

# Ensuring the Efficiency of Service, Technology, and Management Processes in the Hotel and Restaurant Business

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*Abstract:* - In the face of war and a global pandemic, the hotel and restaurant industry in Ukraine has been compelled to adapt swiftly to unpredictable changes. This article assesses the efficiency of service, technological, and managerial processes within this sector, employing concepts from Customer Relationship Management (CRM) and customer experience, and operational efficiency. Statistical analysis was used to evaluate efficiency coefficients, focusing on factors like staff engagement, local sourcing, streamlined check-in processes, resource optimization, and dynamic pricing based on demand. The study highlights the shift toward flexible operational management and customer service modeling amidst uncertain conditions. Using the case of Ribas Hotels Group from 2012-2023, the article demonstrates strategies such as cost optimization and dynamic pricing, showcasing how CRM principles aid in building customer loyalty during turbulent times. The research provides valuable insights into the growth sources of gross operating profitability, emphasizing the practical significance of efficient processes in the Ukrainian hotel and restaurant business.

*Key-Words:* - Service and technological processes, Operational management, Hotel and restaurant business, Service efficiency.

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## 1 Introduction

In the context of war and the pandemic, the hotel and restaurant business is forced to optimize service, technology, and management processes to ensure sustainable operations. The lack of established algorithms for working in such conditions required optimization of business processes, changes in business strategy, and operational management. Optimization of costs, processes, personnel, and teamwork were among the components to maintain and continue operations. During the war and the pandemic, all processes in the hotel and restaurant business needed to be changed and revised. This applies to human resources management, supply chain processes, guest check-in, resource optimization (including energy and fuel), budget planning and forecasting, dynamic pricing, etc. Part of the changes can be implemented through the use of technologies that ensure innovation and flexibility in providing services to customers in the face of unpredictable changes. Among the management technologies, there is Customer Relationship Management (CRM), which has a positive impact on the processes of guest lodging and accommodation.

The article aims to assess the efficiency of service, technological, and managerial processes in the hotel and restaurant business in the context of unpredictable changes and volatility of the external environment.

## 2 Literature Review

### 2.1 The Efficiency of Service, Technological, and Management Processes in the Hotel and Restaurant Business

Technology as a concept includes a system of conditions, methods, forms and means, techniques and modes of operation, and sequence of procedures and operations in the hotel and restaurant business. Technologies include workflows: cycles, procedures, operations, and elements. In the hotel and restaurant industry, the process of providing services corresponds to the function of providing housing (temporary accommodation) and customer (guest) service. Traditional main technological service cycles include the period from pre-booking (reservation) of an accommodation facility to the

moment of departure (booking - arrival - check-in - registration - accommodation - service - departure and check-out). Auxiliary processes include the conditions for the implementation of the main accommodation processes (control of the condition of premises, equipment, services, repair, maintenance, renovation, etc.) The literature also distinguishes a closed cycle of accommodation, which includes reservations, customer reception, document registration, prepayment, room provision, night audit, departure organization, and final payment. Standardization of technological operations is a common process in the hotel and restaurant business. This ensures the consistency of their execution, setting standards for service (for example, booking confirmation should take place within 3-5 minutes, customer feedback within 1 hour, etc.).

In the scientific literature, the effectiveness of service, technological, and management processes is considered in the context of innovation, ICT implementation, strategic and operational management, and customer experience. The studies consider various concepts, approaches, and strategies for managing business processes and operations in hotels and restaurants in various subsystems. In the practice of hotels and restaurants, ICT is integrated into the following subsystems: human resources (recruitment, training, adaptation), security, bookings, revenue management, marketing, guest services, and strategic and operational management, [1].

Due to the high level of competition and the development of information and communication technologies (ICT) in the hospitality industry, technologies are being introduced in various functional units to optimize cycles, procedures, and operations, [2]. The study, [3], identifies that hotel companies in Finland use technological improvements and innovations to improve products and services as competitive actions. Other competitive actions are 1) network and customer loyalty; 2) pricing and revenue management strategies; 3) marketing and branding; 4) business model and strategy; 5) sales; customer service quality, and customer relationship management; 6) employee satisfaction and engagement [3]. Companies in the hospitality industry use automation, robotization, and artificial intelligence technologies in the form of chatbots, delivery robots, robot concierges, conveyor restaurants, self-service/check-in/check-out counters, and many others, [4]. As a result, hotels and restaurants are increasing operational efficiency, improving service quality, and cutting costs. Technologies help to

increase competitiveness, and quality of services, improve human resource management processes, service delivery processes and standards, and optimize operating costs, [4].

