COVID-19 crisis from a longitudinal approach: What is the Revenue Management role during the different periods subject to analysis? What are the Revenue Management strategies and measures implemented during this crisis in contrast with a non-crisis context? It also aims to propose an RM implementation model that provides a contingency plan to face future crises.

Design/Methodology/Approach

This qualitative study, following a longitudinal approach, analyses three roundtable discussions with 11 internationally renowned experts during three key scenarios of the COVID-19 crisis: the lockdown period (from March to June 2020) and the following two summer seasons (post-lockdown period): post-lockdown I (Summer campaign, 2020) and post-lockdown II (Summer campaign, 2021). Based on a deductive approach, thematic analysis is conducted using Nvivo.

Findings

Further professionalisation of revenue managers, which has enabled the correct application of strategies and measures, highlighting the importance of not lowering prices, the flexibility of booking conditions, the development of other sources of income and the increase in the value of services, among others, are key factors in managing this crisis. The longitudinal analysis carried out in three different periods of this crisis shows how these measures have evolved and the contrast with RM application in a non-crisis context. The revenue manager´s leadership and proactivity, the holistic organisation of RM Marketing, Commercial and Sales departments and the quick adaptation of Revenue Management systems (RMS) by modifying their algorithms, are essential to reducing the impact of COVID-19 on the hospitality industry. This crisis has led the industry to rethink processes and strategies and to increase digitalisation. The proposed model, which considers the various RM strategies and measures implemented during COVID-19 in contrast to a non-crisis context, is the cornerstone for developing a graded contingency plan to face future crises. This research sheds light on the widely discussed role of RM during this crisis.

Originality/Value

This work contributes to the literature by providing a model that considers the various Revenue Management strategies and measures implemented during COVID-19 in contrast to a non-crisis context. The novelty of this research is mainly found in the conducting of a deductive and longitudinal study considering previous research focused on Revenue Management strategies applied during the COVID-19 crisis and supplementing it with new measures by applying qualitative techniques.

Keywords

Revenue Management; COVID-19; hospitality industry; roundtable discussion; qualitative analysis; longitudinal study; measures; strategies

Paper Type

Research Paper

1. Introduction

COVID-19 is a protracted crisis that has affected the hospitality industry particularly hard (Viglia *et al.*, 2021). The 2020 collapse of international travel represents an unprecedented 70% decline in European hotel market revenue per available room (RevPAR). This was caused by a nearly 63% fall in occupancy and 18% average daily rate (ADR) (Vokřínek, 2021).

According to Ivanov and Zhechev (2012), Revenue Management (RM) falls within the realm of marketing management, where it plays a crucial role in demand creation (Cross, Higbie & Cross, 2009), consumer behaviour management (Anderson & Xie, 2010) and pricing (Shy, 2008). It applies to services in industries with fixed capacity that cannot adapt production to demand (hospitality, transportation, car rental, etc.). Nowadays, RM is the most widely adopted management philosophy in the hospitality industry. It is based mainly on the analysis of information and on the correct management of price, capacity and sales to optimise the profit and the customer value (Abad *et al.*, 2019; González-Serrano and Talón-Ballestero, 2020).

RM measures have proven to be effective in previous crises (Caudillo-Fuentes and Li, 2009; Gehrels and Blanar, 2013; Kimes, 2010; Kimes and Anderson, 2011; Mainzer, 2009) although there is scarce literature that analyses the measures applied during the COVID-19 crisis (Bandalouski et al., 2021, Guillet & Chu, 2021; Hao et al., 2020; Meatchi et al., 2021; Nair, 2021; Piga et al., 2021; Qiu, 2021; Smart et al., 2021; Talón-Ballestero et al., 2020; Viglia et al. 2021; Vinod, 2021; Yeoman, 2021; Zaki, 2022) and they mainly focus on its early stages. None of them construct a conceptual framework compiling, from previous literature, the RM measures applied in COVID-19 crisis.

However, behaviour during the crisis has not been the same, as this is a very long crisis with different phases: lockdown, from March 2020 until June 2020, where the post-lockdown step starts (Kostoff, Briggs, Porter, Aschner, Spandidos, and Tsatsakis, 2020). Therefore, it is necessary to have a comprehensive overview and a complete understanding of the role of RM during the different periods of this crisis.

Hence, this paper analyses the RM strategies and measures applied during the COVID-19 crisis (suggested by experts), through a longitudinal study based on qualitative analysis. This research was carried out via three round tables with the participation of international experts. Due to the long duration of the post-lockdown period, it has been divided into two key stages coinciding with the 2020 and 2021 summer campaigns. For this reason, the round tables were held at the beginning of the crisis (lockdown), which was characterised by a total absence of demand (INE, 2020); the second period (post-lockdown I), coinciding with the first summer season and the partial reactivation of demand (INE, 2020); and the third period (post-lockdown II) during the second summer season, which involved a certain recovery of demand (INE, 2021).

The analyses conducted to determine the strategies and measures were based on the structure of one of the most up-to-date RM implementation model, proposed by González-Serrano and Talón-Ballestero (2020). This model is based on the main strategies (culture, forecasting, benchmarking, segmentation, pricing, channel management, inventory management, and sales management and evaluation) identified

by the most important RM models (Okumus, 2004; Emeksiz *et al.*, 2006; Ivanov and Zhechev, 2012; Talluri *et al.*, 2004; Talón-Ballestero *et al.*, 2014) and reflects the current organisation of RM strategies, summarised in four management processes: information, pricing, inventory and sales and two functions which are performed for all processes: culture and evaluation. This model is developed in depth in the following section.

This work, to the best of the author´s knowledge, is the first review of the international literature related to RM strategies during the COVID-19 crisis. This analysis offers a complete view of the evolution of strategies and actions during the crisis, and it addresses key controversial issues for the industry, such as the role of the main RM strategies, the usefulness of RM systems, the data that feed these systems and future trends. The novelty of this research is mainly found in the conducting of a deductive and longitudinal study considering previous research focused on RM strategies applied during the COVID-19 crisis and supplementing it with new measures by applying qualitative techniques. The proposed model, which considers the various RM strategies and measures implemented during COVID-19 in contrast to a non-crisis context, is the cornerstone for developing a graded contingency plan to face future crises. This research sheds light on the widely discussed role of RM during this crisis.

## 2. Theoretical Background

To better understand the role of RM during the COVID-19 crisis, it is necessary to first explain the RM process and its main strategies and functions. The next section will present a review of the literature, analysing the RM measures implemented in this crisis.

2.1. Revenue Management: Processes, Strategies and Functions in a *non-crisis context*

As mentioned, RM is a management philosophy consisting of processes, strategies and functions. The most important RM models (Emeksiz *et al.*, 2006; Ivanov and Zhechev, 2012; Okumus, 2004; Talón-Ballestero *et al.*, 2014; Talluri *et al.*, 2004) delineate RM strategies into culture, forecasting, benchmarking, segmentation, pricing, inventory management, channel and sales management and evaluation. According to González-Serrano and Talón-Ballestero (2020), these strategies can be grouped into four processes to optimise revenues: information management, pricing management, inventory management, sales management and two functions which are performed for all processes: culture and evaluation (see Figure 1).

Figure 1. Conceptual Framework
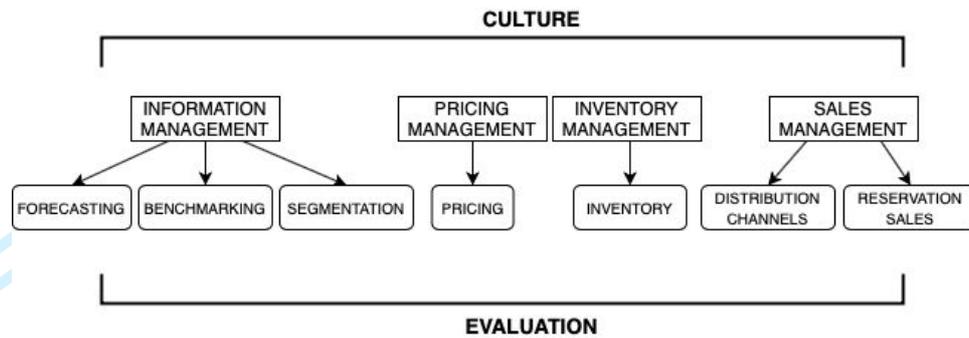
Source: González-Serrano and Talón-Ballestero (2020)

Information is the cornerstone of RM since decisions on price, capacity and sales are based on rigorous analysis of this information in order to maximise the hotel's profits. The information management process must consider historical occupancy and demand, current data on-demand, environment, competitors (benchmarking), etc., to draw up forecasts for each market segment and pricing. The main strategies in the information management process are segmentation, forecasting and benchmarking (Gonzalez-Serrano and Talón-Ballestero, 2021).

