

Digitalization of Business Processes in the Hospitality Industry

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ABSTRACT

This research is related to the study of technologies for the digital transformation of business processes in the hospitality industry on the example of Ribas Hotels Groups - the leading hotel chain in the Ukrainian hospitality industry. This article aims to study the main trends and features of the digitalization of hospitality industry enterprises' business processes. We built the methodology on a qualitative approach, which involved analyzing the results of semi-structured interviews with Ribas Hotels Groups' top management through digital communication means. The results show the main trends in digitalizing enterprises' business processes. The first tendency is to form an integrated value chain by introducing software products that provide personalized service to customers by combining them in a single virtual space. The second tendency is the introduction of effective and innovative business processes that transform the traditional basic operations of hospitality industry enterprises. Finally, the trend in the hospitality industry to be client-oriented and improve service determines the enterprises' digitalization level. It's making it possible to personalize the client's experience in receiving services. The main features of digitalization are: analysis and selection of software products for hotel needs (room stock, priority business processes, and problems), which reduces the cost of digitalization; gradual improvement of essential business processes for the needs of the hotel chain object; transformation of effective business processes into innovative ones thanks to new level software products and technologies - big data analysis, artificial intelligence, customer interaction algorithms embedded in software solutions. Precisely the use of these technologies provides the company with additional value, additional profit, forms the brand and position in the market, and customer loyalty.

HIGHLIGHTS

- ① Study of technologies for the digital transformation of business processes in the hospitality industry on the example of Ribas Hotels Groups - the leading hotel chain in the Ukrainian hospitality industry;
- ② The use technologies provides the company with additional value, additional profit, forms the brand and position in the market, and customer loyalty.

Keywords: Business processes, digitalization of hospitality, innovative business processes, digitalization of hotels

Hospitality business processes are digitalized due to the high level of competition, customer retention, loyalty, and the provision of high-quality service and customer care. Digitalization, especially in a pandemic environment, becomes even more relevant to hospitality businesses (Zhu & Zhang, 2021). Consumers in the hospitality industry, using technology, can make their reservations for lodging, car rental, or shuttle services, order food online,

and receive many other remote services. Due to digitalization, consumers become the industry's "partners" by participating in the enterprises' digital business processes (Zsarnoczky, 2018).

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Thanks to digitalization, hospitality enterprises simplify the business processes of providing services to customers, analyzing their service, and identifying “weaknesses” that need improvement. According to the survey of top management of Ukrainian hotel group Ribas Hotels Groups, service and maintenance are the key areas in the hospitality industry, which require special attention because they return 80 % of customers. According to Ribas Hotels Groups, quality of service and service management in the hospitality industry needs to use a personalized approach to meet customers’ basic needs in terms of safety, speed, and service. Digitalization provides the acceleration and simplification in the tasks associated with customer service, from downloading the enterprise website, reservations, and payment to direct service delivery. In the hospitality industry, businesses are digitizing their processes for collecting and analyzing service satisfaction to improve current service-related activities. The aforesaid actualizes the study of the features of the digitalization of enterprises’ business processes in the hospitality industry.

The article aims to study the main trends and features of the digitalization of business processes in the hospitality industry.

Literature Review

The literature explores the positive and negative aspects of the digitalization process in hospitality and its impact on the tourism industry as a whole (Dehtjare, 2019; Zeqiri, Dahmani & Youssef, 2020; Shibata, 2021; António & Rita, 2021; Passah & Kumar, 2019; Buhalis, 2022). Enterprises in the hospitality industry are succeeding in creating digital solutions to improve sales, brand image, and customers’ awareness of innovative services (Popescu, Nicolae & Pavel, 2015). “Advancement in emerging technologies provides an opportunity for the hospitality business. Hotels strive for their growth to have more guest satisfaction with a better experience, provisions, and management” (Singh & Puri, 2021). The widespread introduction of new technologies in hospitality in recent years has dramatically changed the way services are provided and received (Kansakar, Munir & Shabani, 2019).