Some scientific works note the lack of research on the effectiveness of innovations in the hospitality industry, in particular, on their value to customers and financial efficiency, [5]. Meanwhile, more and more articles in the literature analyze customer experience and readiness to adopt and use ICT in hotels and restaurants. This is due to the development of the concepts of customer-centered marketing, self-service, especially in a pandemic, customer satisfaction, customer relationships, etc. Thus, [6] notes that customer satisfaction is the most important indicator of hotel success and development. Success is also influenced by financial performance and use of ICT, standardization of services, support from top management, quality of service, customer satisfaction, location, design/appearance of the hotel interior and exterior, staff training, and empowerment, [6]. It is worth noting that customer satisfaction can be defined as an indicator of the effectiveness of service, technological, and management processes in the hotel and restaurant business.

The study, [4], investigates the costs and benefits of introducing robotization and automation technologies in tourism and hospitality companies (hotels and restaurants included). The authors conclude that the adoption of technologies depends on their costs and labor, customers' readiness and willingness to use robots for self-service, cultural characteristics of service providers and guests, technological characteristics of solutions, etc.

In the context of the use of ICT by hotels, the literature also addresses the synergy of human resources and technology to provide services to customers. Customers in this area strive for fast, convenient, easy, and comfortable services, to perform more procedures and operations on their own during check-in, stay, and departure, i.e. to reduce contact with staff, [7]. At the same time, the lack of experience in using ICT in the service process is an obstacle for customers. Therefore, it is important to find a balance between automation and robotization of service and technological processes and personalized service. According to, [7], a combined service using staff and technology is the optimal solution to improve customer experience, meet their needs and expectations for high-tech amenities, and integrate opportunities for communication with staff and interpersonal communication, [7].

There is little research in the literature on achieving synergies between human resources and Hospitality 5.0 technologies, [8]. [9], note that the combination of "intelligent" and "warm" services has become a new strategy for improving customer touchpoints in service interaction and delivery. Intelligent services cannot completely solve customer problems, as key touchpoints in service delivery require a combination of warm and intelligent services to enhance their value, [9].

At the same time, a significant number of studies have identified factors influencing customer acceptance or rejection of technology, [10]. Some articles focus on the reasons why customers interact with self-service technologies (SST), the obstacles to their use, which do not ensure the consistency of processes and operations in the hospitality industry, and the joint creation of an operating cycle, [10].

Thus, the effectiveness of service, technological, and management processes in the hotel and restaurant business is a broad area of research that covers the issues of strategic and operational efficiency, customer satisfaction, ICT integration, and its combination with personal service, and financial performance.

## **2.2 The Efficiency of Service, Technological, and Management Processes in the Hotel and Restaurant Business**

Nowadays, the effectiveness of customer-oriented marketing in business has been proven. The concept of customer experience, developed by McKinsey in 2010, is being actively implemented in business to ensure profit growth. In the process of selling, the value of the product formed during the production process is transferred, and a relationship with the client is formed. The customer experience includes the experience of interaction with the customer during the ordering process, the experience of purchasing (from purchase to delivery, support), and the experience of owning the product and service. Customer experience determines the potential benefits of future purchases. A higher level of benefits received will correspond to a higher level of feeling the need to repeat the purchase, which correlates with the theory of bounded rationality about maximizing satisfaction, [11], [12], the impact of experience on the customer's perception of future benefits and losses from the product. Therefore, it is important to ensure the maximum level of customer satisfaction in the process of sales, support, and service, which will ultimately build brand loyalty.

Consistent and clear communication is one of the most important elements of customer experience, according to a McKinsey US cross-industry survey

conducted in June-October 2015, [13]. "Journeys are significantly more strongly correlated with overall outcomes than are touchpoints". The correlation coefficient of the communication indicator with the hotel customer satisfaction indicator is 0.5, while the correlation coefficient of the touchpoint indicator equals 0.32, [13].