Market segment information is the starting point for RM; customer identification defines all other strategies. Segmentation is fundamental for a proper understanding of the customers; it is done by applying an appropriate strategy to each segment according to their characteristics, while offering the right price to the right customer (Smith *et al.*, 1994.) This makes it possible to implement an adequate sales strategy (right price and room) (Xu, Zhang, Baker, Harrington, & Marlowe, 2019).

Forecasting forms the basis for calculating and setting prices for each segment and day. Regular forecasting is essential given the large fluctuations in demand (Weatherford, Kimes and Scott, 2001). Forecasts are mainly based on historical data on key performance indicators or KPIs (e.g., occupancy ratio or OR%, average daily rate or ADR, revenue per available room or Revpar, total revenue or Trevpar, unconstrained demand, etc.), demand behaviour (booking pace and length of stay or LOS), the historical booking curve and the pick-up for a specific date, etc. They are also based on current data such as bookings on the book (OTB), competition and environmental data.

Increasing competition in recent years has stimulated hotels to improve their RM practices due to the desire to increase market share and customer demand (Xu *et al.*, 2019). Revenue managers' *competitive analysis* is mainly concerned with price and product rather than processes (Talón *et al.*, 2012). Two analyses are carried out, one in real-time, through rate-shoppers that connect with the leading distributors. These technological tools provide the hotel with real-time information on the prices of its competitive set. The other analysis is made in the past, the hotel has information on the leading performance indicators for how it has done in terms of price, occupancy and Revpar (Market Penetration Index, Average Rate Index and Revenue Generation Index) in comparison to its competitors (Serrano-Gónzalez and Talón-Ballestero, 2020).

Adequate prices are set, based on the previous segmentation and forecasting and depending on the company (costs and margins, etc.) and the market characteristics (demand, competition, online reputation, etc.). In RM, *pricing* consists of maximising profit by adjusting the price to match demand (dynamic pricing) (Vives *et al.* 2018). Due to demand variability, it is advisable to create different price options adjusted to different market segments and their value instead of cutting prices and offering the cheapest option (price discrimination) (Donath, 2003). The more pricing options, the easier it is to reach customers because they can decide the price based on the benefits they are willing to give up.

The objective of *inventory or capacity management* is to fix the number of rooms offered at a low rate when there is an opportunity to place them at higher rates. For example, as the leisure customer tends to book earlier than the business customer, vacancies at higher rates should be protected for business customers who book later. In addition, capacity management often involves the management of multiple nights, whereby the revenue manager applies restrictions to control and increase the customer length stay. It also involves overbooking management to cope with possible no-shows (Vinod, 2004; Phillips, 2005).

The objective of *distribution* management is to analyse and determine the most appropriate channel mix. Bearing in mind that margins for hotels are very different depending on the selected channel (e.g., direct channel approximately 9% versus tour operation, which in many cases can mean a reduction of 30%), it is essential to focus on the channels that attract the right customers and consider their buying behaviour pattern and profile (Talón-Ballestero, González-Serrano, Soguero-Ruiz, Muñoz-Romero and Rojo-Álvarez, 2018).

Sales management deals with how products are presented to customers and perceived (Shoemarker, 2003). Therefore, sales techniques such as upselling or cross-selling are fundamental to increase the profitability of the hotel. Both are generally applied by the reservations and commercial staff, but follow-up by the revenue manager.

However, *culture* is foundational for the implementation of all the strategies (Talluri *et al.,* 2004; Talón-Ballestero *et al.,* 2014). An RM culture implies having an RM management department and team, full knowledge and understanding of this philosophy throughout the organisation and top management involvement. The interdepartmental relationship with marketing and commercial departments and the proper availability of trained human and technological resources (systems, channel managers, etc.), along with RM objectives being shared by the entire organisation, are also key issues.

Finally, *evaluation* is the most crucial phase in setting any strategy. Otherwise, it is impossible to know how the other steps are being carried out in order to obtain the expected results (Ivanov, 2014). The outcomes of the implementation of the various RM process strategies must be continuously monitored to correct any detected deviations.

Following the proposed conceptual framework, the next section provides a comprehensive review of the literature on RM measures applied during the COVID-19 crisis.

2.2. RM Strategies, Functions and Measures applied during the COVID-19 crisis

As mentioned, there are few studies focusing on RM measures applied in hospitality during COVID-19 (Bandalouski et al., 2021, Guillet & Chu, 2021; Hao et al., 2020; Meatchi et al., 2021; Nair, 2021; Piga et al., 2021; Qiu, 2021; Smart et al., 2021; Talón-Ballestero et al., 2020; Viglia et al. 2021; Vinod, 2021; Yeoman, 2021; Zaki, 2022). Some highlight the fact that, due to the need to reduce costs in order to survive, RM measures were oriented towards generating profits (by reducing costs), rather than optimising revenues (Guillet and Chu, 2021). However, this was limited to the lockdown period, when there was no demand and RM measures were scarce. The strong shifts in demand and changes in market behaviour during the protracted COVID-19 crisis forced RM strategies to adapt. For this reason, an analysis of the role of RM during the various periods of the COVID-19 crisis is required. To this end, a literature review of RM measures applied during the crisis, following the proposed model, is carried out.

2.2.1. Information management

As previously pointed out, *information management* is one of the most critical parts of the RM process, in which *forecasting* is fundamental. This unprecedented crisis is challenging, as historical data and previous benchmarks are of little use due to their limited reliability. The huge volatility in demand forecasts makes the planning process and the resultant inventory controls far from accurate (Vinod, 2021). Forecasts need to understand the current situation (Kaushal and Srivastava, 2021). According to Smart *et al.* (2021) and Vinod (2021), hotels have been continuously monitoring pandemic news, restrictions, and borders and reviewing their protocols and operations as 'things change daily.' RM is based on manual forecasts and the 'what if' scenario analysis, a measure also used in the 2003 SARS crisis (Kim *et al.*, 2005). Guillet and Chu (2021) recommended bottom-up or segmented forecasting instead of a general forecast, using as reliable historical data the day-to-day trends from the last 1–2 weeks, cancellation statistics, the different segments, and reports from distribution channels. Talón-Ballestero *et al.* (2020) highlighted that it is necessary to identify when and where demand returns (market, segment, etc.) and to feed the forecast with internal and external data. At the same time, continuous attention should be paid to international markets in order to perceive demand movements in the coming weeks. Viglia *et al.*, (2021) discussed the importance of data sharing between hotels, especially in the case of independent hotels that do not have the same resources as chains. On the other hand, Jiang and Wen (2020) advocated using artificial intelligence to generate real-time data to develop more effective forecasts and alarms, while Yeoman (2021) questioned its use in times of crisis due to uncertainty and rapid change.

Segmentation is less important in the early stages of the crisis because there is no demand to segment. Under these circumstances, it is important to take advantage of all opportunities regardless of the clientele and give it more importance during the recovery phase, where changes in trends and adjustments in prices and promotions should be analysed (Guillet and Chu, 2021; Talón-Ballestero *et al.*, 2020). In this regard, at the beginning of the crisis, hotels have welcomed infected patients, employees of essential services, displaced state security forces, (Hao *et al.*, 2020; Rodríguez-Antón and Alonso-Almeida, 2020) and quarantine residents returning to their country of origin, or offered services such as beds or laundry to hospitals and health personnel (Kaushal and

Srivastava, 2021). In turn, most hotels did not take any measures for long-haul markets but continued working for short-haul markets. They focused on business and leisure customers coming from less affected countries, assuming that demand from these countries would be the first to recover (Guillet and Chu, 2021). Hotels should focus their strategy on the domestic market since domestic tourism is expected to be the first to recover. Furthermore, it would be advisable to organise events and provide food and beverage services for non-tourist guests and to offer conference facilities and catering services for local companies, institutions, or organisations (Guillet and Chu, 2021; Napierala *et al.*, 2020; Rodríguez-Antón and Alonso-Almeida, 2020).

The role of *competition analysis* during COVID-19 is unclear. According to Zaqui (2022), competitor analysis is one of the most important key drivers and it must be carried out in greater depth and daily to maintain competitive corporate positioning. However, for Gillet and Chu (2021, pp. 617) "*price movements in the competitive set are monitored only for reference*".