Shibata (2021) considers the digitalization process of Japan’s hospitality industry as a component of a neo-liberalization policy in the context of regulatory

theory. The qualitative interviews of managers in this field reveal improved working conditions, more stable sector growth, the de-qualification of personnel, the fragmentation of work tasks, the digital divide, the intensification of work, and increased control over professionals’ work.

António & Rita (2021) investigated the processes of accelerating digitalization in hotels in Portugal during the pandemic based on a survey of 51 hotel managers. The results showed that 92 % of the managers agreed that COVID-19 helped digitalize processes. In addition, most workers believe that online meetings and technological tools to improve productivity will continue to be used in the hospitality industry. Zeqiri, Dahmani & Youssef (2020) also argue for greater use of technology during the pandemic to address several issues in the industry. The first wave of industry 4.0 technology in the hospitality sector was characterized by a lower cost and more integrated value chain. The second-wave hospitality industry 4.0 technologies have new opportunities and are driving the reduction of mass tourism, the introduction of personalized services, and enterprise sustainability in the hospitality industry (Zeqiri, Dahmani & Youssef, 2020).

Hotel digitalization can achieve high efficiency in the business processes of interacting with customers and other stakeholder groups and in the back office business processes of hospitality businesses (António & Rita, 2021). According to a study of digitalization practices in hospitality presented by Passah & Kumar (2019), the lack of payments digitalization in the industry has led to the cancellation of hotel bookings and airline travel due to the lack of cashless payment options for businesses. Capriello & Riboldazzi (2020) analyze the experience of an Italian travel agency network in strengthening its competitive position through the use of the Internet and the new technologies development.

Konstantinou (2016) identified a typology of business practices in the use and adoption of technology based on a study of the needs of small and medium-sized businesses in the Greek hospitality industry to implement technology. Among the main reasons for technology implementation by hotels in Greece are the need to track reservations and bookings, attract customers through different digital distribution channels, communicate with tour operators,

analyze customers' information, and coordinate (Konstantinou, 2016). In addition, labor flexibility and participation in staff decision-making through different communication channels are also noted as an advantage of technology in the hospitality industry (Kumar, 2021). The importance of social media in the hospitality industry is also highlighted by Gandecha & Chaudhari (2020), who describe customers' use in hotel marketing in India for room reservations. The main barriers to digitalization are the cost of implementation, investment, the lack of staff digital skills, and limited training programs (Konstantinou, 2016). As Shamim, Cang, Yu & Li (2017) note, "the challenges of Industry 4.0 require continuous innovation and learning that depends on the people and capabilities of the hospitality industry enterprise". The use of technologies is also limited by the complexity of product integration, the need to standardize products, develop a methodology for use, and re-engineer business processes when implementing software solutions (Konstantinou, 2016). Technology's main benefits are marketing and sales optimization, cost efficiency, and productivity growth (Konstantinou, 2016).

Thus, the literature investigates the use of technology and the hospitality industry, the benefits and motives of digitalization, barriers and predisposing factors, and the effectiveness of software product integration. However, research on the digitalization of business processes of large enterprises in the hospitality industry in emerging markets is limited.

Methodology

In this study, we used a qualitative approach (Zhu & Zhang, 2021) and a semi-structured interview method of top managers (Shamim, Cang, Yu & Li, 2017; Shibata, 2021) of Ribas Hotels Groups to research the trends and features of digitalization of business processes of hospitality industry enterprises. Ribas Hotels Groups is the leading hotel group in the Ukrainian hospitality industry, which began its activities in 2012. The group provides design, construction, renovation, and management of hotel properties. The experience of Ribas Hotels Groups is unique for the Ukrainian market because the group, in addition to managing a network of hotels, cooperates with the owners of hospitality industry facilities in the following forms:

1. hotel design;
2. integrated hotel facility management;
3. hotel franchising;
4. long-term rental;
5. marketing, reservation and sales management;
6. consulting.