Compared to the traditional customer experience model (need - offer - purchase - ownership), the McKinsey customer experience model has significantly expanded the company's ability to influence brand loyalty. If earlier the purchase was determined by the availability of the product, now the purchase is determined by the simplicity of the relationship with the client, additional options, and the seller's response time to the buyer's request. If earlier the offer was determined by the presence or absence of a product, now the offer is formed in the course of identifying the customer's needs. If earlier, the customer made conclusions about the product, now the seller influences conclusions and loyalty by studying behavior, asking the right questions, and providing effective service and support. The sales department primarily influences the customer experience, and the experience is further shaped by interaction with the production, financial, administrative, IT, marketing, and service departments.

Customer experience refers to customers' internal and subjective response to any interaction, whether direct or indirect, with a company. Direct interactions happen during purchasing, usage, and maintenance, initiated by the customer. Indirect interactions include unplanned encounters with the company's products, services, or brands, such as verbal recommendations, criticism, advertising, reviews, or reports, [14].

Defining and improving customer experience is of increasing interest in market research as the concept of customer experience replaces the concept of quality in marketing. The concept of service quality assurance was the result of the integration of the theory of total quality management (TQM) in the 1980s. Its main drawback was the focus on the supplier rather than on the value received by customers. However, the customer experience is formed over a long process of interaction between the company and the customer through several channels, both functional and emotional support, [15]. The concept of Customer Relationship Management (CRM) includes the following components:

1) a system for capturing and disseminating information and knowledge about the client to

understand their needs after interaction with the client;

2) a system for collecting data on points of sale, including through website visits, automatic sales tracking, and a market research system;

3) a system of interaction between different users of customer information: sales, marketing, and field service, to ensure more efficient execution.

### 3 Methods

In the first stage of the research, statistical analysis was used to assess the dynamics of the major structural indicators of enterprises in the hotel and restaurant business of Ukraine for the period 2010-2021 according to the State Statistics Committee of Ukraine. The system of structural indicators for assessing the efficiency of service, technological, and management processes included as follows:

1. The dynamics of the number of enterprises by spheres of hotel and restaurant business.

2. The dynamics of employed persons (EP) of enterprises by spheres of hotel and restaurant business.

3. The dynamics of the volume of sold products (VSP) of enterprises by spheres of hotel and restaurant business.

4. The dynamics of gross operating income of enterprises by spheres of hotel and restaurant business.

5. The dynamics of production costs of enterprises by spheres of hotel and restaurant business.

6. The dynamics of the coefficient of gross operating profitability (GOP) of the enterprises' expenses by the spheres of hotel and restaurant business, calculated by the formula:

7. The dynamics of labor productivity of enterprises by spheres of hotel and restaurant business, calculated by the formula:

The study uses the case study methodology to conduct a case study of ensuring the efficiency of service, technological, and management processes in the hotel and restaurant business on the example of the management company Ribas Hotels Group. The company has been operating in the Ukrainian market since 2012, launching hotel projects, creating hotel real estate, and reconstructing or building them. Ribas Hotels Group develops hotels of 3 - 4 categories, resort beaches, ski hotels, boutique hotels, apart-hotels, and city hotels. In 2015-2023, the company managed 26 hotel and restaurant facilities. The effectiveness of Ribas Hotels Group's service, technological, and management processes is considered in the context

of operational efficiency, financial performance indicators of various projects, and customer satisfaction. The hotels are analyzed according to the following characteristics: concept, stages of cooperation in the hotel management process, area and infrastructure, average occupancy, average daily rate (ADR), revenue per available room (RevPAR to assess hotel performance), planned return on investment of the project, and rating. The article describes four key areas of management: 1) operational management of the hotel; 2) sales and marketing management; 3) financial management of the facility; 4) implementation of common standards: development and description of business processes to improve management. In the process of analyzing the cases, we evaluated the effectiveness of such projects: Hotel Bortoli by Ribas, Richard by Ribas, Ribas Rooms Odesa, Ribas Karpaty, Helios by Ribas, WOL Lviv.