2.2.3. Pricing

Guillet and Chu (2021) and Talón-Ballestero (2020) advocate shifting *pricing* strategy from demand-driven to value-driven. These measures focus on limiting price reductions and controlling promotional aggressiveness, especially in the first months. At the same time, additional value should be offered at the same price, for example, through packages (Hao *et al.*, 2020), which attract more attention, are more profitable, and would avoid price wars. A dynamic pricing approach makes it possible to be reactive and flexible and increase hotel revenues (Bandalouski *et al.*, 2021; Hao *et al.*, 2020; Zaki, 2022; Piga *et al.*, 2021). Another aspect taken into consideration in the face of the pandemic is the optimisation of other sources of income (spa, parking, food and beverage, etc.), by applying Total Revenue Management (Guillet and Chu, 2021; Napierala *et al.*, 2020; Talón-Ballestero *et al.*, 2020). The use of fair, transparent and ethical pricing would help hoteliers to manage hotels more effectively during the COVID-19 pandemic as well as in the long run (Meatchi, Camus and Lecointre-Erickson, 2021).

2.2.4. Inventory Management

In the lockdown period of the COVID-19 crisis, according to Guillet and Chu (2021), *inventory management* (or *capacity management*) is not possible because there is no demand to control. Hotels don't apply the hurdle rate (a minimum rate at which the hotel would leave the room unsold than sell it at this rate). Rate fences and guaranteed requirements should be eliminated. Napierala *et al.* (2020) reported that changing reservation conditions, shorter booking windows, and the search for flexibility caused a change in booking cancellation policy in global hotel chains, which evolved from very restrictive to non-restrictive reservation clauses. Talón-Ballestero *et al.* (2020) also emphasised the need for flexibility to satisfy customers and to provide security (cancellations, minimum stays, prepayments, etc).

Smart *et al.* (2021) observed that a common practice in hotel chains with more than one establishment in the same city is to close properties. However, the closed hotels were still visible to the market and accepted reservations, which were then transferred to the opened establishment. This helped achieve sustainable occupancy and saved on costs.

2.2.5. Sales Management

Regarding *distribution*, Guillet and Chu (2021) highlighted the importance of driving business through OTAs, negotiating a dynamic commission structure rather than a fixed one, and using opaque channels in order not to erode the hotel's image by lowering prices. Direct distribution is relegated to the background during the COVID-19 crisis, as OTAs are stronger with digital marketing and data analytics than hotels (Guillet and Chu, 2021). In contrast, Hao *et al.* (2020) suggested hotels could enhance the direct channel using livestreaming to display products, to interact with customers, and to promote sales. Although still in its pioneering stage in North America and Europe, livestreaming e-commerce has exploded in China due to the coronavirus crisis and is now one of the preferred options for Chinese consumers. OTAs like Fliggy or Ctrip used live broadcasts to sell large volumes of merchandise. Talón-Ballestero *et al.* (2020) proposed refocusing the distribution strategy on profit rather than on revenues. Zaki (2022) supports distribution as a key RM tool to increase hotel profitability in this crisis.

For *sales*, the key is to increase customer loyalty. During a crisis, it is easier to add to an existing customer than to win a new one. Talón-Ballestero *et al.* (2020) recommended taking advantage of loyalty systems and cross-selling and upselling schemes after booking. In addition, boosting loyalty programs, through actions like extending the loyalty program membership or increasing the benefits of membership to reassure customers (Hao *et al.*, 2020), will attract more revenue to the direct channel and will reinforce brand image by conveying security (Talón-Ballestero *et al.*, 2020).

2.2.6. Culture

Embracing RM culture throughout the organisation plays a crucial role (Vinod, 2021). To cope with this crisis, Smart *et al.* (2021) observed that measures need to be proactive in hotel practice. According to Viglia *et al.* (2021) and Guillet and Chu (2021), it is also worth revaluating current business practices (e.g., web content, photos for OTAs, central reservation systems) and the effectiveness of hotel databases, and implementing long-term projects (e.g., restructuring, adding new services). For example, it is advisable to improve data classification and cleansing, deactivate rate plans that are no longer applicable and revise reservation policies.

One of the most important measures is to manage the crisis holistically (operation, marketing, and revenue management) as well as agile coordination between different departments and between corporate offices and hotels (Guillet and Chu, 2021; Napierala *et al.*, 2020; Talón-Ballestero *et al.*, 2020).

2.2.7. Evaluation

Finally, from the evaluation point of view, as historical demand patterns cannot predict what lies ahead, constant monitoring of key performance indicators can provide continuous feedback and help with taking corrective actions in real-time time (Vinod, 2021). In addition, having good key performance indicators keeps hotels competitive in their markets (Zaki, 2022). Revenue managers must step out of their comfort zone, and their role will become more critical and strategic because they will have to be aware of multiple, diverse indicators – especially external ones, both quantitative and qualitative – to fine-tune the demand estimation as much as possible (Talón-Ballestero *et al.*, 2020).

The previous research was carried out in the early stages of COVID-19, where the role of RM was somewhat controversial (Guilllet and Chu, 2021). Moreover, during the lockdown period (absence of demand), RM strategies were more focused on attracting demand (marketing) rather than on selecting the most profitable customers (revenue management), and the objective of maximising profits was relegated to the goal of "making a profit" or keeping losses to a minimum (Guillet and Chu, 2021). Afterwards, there were periods of some recovery in demand, and RM measures were adapted to these circumstances. Therefore, analysing the RM strategies and measures applied throughout this crisis in contrast to a non-crisis context is highly important in terms of helping the hospitality industry to face future crises. Hence, based on the longitudinal analysis of this crisis, the following questions are raised:

RQ1: What is the role of RM during the different periods subject to analysis?
RQ2: What are the RM strategies and measures implemented during this crisis in contrast with a non-crisis context?

3. Methodology

3.1. Design of the Research and Approach

The study adopts a deductive approach (Bingham and Witkowsky, 2022) and conducts a longitudinal study based on the literature review and qualitative techniques. This approach allows for a better knowledge of dynamic industries like tourism that must react continually to changing demand (Hadjielias et al., 2021). The pandemic has forced the hospitality sector to adapt constantly. Because it is a longitudinal study, the roundtable discussions were organised to obtain information about various stages of the pandemic: at the beginning of the crisis (lockdown); the second period (post-lockdown I); and the third period (post-lockdown II) during the first and second summer season.

The qualitative approach is based on analysing three roundtable discussions about RM strategies implemented during the COVID-19 crisis. Previous studies have analysed roundtable discussions to obtain conclusions about the tourism industry and hospitality services (Bratton and Watson, 2018; Dash and Sharma, 2021; Orea-Giner et al., 2021). Since the study aims to conduct a longitudinal study to analyse the contextualization and overview of all RM measures applied during the crisis, qualitative methods are suitable to elicit a more in-depth and honest response.

3.2. Roundtable Discussions Guide and Organisation

The roundtable guide was designed in consideration of previous studies that focused on the RM processes, strategies and functions considered in the selected conceptual framework (Talluri et al., 2004; Okumus, 2004; Emeksiz et al., 2006; Ivanov and Zhechev, 2012; Talón-Ballestero et al., 2014). The guide was divided into the following blocks: (1) information management, (2) pricing management; (3) inventory

management; (4) sales management; (5) culture; (6) evaluation during the COVID-19 crisis.

A moderator conducted the session and asked the various questions to the participants. Due to health restrictions, the roundtable discussions were conducted online in Spanish as all members spoke perfect Spanish, using Microsoft Teams. This methodology was previously considered a trustworthy and valid method for conducting qualitative research (Cachia and Millward, 2011; Villacé-Molinero *et al.*, 2021; Fuentes-Moraleda *et al.*, 2021). The roundtable discussions were recorded with the confirmed consent of the participants (Arsel, 2017). The roundtable discussions lasted an average of 135 min.

3.3. Participants

The participants were selected using deliberate sampling considering the most representative international enterprises and companies related to RM (Table 1) and their expertise (Patton, 1990): revenue managers, consultants, chief commercial officers, data analysts and marketing specialists with professional careers focusing on the hotel industry.

First, 21 international experts from RM and marketing enterprises were contacted by email and invited to participate in the roundtable discussions. Their international scope, their knowledge of hospitality management and their high-level occupations in RM and marketing enterprises were considered. Previous research highlights that each study presents different characteristics and parameters, and it is not possible to recommend uniform sample size for this type of method (Hennik et al., 2019). However, considering the parameters and orientations provided (Hennik et al., 2019), our study included 11 different participants with similar profiles and a balanced representation of genders (Table 1). Due to the fact that it is a longitudinal study, the participants collaborate on the different roundtable discussions to explain the evolution of RM strategies during the various scenarios subject to analysis. Each roundtable discussion presented internal consistency (Krueger, 2014).