The company's primary services include construction, design, management, marketing and reservations, franchising, consulting, buying/selling, hotel gambling organization, hotel design, business plan, and hotel concept development. In addition, Ribas Hotels Groups has unique experience in digitalizing business processes of hospitality industry companies because it manages 25 properties in this area. At the same time, Ribas Hotels Groups combines investment company with development and franchising. By 2021, the number of objects under management increased to 25 (more than 1 000 rooms in eight locations in Ukraine), 20 of which are resort hotels.

Before the interview, we created a question list, which we extended during the survey due to the respondents' answers that prompted clarification of the information about the digitalization of the business processes. Hence, the semi-structured interview method provided full coverage of the topic concerning digitalization in the hospitality industry. In addition, the survey was conducted using Zoom, which allowed additional questions to be asked when necessary.

The questions were divided into the following blocks:

1. Ribas Hotels Groups' experience in digitalizing business processes: digitalization technologies and areas covered by digitalization.
 - 1.1. What are the critical business processes to be digitized?
 - 1.2. What are the main business areas (company subsystems) to be digitized, and what technologies are used?
2. Digitalization of sales and marketing business processes in the hospitality industry.
 - 2.1. What software products are used to sell and attract customers effectively?

2.2. What digitalized methods of customer engagement are used in the hospitality industry?

We interviewed the head of the reservations department of Ribas Hotels Groups, the manager of Ribas Karpaty hotel (one of Ribas Hotels Groups facilities), and the manager of Helios Hotel by Ribas (one of Ribas Hotels Groups facilities).

RESULTS

The digitalization of business processes in the hospitality industry occurs in the following main areas:

1. Marketing: Digitalization of sales business processes and customer acquisition (distribution channels) through the following technologies: Internet network, website, CRM (Customer Relationship Management), social media and messengers, cloud computing technologies, Big Data, artificial intelligence, and neural networks to analyze data on customers, their behavior, sales volume, sales forecasting, etc. CRM system automates processes and helps managers at every stage of sales: reminds them to call the customer, generates documents in a template, issues invoices, creates analytical reports, sends SMS, sets tasks, and monitors their implementation;

2. Management: Thanks to the technologies like ERP (Enterprise resource planning), cloud data storage and computing technologies for data analysis for management purposes, Big Data, artificial intelligence, and neural networks for analyzing external and internal operating environments to make management decisions. ERP is a software solution that synchronizes the activities of all departments, storing, processing, and maintaining a single database of the company, as well as: orders and sales, production capacity, warehouse, logistics, accounting, advertising department, and more. ERP creates a single space and locks all company employees into a single information field. Data is entered into the service once and becomes available to all departments according to their level of access. The main task of ERP is to automate all company business processes, reducing manual work and possible inefficient use of working hours;

3. Logistics, supply: Automation of business processes of supplying products and services to meet customer needs;

4. Finance and accounting: Implementation of accounting systems and web applications development, their integration with the site of enterprises of hospitality, reservation system, "1C: Enterprise"; automation of operational and management accounting business in the field of hospitality;

5. Customer service, especially in food service establishments, restaurants, and hotels: PMS is an essential primary accounting system dealing with operational activities in the hospitality industry;

6. Interaction with different stakeholder groups.

Ribas Hotels Groups' experience in digitalization of business processes: digitalization technologies and areas

Business processes of the Ribas Hotels Groups

The top management defines a business process as the ordering of actions to perform a particular activity occurring at all stages of the hotel enterprise life cycle. Ribas Hotels Groups' top management classifies business processes into the following categories:

1. Basic processes – essential products and services provided in the hospitality industry do not offer a personalized approach to customers, do not form a unique selling proposition, and do not set businesses apart from others in the hospitality market.
2. Effective processes – business processes, the cost of which is reduced through digitalization and optimization (optimization of staff, providing only the right services and services to the customer, reducing the time of service through technology). Efficient processes improve the quality of customer service and increase the possibility of their return. Such functions in the hospitality industry include reducing the number of staff in certain seasons, allowing the customer to choose specific services or refuse certain standard services to minimize the accommodation cost, using technology to communicate, design certain services to speed up service delivery.