Table 1. Participant Profiles

Gender	Expertise	Company Position	Roundtable discussions I	Code
Male	Hotel, Revenue Management, and Commerce	Chief Commercial Officer (NH Hotel Group). Spanish multinational hotel company, that operates over 350 hotels in 28 countries	R1: May 2020	R1P1
			R2: October 2020	R2P1
			R3: September 2021	R3P1
Female	Revenue Management	Area Manager, New Business EMEA (IDeaS Revenue Solutions). Pioneer and global technology leader. IDeaS offers industry-leading revenue management solutions for business of all types and sizes in the global hospitality and travel industries. Offices in North and South America, Europe, the Middle East, Africa, Asia-Pacific and	R1: May 2020	R1P2
			R2: October 2020	R2P2
			R3: September 2021	R3P2

		China.		
Male	Data Analysis	Country Manager, Spain and Portugal – STR.	R1: May 2020	R1P3
		STR provides premium data benchmarking, analytics and marketplace insights for the global hospitality industry. Asia Pacific, Central and South America, Europe Middle East and Africa, North America.	R2: October 2020	R2P3
Male	Marketing and Revenue Management	Managing Partner (Simon Kucher and Partners. Strategy & Marketing Consultants).	R1: May 2020	R1P4
		Global consultancy with a clear focus on top-line growth. Offices in 27 countries.	R2: October 2020	R2P4
			R3: September 2021	R3P4
Female	Revenue Management, Marketing, and Finances	Expert Project Leader (Boston Consulting Group).	R1: May 2020	R1P5
		Global consulting firm, pioneer in business strategy. Offices in 50 countries.	R2: October 2020	R2P5
Male	Revenue Management, Marketing, and Finances	Business Transformation Lead (Accenture).	R1: May 2020	R1P6
		Multinational professional services company that provides services in strategy & consulting, interactive, technology and operations. Offices in 50 countries.	R2: October 2020	R2P6
			R3: September 2021	R3P6
Male	Revenue Management	Chief Customer Officer (Beonprice)	R1: May 2020	R1P7
		Efficient Revenue Management solution based on Big Data technology. Beonprice facilitates and optimise price management decisions in the hotel industry. Offices in 4 countries.	R2: October 2020	R2P7
			R3: September 2021	R3P7
Male	Revenue Management, Marketing, and Finances	Hospitality and Leisure Head (Braintrust).	R1: May 2020	R1P8
		Analyst consultants specialising in Customer Experience, Competitive Intelligence, Studies and quantitative modelling, Strategy and Transformation and Channel and Operations Optimisation. Offices in 14 countries.	R2: October 2020	R2P8
Female	Revenue Management	Head of Revenue Management (Braintrust)	R3: September 2021	R3P9
Female	Revenue Management	Director of Sales EMEA (Duetto)	R3: September 2021	R3P10
		Cloud-based hotel revenue management software and revenue strategy solution that delivers powerful insights on pricing and demand. Offices across the US, Europe, Middle		

		East and Asia.		
Male	Hotel and Revenue Management	General Director of Revenue Management (Paradores de Turismo de España) State-owned corporation established in 1991 with a single shareholder, the Spanish State. Paradores operates a total of 97 inns, 96 in Spain and a franchise in Portugal	R3: September 2021	R3P11

3.4. Data Processing and Analysis

The first step of the analysis consisted of transcribing all the information. The analysis was conducted in Spanish due to the importance of analysing the main language used during the roundtable discussions. Although the round tables were conducted in Spanish, all the participants had a strong international profile.

The second step was coding and analysing the data manually, using NVivo. The methodology employed in this section of the study was thematic analysis adopting a deductive approach (Bingham and Witkowsky, 2022). This technique makes it possible to recognise, dissect and announce topics within the information (Braun and Clarke, 2006), basing the starting point of the analysis on the selected model. This research included looking for and recognising consistent ideas across the qualitative information extracted from the roundtable discussions, producing and naming codes that make it possible to identify the main topics and the final themes, based on the research framework adopting the deductive approach (Table 2). To ensure the reliability and validity of the findings, the study relies on continuous analysis to confirm that the themes did originate from the research data (Guba and Lincoln, 1989).

Table 2. Codes and themes named and identified

Codes	Themes
Vision; communication; planned work; culture; profiles; RM professionals; professionalisation; education; leadership	Culture
Forecast; capture; statistical model; decision-making; algorithm; predict; automate; analysis; competitive set; segmentation	Information management
Price; pricing; price promotions; price sensitivity; power of price; purchasing power; revenue; price reduction	Pricing management
Inventory control; occupancy levels; open; domestic demand; restrictions; booking; restricted fares; refundable fares	Inventory management
Distribution channel; direct channel; loyalty program; distribution strategies; engagement; attributes; sell; website; channels; distribution; digital channels; automation; upgrades; additional nights; campaign; CRM	Sales management
Monitoring; evaluate; predict; future	Evaluation

In consideration of the deductive approach, the results have been structured into six blocks based on the proposed framework and in line with these main themes detected: (1) culture; (2) information management; (3) pricing management; (4) inventory

management; (5) sales management; and (6) evaluation. The quotes included in the results section were directly translated to English considering the importance of preserving the original meaning.

4. Results and Discussion

This section reflects the main results from the qualitative study following the thematic analysis approach. As mentioned, the analysis is divided into three periods that consider the beginning of the crisis (lockdown) and the first and second summer seasons (post-lockdown I and II). This section is structured following the guideline according to the processes, strategies and functions proposed in the selected RM model. These results are supplemented with an in-depth discussion considering the literature on RM strategies analysed in the theoretical background section.

4.1. Information Management

RM optimisation is mainly based on demand forecasting, which becomes less reliable and more complex during crises and periods of high uncertainty due to demand volatility (Vinod, 2021). In health crises, one of the measures applied to encourage travel and create security is flexibility of booking conditions, which can lead to an unforeseen volume of cancellations and hinders accurate forecasting (Kim *et al.*, 2005). The same applies in Covid-19 (Vigilia et al. (2021); Guillet & Chu (2021); Piga (2021); Zaki (2022). The question of flexibility of booking conditions arises from the answer of one of the experts:

> "... So, at the end of the day, you have to think about what is more worthwhile: is it more important to be accurate in the forecast or is it more important to capture business? More than ever before, the important thing now is to generate confidence, generate business, and try to capture market share." (R2P8)

During the lockdown, historical data had no place in RM systems due to the fall in demand. Moreover, the need arose for further data concerning government restrictions, international demand movements, etc. Acquiring new data was one of the most critical challenges for revenue managers to overcome (Vigilia et al., 2021). For this reason, the revenue manager might be aware of "when and how demand is coming" and continuously feeding RM systems with new data and adjusting the forecasts (Guillet and Chu, 2021). Forecasting must be aligned with the new situation because data from past years were outdated due to changes in consumer behaviour (Kaushal and Srivastava, 2021). This point repeatedly appeared in the participants' comments:

> "The statistical models that are used at the artificial intelligence level must be continuously fed by our analytics teams, by the revenue teams that use and calibrate the tool and must continue to underline that exception." (R3P10)

In 2021 high-season period (post-lockdown II), more interaction between the user and the RM system is required. The RM system enabled faster and more accurate decision-making by understanding the factors that influenced demand and made it possible to work at a more strategic level in the long term. Furthermore, the need to establish crisis-specific algorithms and information sources in order to forecast accurately was stressed:

". . . We need an algorithm that adapts as people change behaviour and lets people's behaviour reveal what they are going to do in the future." (R3P10)

". . . We modify the algorithms so that the recent trend has more weight than the historical data . . . Logically we have to recalibrate this once we return to normality." (R2P2)

In this regard, artificial intelligence and machine learning allow RM systems to generate real-time data and thus develop more effective predictions and alarms (Jiang and Wen, 2020). Furthermore, machine learning allows the algorithm to learn naturally in an uncertain environment (Gautam *et al.*, 2021). In addition, this automation helps revenue managers to carry out their job with fewer staff. Nevertheless, RMS providers believe that it is still at a very early stage of simulation and testing despite the progress that has been made. It is vital for decision-making to be based on data, now more than ever (Salunkhe *et al.*, 2021). The main obstacle is finding affordable and reliable data that achieves accurate results.

"RM technology—what it will do in these cases is help you do much more with much fewer resources and with less equipment. First, because it automates all that information analysis and in cases like our system, what it does is make decisions in an automated way, so you free up much time to be able to see those strategies a little bit." (R3P2)

However, there are some authors, such as Yeoman (2021), who question its effectiveness in such uncertain environments as the beginning of the crisis.

In terms of benchmarking strategies, there is continuity among the various periods. Although this strategy is of little relevance for some authors, such as Gillet and Chu (2021), its analysis should be taken as a mere reference point. One may decide to do the latter due to the study being conducted in the early stages of COVID-19. However, competition information needs to be updated when the offer starts to end. Not all hotels opened at the same time. For this reason, the interaction between revenue managers and RM systems was very important, so RM systems must be aware of the specific situation of the competitive set. During the pandemic, hotels in the competitive set may have closed and the system might recalculate the data to provide accurate results. This information had to be manually incorporated into the RM system, as evidenced by the following statement:

"If you are open and it turns out that three of your five competitors in the 'competitive set' are closed, you have to tell the system so that the system recalculates (the forecasting)." (R2P2)

The lockdown period was characterised by low demand, which began to recover during the second and third periods. Demand segmentation might be widened because customer habits, needs, and sensitivities changed. Targeting domestic demand and markets less affected by the COVID-19 crisis (Vigilia et al. 2021; Guillet & Chu, 2021; Piga, 2021 and Zaki, 2022) and focusing on existing customers by enhancing loyalty programs would attract more revenue to the direct channel and reinforce the brand

image. The business and MICE (Meetings, Incentives, Conventions, and Exhibitions) segments would take longer to recover, as can be seen below:

> ". . . logically there are going to be new segments, or the segments we knew are going to change . . . It would help if you adapted to how this client is moving, and indeed, the individual leisure client is the first to go on a trip; leisure groups are probably going to be the second . . . the whole MICE theme is unfortunately going to be the last. And in the middle is the corporate." (R1P2)

During the summer seasons in 2021 and 2022 (post-lockdown I and II), segmentation continued to focus on national and local markets, with the phenomenon of 'staycations', where people visited places close to where they live, also noted by Guillet and Chu (2021). Therefore, hotels should focus on their domestic or local market, offering new products and generating other sources of income for the hotel (Guillet and Chu, 2021; Napierala *et al.*, 2020; Rodríguez-Antón and Alonso-Almeida, 2020). In the post-lockdown II period, the pace of vaccination is also seen as key to demand recovery and the possibility of focusing on segmentation, as highlighted by the following statement:

> "We have focused a lot on the national market, and we have even targeted the local market...I think that this, together with the pace of vaccination that has been taken, that we have taken, and the confidence . . . to travel again . . . is mainly what has marked the summer of 2021." (R3P9)

In the future, segmentation would be linked to product customisation strategy and loyalty systems generating promotional intelligence:

> "The future is therefore going to involve a lot of creativity, i.e., we are going to need to look for new segments, new behaviours, new channels, adapt the products we have, turn the loyalty systems around in many cases, and generate promotional intelligence." (R3P4)

The case of the Spanish public chain "Paradores" is a good example of focusing on the loyal customer, which supports the recommendations of Hao *et al.* (2020). This is one of the main measures that has led to breaking occupancy records during the 2020 and 2021 summer seasons, something unseen for the last fifteen years. The following statement summarised the importance of loyalty strategies:

> ". . . Something very important to us is our loyalty program. The loyalty program, called 'Amigos de Paradores,' is undoubtedly essential in achieving this result." (R3P11)

4.2. Pricing Management

The need for cash flow, very flat and fixed cost structures (Talón et al., 2020), and a lack of a basic understanding of price-demand dynamics can lead to the belief that the quickest and most effective solution to generate immediate revenue growth is to lower prices, which was the most commonly adopted measure in previous crises (Caudillo-Fuentes and Li, 2010; Kimes, 2010; Kimes and Anderson, 2011). During the initial phase of COVID-19, the lockdown caused an absence of demand, and price could not

be leveraged to stimulate it. So, there was no need to lower prices. Thus, the participants were against lowering prices during this first phase:

> "Price is not a lever, as there is no demand to stimulate." (R1P1)

> "We talk about absolute standstill of price promotions, i.e., lower demand does not mean higher price sensitivity." (R3P4)

The participants considered that this measure does not work, and lower rates do not necessarily attract more customers, as previous research remarked (Kimes and Anderson, 2011). While lower rates may work in the short term, significant and unsystematic discounts risk reducing revenues (Gehrels and Blanar, 2013). Moreover, this measure can deteriorate the hotel's image and the market in which they operate in the long term (Caudillo-Fuentes and Li, 2010). Previous research highlights the importance of focusing the pricing strategy on adding value to products rather than lowering prices (Guillet and Chu, 2021; Talón-Ballestero *et al.*, 2020; Zaqui, 2022), concurring with the opinion of the participants:

> "The moment you start to lower your price, you start to lose the position in your market. . . . We have to maintain the power of price. But if we lower our prices, we become de-positioned, we start competing in a place that is not our own, and then we have a hard time getting back on our feet." (R1P6)

However, in the post-lockdown I and II periods, when demand starts to recover, revenue managers identified that lowering the rates to price-sensitive segments ("surgical price management") could be a good measure. The participants perceived that price would have to adjust to the economic crisis following the health crisis. Even though all of them were against a price war, they noted that in some cases, there might be no other choice:

> "There is . . . a social crisis and, unfortunately, there are going to be quite a few individuals who are going to have a sharp decline in purchasing power." (R2P8)

> "I think that surgical price management is very important." (R2P1)

Focusing on 'ancillary revenues,' packaging, promoting food and beverage (F&B), and creating collaboration strategies with partners were some of the detected trends. The need to optimise new sources of income, with additional services such as F&B, spa or MICE, was pointed by the participants:

> "I think it is going to be key right now to get out of the crisis, not only to focus on room revenue but also ancillary revenues and FandB." (R2P6)

More value should be offered at the same price, as it generates more attention, and it is more profitable for the company. One example would be to package the offer to avoid lowering prices (e.g., room with free breakfast), upgrades, etc. (Napierala *et al.*, 2020; Talón-Ballestero *et al.*, 2020; Guillet and Chu, 2021). Thus, the success of the NH chain lies in applying small price reductions but keeping prices above the competition, adding value to its products (free breakfast, late check-out, free children, etc.).

> "We sold millions of rooms without necessarily discounting the price . . . understanding that the market would be under brutal pressure. . . . We decided to launch a campaign with fewer discounts than our competitors . . . and more added value: maximum discounts of 15-20%, we included breakfast in the rates so that people could enjoy it, late check-out, free children." (R2P1)

4.3. Inventory Management

Inventory control was impossible during lockdown because there was no demand to control. In this uncertain situation, booking conditions were eliminated, allowing cancellation without charge in an attempt to increase confidence and security for the customer. These measures coincided with the affirmation of Guillet and Chu (2021) regarding the need to eliminate rate fences and guaranteed requirements.

However, with the recovery of demand from May 2020 onwards, the measures could not be generalised because market behaviour was different. Even in destinations with little open supply, prices increased, making it necessary to be attentive to the peaks of demand in order to optimise it. In this sense, inventory controls would have to save gross operating profit (GOP).

> ". . . and we also have to take into account that not all hotels are open and that with a large flow of demand and a much more limited supply, it is possible to achieve decent occupancy levels." (R2P3)

> ". . . the main measure we took was to open hotels very aggressively. . . . And I think that has been one of the great successes: to have more than 200 hotels open in July and almost 300 open in September, according to a portfolio of approximately 400 hotels in the month of September." (R2P1)

During the post-lockdown I and II periods subject to analysis, there was a strong recovery in domestic demand, but not in the international market, highly conditioned by the reduction in airlines scheduling and the restrictions related to quarantine and travel requirements. This increase in bookings led to the emergence of restricted fares (e.g., early booking, non-refundable, etc.) with lower prices that coexisted with refundable fares.