3. Innovative business processes – those built solely on technology, customer experience, and client experience analysis. Innovative business processes provide the company with additional value and additional profit, form the brand and position in the market, ensure customer loyalty, and are customer-oriented. Innovative business processes include:

1. analysis of customer experience and their stay in different hotels of Ribas Hotels Groups network, allowing to form a unique offer of services and service;
2. electronic mailing of offers to the customer through digital communication channels (e-mail, social messengers, customer account in Booking).

According to the survey, the work of all hotel departments, from reservations to room service, in the future will take place exclusively through mobile applications and messengers. Ribas hotel employees communicate with guests during check-in and check-out only via Telegram and WhatsApp; face-to-face communication is limited. Besides messengers, the Ribas network created a chatbot in Telegram to manage working processes and also was the first in Ukraine to use the barcode from the Diia (The Action) application during check-in. This way of check-in allows for avoiding communication directly at the reception.

Activities of Ribas Hotels Groups involve a cumbersome system of processes built and organized according to the principle of maximum convenience for guests and the direction of customer-oriented service, the success of which determines the profit of the facilities.

Ribas Hotels Groups has the following primary business processes in its hotels:

1. Hotel room check-in. This process runs from the moment the guest is greeted at the establishment's entrance until they are checked into the room. A senior receptionist is responsible for this.
2. Housekeeping services. The housekeeping service monitors the condition of the rooms on the floors and informs the front desk staff. If this scheme does not work, a guest may

be accommodated in a room unprepared for check-in.

3. Catering arrangements. This process is most often connected with the functioning of restaurants, bars, and cafes in the hotel. The primary guest preparation and service organizer in a restaurant is a maître d'hôtel or a restaurant administrator.
4. Supplies. The process of organizing supplies implies various purchases of necessary goods of a certain quality at a favorable price. It also includes the development of a supply strategy.
5. Security organization. The business process consists of ensuring guests' safety through the organization of security in the hotel. It also includes training activities for the staff to implement specific actions in emergencies.
6. Marketing activities. The process involves searching for potential guests, determining methods of attracting them, promoting the hotel on the market, developing marketing plans, analyzing customer satisfaction with the institution's services, and much more.
7. Organization of accounting and financial operations. This process involves the maintenance of overall accounting, financial reports, and other documentation.

Success in organizing the business processes of a hotel facility lies in the smooth operation of all components relevant to its functioning. The basis for this is fine-tuning the digital communication between the departments to provide services to the guest effectively.

Ribas Hotels Groups has a clear vertical of business processes to set up efficient and innovative business processes, thanks to which the management does not need other contractors.

The software and technology, developed on behalf of the Ribas Hotels Groups, make it possible to build a professional hotel and restaurant management system to automate most of the processes of the chain and make the processes more transparent, efficient, and controllable. Among the key business processes to be automated:

- ♦ Optimization of reservation, check-in, and check-out processes.

- ♦ Accounting of advance payments for reservations, guest settlement, and billing.
- ♦ Analysis of current and projected hotel load.
- ♦ Implementation of an effective loyalty system allows customers to segment by the history of interaction with the company.
- ♦ Internal hotel resources management.
- ♦ Staff planning and control.

Thus, essential business processes become efficient and innovative.

Digitalization of sales and marketing business processes in the hospitality industry

Ribas Hotels Groups uses software products depending on the network object, occupancy of the object, and room stock. The Ukrainian market of software products offers solutions for automating business processes, which include several solutions or provide the ability to combine solutions depending on a set of optimization tasks.