4.4. Sales Management

The optimisation of distribution channels and direct and indirect channel strategy alignment to maximise value and profitability is essential during a crisis in the hotel industry (Gehrels and Blanar, 2013). An evaluation of the most profitable distribution channels is necessary (Kimes and Anderson, 2011; Mainzer, 2009). During the lockdown period, revenue managers proposed that distribution strategies should focus on benefits rather than on incomes, returning to the direct channel (Talón et al., 2020). This strategy would facilitate flexibility and would promote the implementation of loyalty programs, as the following statement summarises:

> ". . . The big hoteliers . . . are looking at how can they boost their direct channel to try to increase the share in their business, through more powerful loyalty

programs, through engagement, to map these new attributes that we see in the customers to their offerings . . ." (R1P6)

However, during the post-lockdown I period, when demand was recovering, this strategy was diluted in the face of the reality within the sector because, due to the OTAs having the greatest potential for digital marketing and data analytics, it was more advisable to focus on intensive distribution in order to impact a wider range of customers (Guillet and Chu, 2020), than on direct distribution, as explained below about the first and second periods:

"I think distribution should be as extensive as possible nowadays because what we have to do is generate demand. We can't afford to say, 'I only sell through my website because it is the channel where I have the lowest cost.'" (R1P2)

"In this situation, the focus on optimising your channels is relegated to a distribution that you have to sell, i.e., intensive distribution." (R2P7)

Our results show that it is necessary to implement dynamic commissions and to use all distribution channels to increase sales, as Gillet and Chu (2021) also pointed out. During the post-lockdown II period, the application of automated systems in digital distribution channels by international chains, in order to streamline processes, also stands out:

"In addition to this, I think there is much value in the automatic management of digital channels. . . . We . . . are implementing it with some of our clients—of course, bigger and more international ones because that is where automation's scalability [helps] you." (R3P6)

Concerning sales management, in lockdown, advance sales were used to generate future demand and cash flow in hotels. The next quote highlights this:

"In December [2020], a gift box campaign was launched, which was a boom in gift boxes, and it was done with the idea that the company would be able to earn income in advance in order to be able to inject cash into the company in a situation like the one we were going through with a drop in income." (R3P11)

In the post-lockdown I and II periods, sales management turned to an increased use of upselling and cross-selling sales techniques. However, upselling with a more attractive price differential had already been suggested in the early stages (Guillet and Chu, 2021). The next statement confirms this:

"We focus [our strategy] on upgrades, additional nights, etc. And also, a giant focus on up selling, cross selling, i.e., once we are lucky enough to get the customer in, everything that could be done was around that experience." (R3P4)

Moreover, the implementation of CRM strategies is also highlighted in relation the post-lockdown II period, considering the relationship between price, segmentation, and loyalty:

> "We are working with CRM . . . to understand what the relationship is between, for example, loyalty programs or different market segments and how this can be applied to pricing policies. Those are the topics." (R3P2)

However, Hao *et al.* (2020) had already been highlighting the need to focus on strengthening loyalty programs during COVID-19 since the beginning of the crisis.

4.5. Culture

This crisis has forced revenue managers out of their comfort zone, and out of their routine with the systems. They have adopted a more global vision of business. The revenue manager has become the first line of defence for the business, offering a perspective that helps avoid panic and leads to better decision-making (Talon et al., 2020). Moreover, during the lockdown, they played an essential role, as their forecasts determined the measures to be taken in all departments (financial measures, logistics, etc.). They might be aware of many different indicators, especially external ones (Viglia et al., 2021), to fine-tune the demand estimation as much as possible. Leadership and a proactive attitude were essential at this stage. In addition, this crisis has forced major changes in RM culture, which have been fundamental to the development of successful strategies, as highlighted below:

> "Although this crisis is unlike any other, many hotels have put in place contingency plans that have made them react faster and better." (R2P5)

> "The crisis has forced us to do the things we should have done years ago." (R2P7)

Since the beginning of the crisis, participants highlighted the importance of working holistically, establishing new guidelines, developing an agile collaboration between departments (RM, marketing, sales, finances) and between corporate offices and hotels, and the empowerment of new ways of working during the various scenarios subject to analysis (Guillet and Chu, 2021; Smart *et al.*, 2021; Talón-Ballestero *et al.,* 2020; Zaki, 2022). The following statement summarised this:

> ". . . We came from a model where RM was a silo function and too focused on making its RM systems work. We are moving towards an RM integrated in the organisation, with a business vision and constant communication with sales, marketing, and operations." (R3P6)

> "The success of Paradores is the result of a planned work with revenue management, commerce, and sales." (R3P11)

The increased professionalisation of revenue managers was crucial. Academic education in RM over the last twenty years has promoted the application of correct measures, such as maintaining the average daily price (ADR). However, only one of the participants recommended improving training to face the COVID-19 crisis, in agreement with Zaki (2022)

After the crisis, the revenue manager's role will become more strategic. A higher, less automatic, profile will be needed, combining technical and business skills, with a good understanding of price and demand dynamics. The next statement summarised this:

"The revenue manager will gain importance: the revenue manager must have a good understanding of the dynamics of price and demand, combine technical and business skills, and understand the RM systems not as a black box, but much more systematically and automatically. That is, they are more complete profiles." (R3P)

4.6. Evaluation

From an evaluation point of view, continuously monitoring and correcting deviations is essential during all phases of the crisis. Talón et al., (2020); Smart *et al.* (2021) and Guillet and Chu (2021) stressed that it is necessary to actively monitor pandemic news to reassess, reflect, and make appropriate decisions as the situation changes.

> "It is the revenue manager who is monitoring the system, and they are working. In other words, they are still sending decisions automatically to our price systems and making demand forecasts; short-term forecasts are indeed logically clearer, and in the long term, there is so much uncertainty that not even the best revenue system with more than a hundred algorithms can predict what is going to happen." (R1P2)

As seen in previous quotes, machine learning allows the RMS algorithms to learn by correcting its mistakes and better fitting the reality.

5. Conclusions

This study sheds light on the following research questions: "What is the role of RM during the different periods subject to analysis?" and "What are the RM strategies and measures implemented during this crisis in contrast with a non-crisis context?", through three roundtable discussions with renowned international experts.

As regards the role of RM, although it was questioned at the beginning of the crisis, the revenue manager quickly became the first line of defence for hotel businesses, offering a perspective that helped to avoid panic and led to better decision making. Moreover, their increased professionalisation prevented the price wars of previous crises. The proactive attitude of revenue managers, who continuously fed RM systems with new data and adjusted forecasts, returning to the essence of RM, made the role of the revenue manager more strategic, combining technical and business skills.

Dealing with the main changes that the Covid-19 crisis has brought about in the application of RM, during the down period it is possible to point out the invalidity of historical data, the inaccuracy of RM systems, the disappearance of reserve controls and flexibility of reserve conditions and the non-lowering of prices despite the low demand. The selection of local customers was essential during this period and the reorientation towards domestic customers in the post-lockdown period. Subsequently, when demand started to pick up, surgical price reductions to susceptible segment, forecast using recent data (two weeks) instead of historical data, also arose. Continuous manual feeding of

systems with new current data (environment, competition, etc.), intensive multi-channel distribution instead of more selective and direct distribution to target local and domestic demand, adding value and optimising other sources of revenue, were all among the strategies applied. In terms of culture, RM has a more strategic and proactive role with a more holistic departmental organisation, integrating commercial marketing and revenue management in one department with a common goal. Finally, evaluation becomes even more necessary in this context, with continuous monitoring at all stages of RM processes. It can be said that COVID-19 did not change the processes, but it did change some measures and the importance of some strategies.

Although the systems initially did not work in terms of technology in the lockdown period, as the crisis progressed, machine learning allowed the RMS algorithms to learn faster by correcting their errors and better adjusting to reality.

Culture is one of the most important functions of the RM implementation model (Talón et al., 2014). Considering our results, the strengthening of human resources training, the rise of technology, the revenue manager´s leadership and proactivity and a more holistic departmental organisation, have shown to be effective in the face of the crisis. Despite the depth of the crisis, the hospitality industry has performed better than in previous challenging situations, considering that the ADR did not suffer major declines (INE, 2021,2022).

Our results align with previous literature related to RM measures during COVID-19, which reinforces the comprehensive nature of these measures. The reason may be the international scope of supply chains and the similar demand behaviour around the world. However, the longitudinal analysis carried out in three different periods of this crisis shows the evolution of these measures and the contrast with RM application in a non-crisis context.

5.1. Theoretical implications

The longitudinal study showed a narrow gap between theory and practice (for example, with distribution channels) due to the difficult circumstances faced by hoteliers. No demand characterised the first period, so the first roundtable essentially consisted of experts' proposals. In the second and third periods, the measures had already been implemented, making it possible to observe their impact.

It is worth noting the change regarding trust in the RMS. They were questioned at the beginning of the crisis, but they proved their usefulness in the two subsequent phases. The fast reaction and the help they provided to revenue managers by automating processes in a situation of reduced staffing levels was the reason. Participants stated that the RMSs were adapting their algorithms to the new situation by prioritising recent data over historical data and improving their outcomes. Nevertheless, finding reliable data to feed the algorithms to improve their results remained a significant challenge for these systems.

Despite being controversial, price maintenance has prevailed. The participants noted the mistake of lowering prices throughout the lockdown, even though surgical reductions,

was admitted <mark>during post-lockdown period</mark>. Instead of lowering prices, it was advised to give more value for the same price and to target new revenue streams offering new products and the optimisation thereof, through TRM (total RM).

Although direct distribution was proposed in the <mark>lockdown period</mark>, intensive distribution was the strategy used in <mark>post-lockdown period due</mark> to the power of the distribution channels. Distribution agreements and the incorporation of dynamic commissions in the signed contracts have been highlighted by the experts. Automated systems in digital distribution channels and livestreaming products are measures that are beginning to be implemented by large companies.

Flexibility has contributed to the sense of security that travellers have regained. Adapting segmentation to the context has been critical, targeting national, local and loyal customers. Sales techniques (such as upselling, cross-selling, and advance sales) and loyalty programs have proved to be useful optimisation tools.

Finally, as a key process, evaluation focused on constant monitoring by the revenue manager, assisted by an RMS based on AI and ML to react faster to the changes brought about by this challenging situation.

<mark>Thus, the longitudinal study highlights that some measures changed through the various phases of the crisis whereas processes and strategies did not, although their relevance depended on the period. All this allows us to propose the following crisis-adapted model based on the results of this study (Figure 2).</mark>

Figure 2. RM COVID-19 Crisis adapted model
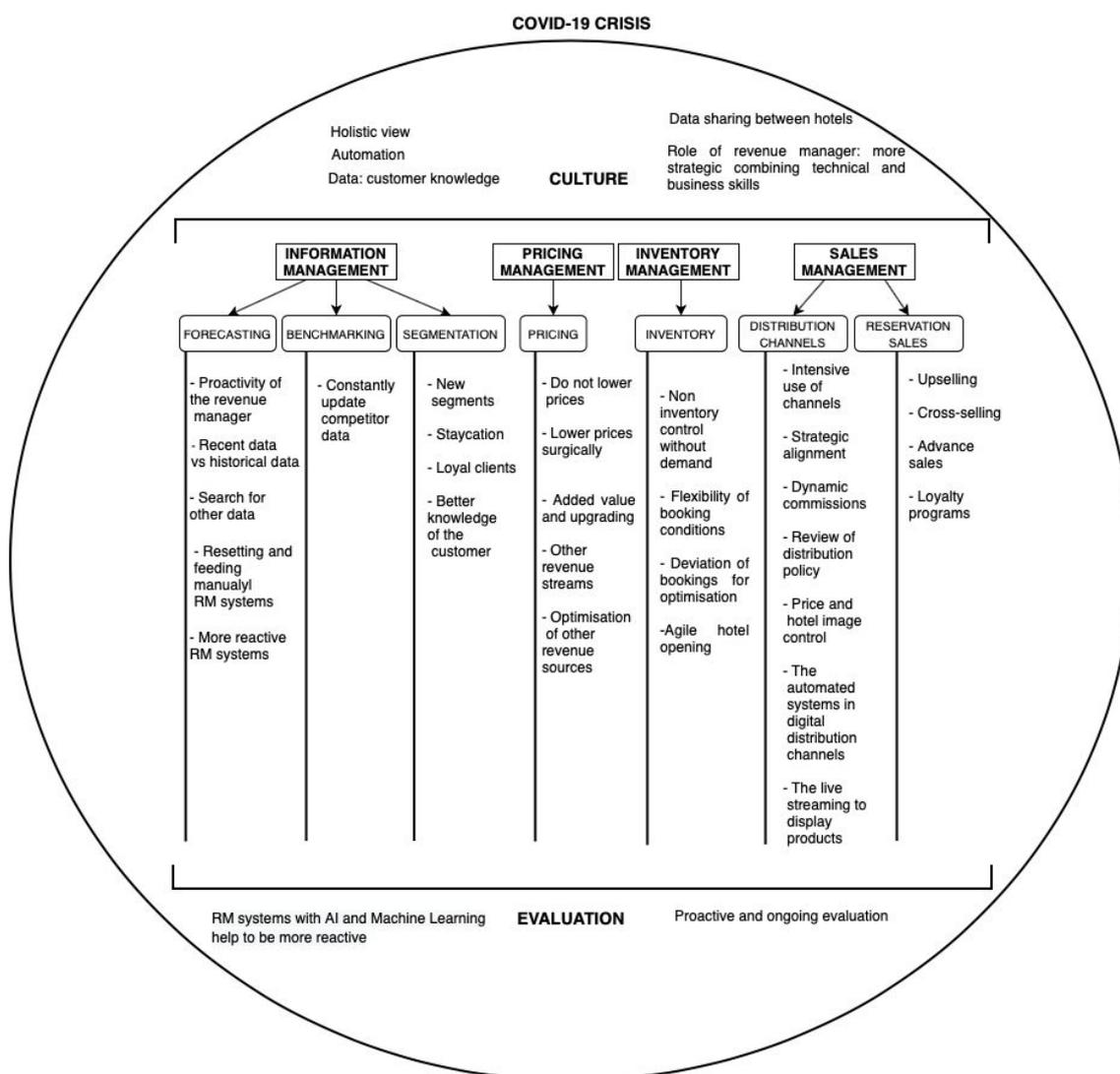
Therefore, a holistic view of this crisis shows the need for steering-wheel models that integrate RM and marketing, with shared objectives and clear customer orientation (González-Serrano and Talón-Ballestero, 2020).

5.2. Practical implications

COVID-19 is an unprecedented crisis, so the theoretical implication of the proposed RM model and a clear understanding of the *contingency plan*, including the measures and strategies that have performed adequately and their evolution, oriented towards a practical implication of this study, are crucial to better cope with future crises in the hospitality industry.

These measures should therefore be combined with many other marketing and sales initiatives, such as digital marketing, trust communication, loyalty programs and branding. Their combined use can be seen in the performance of the Paradores hotels, whose results during this crisis have been the best in a long time.

As pointed out, in the early stages of this crisis, the objective of RM is aligned with marketing´s attempt to attract the scarce available demand. With the recovery of demand, RM's role reverts to selecting the right customer, selling the right room, at the right time through the most profitable channel.

In general, this crisis has further emphasised the strategic role of the revenue manager. Their proactivity and leadership have guided all hotel departments, making it possible to better adjust to the offer and allowing for better hotel performance. Rethinking strategies and processes, reviewing and cleaning information, delving into customer knowledge and sharing information between hotels have been some of the measures supporting the revenue manager's key role in the survival of hospitality.

5.3. Limitations and Future Research

This study has various limitations. First, the three round table discussions were held online due to the health crisis, and the chosen webinar format may have biased the participants' answers due to its public nature. Second, the survey was carried out in Spanish. Despite the strong international profiles of the participants, cultural distortion may appear, suggesting that the research should possibly be extended to other cultural contexts in the future. Third, some of the participants were unable to attend all the round table discussions due to their professional duties, so people with similar profiles were invited to the rest of the sessions. Even though inviting different participants from similar groups can generate valuable and a more complete discussion without losing methodological validity (Onwuegbuzie et al., 2009; Hennik et al., 2019), it may be useful to test this information with other RM related profiles in the future.

To our knowledge, this is the first study to contextualise the RM process, with its strategies and measures proposed by international experts in three different periods of COVID-19, to develop a graded contingency plan to cope with future crises and shed light on the widely discussed role of RM during this crisis. Future studies should consider other strategies related to different departments such as marketing, human resources, etc. Likewise, quantitative studies should be developed to delve into the relationships and results of the different measures and strategies proposed.