Among the main products are CRM, PMS, Channel manager (EasyMS), Booking engine, and website builder for the hotel (Table 1). These products are hotel management systems that work with third-party services, adapted to work in Ukraine: YieldPlanet, Cloudbeds.

Table 1 shows the options for using and integrating products to ensure a higher efficiency level of business process management in the hotel chain or individual objects of the chain. The software product Bitrix24 offers its own CRM and designer for the hotel website, which is fully autonomous, and integration with other systems is possible. The software product TravelLine has solutions such as PMS, Channel Manager, Booking Engine, and website builder for the hotel; the product offers the possibility of autonomy and integration with other systems and products. Finally, the software product Servio has PMS and Channel Manager, a Booking engine, and a hotel website builder that can work autonomously and be integrated.

CRM (Customer Relationship Management) is a system of client relations and analysis of the received information, automating communication between employees and visitors. Clients receive specially configured emails and voice and text

messages to the phone, messengers, or social networks.

PMS is an essential primary accounting system that deals with hotel operations: reservations, check-ins, guest settlement, work with fiscal equipment, card-key coding, questionnaire printing, reservation confirmation, check-out procedures, and statistics collection. Housekeeping, cleaning tasks formation, execution control, and room repair statuses are separate blocks. These are the basic tasks that PMS solves.

CRM and PMS complement each other. For example, the hotel chain Ribas Hotels Groups has built a symbiosis of these systems for the most effective work of the sales and marketing department.

The Ribas Hotels Groups mainly uses a PMS system such as Servio to manage the business processes of large hotels, where Booking Engine is integrated. In addition, the company entirely switched to channel manager YieldPlanet – a Polish-made software product also integrated into PMS Servio. The company uses the Ukrainian software EasyMS to manage sales in small hotels (up to 20 rooms).

Ribas Hotels Groups attracts customers by creating the official website, integrating with the hotel software, partnerships with aggregators, platforms (TripAdvisor, Booking.com, etc.), digital marketing, PR events, and development of loyalty systems, bonuses, and special offers, work on service quality improvement. The ways of attracting customers to the hotel depend on location, target audience, business model, marketing budget, and many other factors.

DISCUSSION

The experience of Ribas Hotels Groups demonstrates the use of technology to improve basic business processes, sales, and customer interaction through the personalization of services (Popescu, Nicolae & Pavel, 2015). Improved sales come from integrating different technologies: website, aggregators, digital marketing, and hotel software. Creating a single virtual space where business processes are transferred allows for optimizing the work of all departments of different hotels of Ribas Hotels Groups that have access to data about the customer and their requests. As Singh & Puri (2021) note, hotels provide growth by meeting guests' needs

Table 1: Options for using and integrating system products to organize sales in the hospitality industry

Product names	CRM	PMS	Channel Manager	Booking Engine	Website builder for a hotel
Bitrix24					
Ability of in-house solution	Available	Not available	Not available	Not available	Available
Ability to work independently	Available	–	–	–	Available
Integration with other systems	Available	–	–	–	Available
TravelLine					
Ability of in-house solution	Not available	Available	Available	Available	Available
Ability to work independently	–	Available	Available	Available	Available
Integration with other systems	–	Not available	Available	Available	Available
Servio					
Ability of in-house solution	Not available	Available	YieldPlanet	Available	Available
Ability to work independently	–	Available	Available	Available	Available
Integration with other systems	–	Available	Available	Available	Available
B52					
Ability of in-house solution	Not available	Available	–	Available	Not available
Ability to work independently	–	Available	–	–	–
Integration with other systems	–	Available	–	–	–
EasyMS					
Ability of in-house solution	Not available	Available	Available	Available	Not available
Ability to work independently	–	Not available	Not available	Not available	Not available
Integration with other systems	Available	Not available	Not available	Not available	–
OPERA Cloud/Fidelio					
Ability of in-house solution	Available	Available	Available	Available	Not available
Ability to work independently	Not available	Available	Not available	Not available	–
Integration with other systems	Not available	Available	Not available	Not available	–

Source: Systematized by the author based on.

for a better experience and quality management. Accordingly, the Ribas Hotels Groups chain is transforming customer service delivery, which is also supported by the findings of Kansakar, Munir & Shabani (2019). In particular, in the case of Ribas Hotels Groups, top management is improving basic business processes to make them fast, transparent, efficient, and straightforward. Technology also contributes to a change in staff working conditions and stable revenue growth for the hotel chain through the effective management of the implementation of integrated software products following the needs of the individual hotel property. Similar conclusions are drawn by Shibata (2021), where the author proves improved working conditions, more stable sector growth, and increased control over the professionals' work due to digitalization.

While Zeqiri, Dahmani & Youssef (2020) and António & Rita (2021) refer to the acceleration of digitalization during the pandemic, this study reveals no significant change because the management of technology implementation in the Ribas Hotels Groups is clearly planned. The company gradually integrates software solutions according to the problems and needs of customers. Zeqiri, Dahmani & Youssef (2020) call this integration an “integrated value chain”, which provides a lower cost of digitalization. In the case of Ribas Hotels Groups, software products are integrated to create added value through personalized service, corresponding to Zeqiri, Dahmani & Youssef's (2020) definition of the effects of second-wave hospitality industry 4.0 technologies, in particular, “the implementation of personalized services and enterprise sustainability

in the hospitality industry” (Zeqiri, Dahmani & Youssef, 2020).

The experience of Ribas Hotels Groups shows the process of realizing the potential of hotels’ digitalization to achieve high efficiency in the business processes of interaction with customers and other stakeholder groups and in the business processes of the back office of hospitality enterprises (António & Rita, 2021). Efficiency growth is achieved by optimizing basic business processes and turning them into efficient and innovative ones. In doing so, technology is implemented in the back offices and for interaction with stakeholders. As a result, it strengthens the hotel chain’s competitive position in the Ukrainian market (Capriello & Riboldazzi, 2020).

Ribas Hotels Groups implements technology to meet the needs of tracking reservations and bookings, customer engagement through various digital distribution channels, customer communication, customer information analysis, and service delivery coordination (Konstantinou, 2016). In addition, hotels actively use different social media and messengers to communicate with customers, which provides an advantage in the flexibility of staff interaction with guests (Kumar, 2021; Gandecha & Chaudhari, 2020). This study does not reveal any limitations in integrating software products into the hotel industry because they are selected according to the needs of the hospitality industry. Software products are standardized and developed to the needs of Ribas Hotels Groups, and the reorganization of business processes during the implementation of software solutions is gradual and planned (Konstantinou, 2016). The main benefits of using technology are marketing and sales optimization, cost efficiency, and productivity growth (Konstantinou, 2016).

CONCLUSION

The study on the digitalization of business processes in the hospitality industry allows several important conclusions to be made. Firstly, the analysis and selection of software products for hotel needs (room stock, priority business processes, and problems) allow solving the problem of significant investments in digitization. For example, the experience of Ribas Hotels Groups shows how the company selects operating systems depending on the hotel room stock and needs. Thus, digitalization is effective

when there is an established system of strategic and tactical management in hospitality enterprises. Secondly, digitalization provides many tasks related to basic business processes, which are transformed by technology into effective and innovative business processes. Finally, the trend in the hospitality industry toward customer-centricity and service improvement determines the level of digitalization of enterprises, allowing for a personalized customer experience in receiving services. This trend has also transformed basic processes into efficient processes that provide a better customer experience, increasing the likelihood of customer return through the personalization of services and the use of communication technologies. However, efficient business processes can be transformed into innovative ones only through new level software products and technologies - big data analysis, artificial intelligence, algorithms of interaction with clients embedded in software solutions. These technologies give the company additional values and profit, brand and market position, and customer loyalty.

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