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In faith   13th August 2022

Luca Moretto

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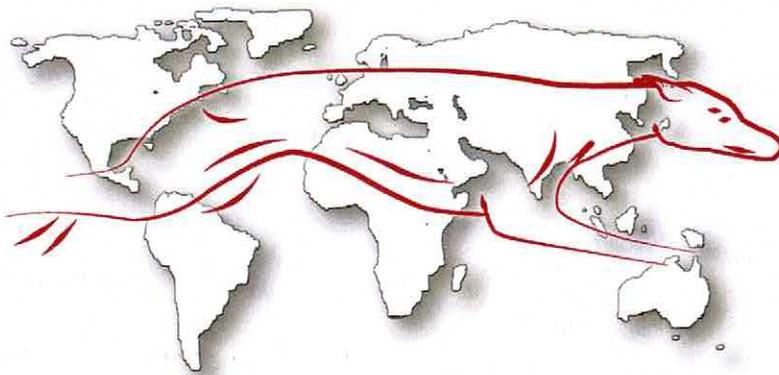Tel: +34 932413716 – contracts@smglanguages.com

Table 1. Participant Profiles

Gender	Expertise	Company Position	Roundtable discussions I	Code
Male	Hotel, Revenue Management, and Commerce	Chief Commercial Officer (NH Hotel Group). Spanish multinational hotel company, that operates over 350 hotels in 28 countries	R1: May 2020	R1P1
			R2: October 2020	R2P1
			R3: September 2021	R3P1
Female	Revenue Management	Area Manager, New Business EMEA (IDeaS Revenue Solutions). Pioneer and global technology leader. IDeaS offers industry-leading revenue management solutions for business of all types and sizes in the global hospitality and travel industries. Offices in North and South America, Europe, the Middle East, Africa, Asia-Pacific and China.	R1: May 2020	R1P2
			R2: October 2020	R2P2
			R3: September 2021	R3P2
Male	Data Analysis	Country Manager, Spain and Portugal – STR. STR provides premium data benchmarking, analytics and marketplace insights for the global hospitality industry. Asia Pacific, Central and South America, Europe Middle East and Africa, North America.	R1: May 2020	R1P3
			R2: October 2020	R2P3
Male	Marketing and Revenue Management	Managing Partner (Simon Kucher and Partners. Strategy & Marketing Consultants). Global consultancy with a clear focus on top-line growth. Offices in 27 countries.	R1: May 2020	R1P4
			R2: October 2020	R2P4
			R3: September 2021	R3P4
Female	Revenue Management, Marketing, and Finances	Expert Project Leader (Boston Consulting Group). Global consulting firm, pioneer in business strategy. Offices in 50 countries.	R1: May 2020	R1P5
			R2: October 2020	R2P5
Male	Revenue Management, Marketing, and Finances	Business Transformation Lead (Accenture). Multinational professional services company that provides services in strategy & consulting, interactive, technology and operations. Offices in 50 countries.	R1: May 2020	R1P6
			R2: October 2020	R2P6
			R3: September 2021	R3P6
Male	Revenue Management	Chief Customer Officer (Beonprice) Efficient Revenue Management solution based on Big Data technology. Beonprice facilitates and optimise price management decisions in the	R1: May 2020	R1P7
			R2: October 2020	R2P7
			R3: September 2021	R3P7

		hotel industry. Offices in 4 countries.		
Male	Revenue Management, Marketing, and Finances	Hospitality and Leisure Head (Braintrust). Analyst consultants specialising in Customer Experience, Competitive Intelligence, Studies and quantitative modelling, Strategy and Transformation and Channel and Operations Optimisation. Offices in 14 countries.	R1: May 2020	R1P8
			R2: October 2020	R2P8
Female	Revenue Management	Head of Revenue Management (Braintrust)	R3: September 2021	R3P9
Female	Revenue Management	Director of Sales EMEA (Duetto) Cloud-based hotel revenue management software and revenue strategy solution that delivers powerful insights on pricing and demand. Offices across the US, Europe, Middle East and Asia.	R3: September 2021	R3P10
Male	Hotel and Revenue Management	General Director of Revenue Management (Paradores de Turismo de España) State-owned corporation established in 1991 with a single shareholder, the Spanish State. Paradores operates a total of 97 inns, 96 in Spain and a franchise in Portugal	R3: September 2021	R3P11

Table 2. Codes and themes named and identified

Codes	Themes
Vision; communication; planned work; culture; profiles; RM professionals; professionalisation; education; leadership	Culture
Forecast; capture; statistical model; decision-making; algorithm; predict; automate; analysis; competitive set; segmentation	Information management
Price; pricing; price promotions; price sensitivity; power of price; purchasing power; revenue; price reduction	Pricing management
Inventory control; occupancy levels; open; domestic demand; restrictions; booking; restricted fares; refundable fares	Inventory management
Distribution channel; direct channel; loyalty program; distribution strategies; engagement; attributes; sell; website; channels; distribution; digital channels; automation; upgrades; additional nights; campaign; CRM	Sales management
Monitoring; evaluate; predict; future	Evaluation

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Figure 1. Conceptual Framework

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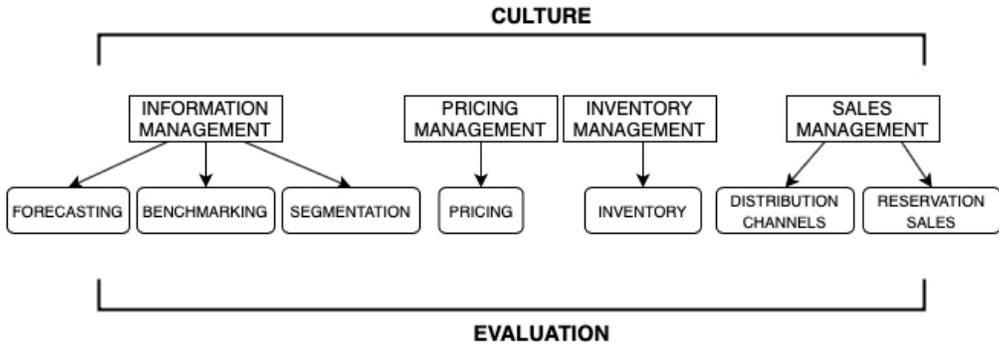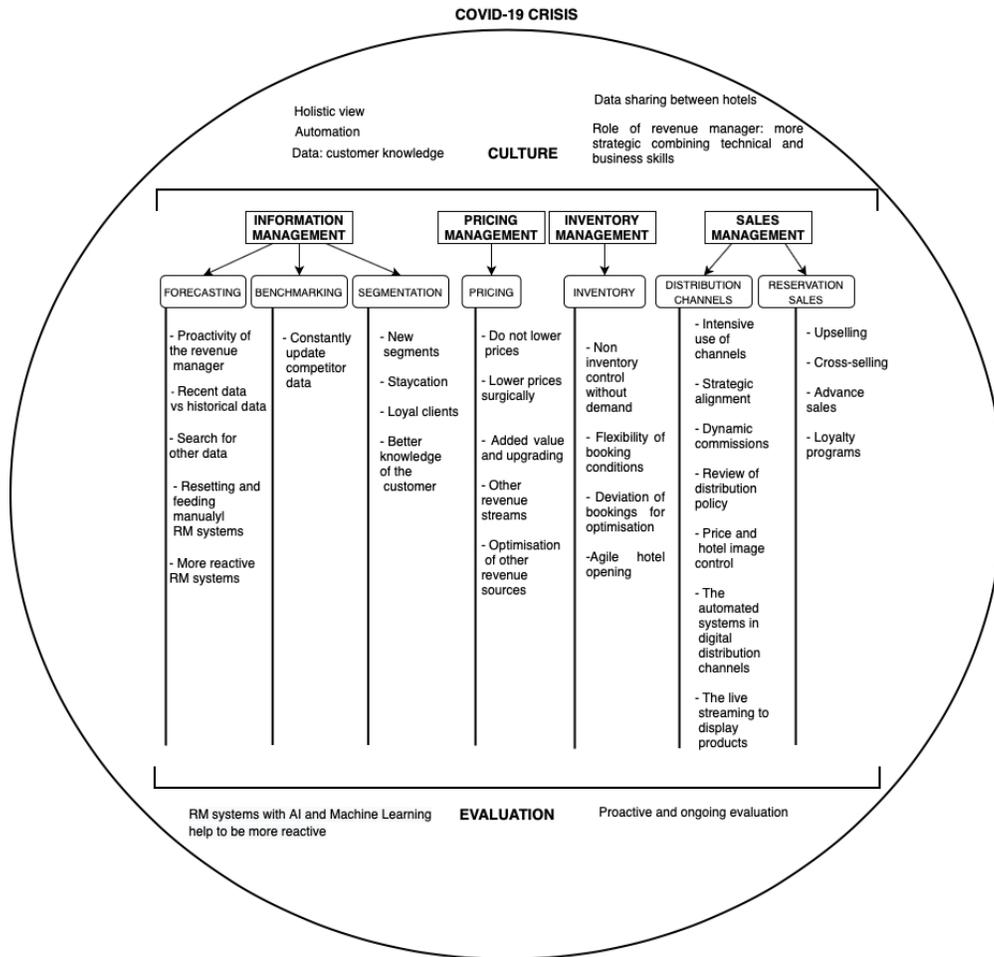44
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Figure 2. RM COVID-19 Crisis adapted model

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