By conducting a detailed analysis of both industry-wide structural indicators and specific case studies within Ribas Hotels Group, the research aimed to provide a comprehensive understanding of the efficiency of service, technological, and management processes in the Ukrainian hotel and restaurant business. This multifaceted approach allowed for a nuanced assessment of the industry's dynamics and Ribas Hotels Group's operational strategies, contributing valuable insights to the field of hospitality management.

### 4 Results

Analysis of the efficiency of service, technological, and management processes in the hotel and restaurant industry of Ukraine. In Ukraine, the number of operating business entities in the field of temporary accommodation and catering increased in the period 2010-2021, in particular, due to the growth of hotels and similar accommodations by 694 units, and food and beverage service activities by 21728 units. (At the same time, enterprises in the field of restaurants and mobile food service activities occupy the largest share among all business entities in 2021 (36,02%). The number of employed persons in the hotel and restaurant business in Ukraine decreased by a total of 376,125 from 2010 to 2021; although the annual growth rate was 10,28% on average, in particular, due to significant decreases and increases in different periods (decrease in 2013-2015, increase in 2016, decrease in 2017).

The employment rate decreased in all subsectors of the hotel and restaurant business. The largest share of employees is in hotels and similar

accommodations and food and beverage service activities. The annual growth rate of sales in the sphere of temporary accommodation and catering in Ukraine amounted on average to 11.93%. The largest share of sales volumes is accounted for by entities in the hotels and similar accommodations sector (14,01%), and food and beverage service

activities (26,96%). The dynamics of the number of employed persons in the sphere of temporary accommodation and catering in Ukraine, 2010-2021 are presented in Table 2. Similarly, the dynamics of sales of products in the sphere of temporary accommodation and catering in Ukraine, 2010-2021, UAH mln is presented in Table 3.

Table 1. The dynamics of the number of operating business entities in the field of temporary accommodation and catering in Ukraine, 2010-2021.

	2010	2017	2018	2019	2020	2021	Deviation, +/-, 2010-2021	Annual growth rate, %	Specific weight, %
accommodation	10113	7628	8203	8838	8419	8127	-1986	-1,10	5,82
hotels and similar accommodation	4209	4432	4985	5451	5125	4903	694	2,21	3,51
holiday and other short- stay accommodation	5032	2636	2698	2858	2845	2805	-2227	-4,04	2,01
camping grounds, recreational vehicle parks, and trailer parks	82	59	55	56	51	48	-34	-4,04	0,03
other accommodation	790	501	465	473	398	371	-419	-5,23	0,27
food and beverage service activities	39920	49950	53558	60851	63329	61648	21728	4,46	44,18
restaurants and mobile food service activities	29950	38545	41860	48398	51069	50271	20321	5,27	36,02
event catering and other food service activities	4635	4977	5094	5415	4963	4522	-113	0,29	3,24
beverage serving activities	5335	6428	6604	7038	7297	6855	1520	2,69	4,91
Total	100066	115156	123522	139378	143496	139550	39484	3,41	100,00

Source: calculated by the author based on, [16].

Table 2. The dynamics of the number of employed persons in the sphere of temporary accommodation and catering in Ukraine, 2010-2021.

	2010	2017	2018	2019	2020	2021	Deviation, +/-, 2010-2021	Annual growth rate, %	Specific weight, %
accommodation	69511	15386	16230	16419	38514	16099	-53412	10,28	17,42
hotels and similar accommodation	43019	13603	14527	14973	29465	11010	-32009	3,84	11,91
holiday and other short- stay accommodation	22101	5778	6298	8350	4357	4436	-17665	-10,01	4,80
camping grounds, recreational vehicle parks, and trailer parks	283	94	103	95	87	75	-208	-9,68	0,08
other accommodation	4108	1197	1198	1308	695	578	-3530	-13,05	0,63
food and beverage service activities	172626	28481	32176	31857	175714	22931	-149695	26,65	24,82
restaurants and mobile food service activities	120309	132650	164767	156392	15249	14209	-106100	-5,62	15,38
event catering and other food service activities	18371	15640	33240	19132	24698	8720	-9651	10,43	9,44
beverage serving activities	18204	15676	18510	18557	14943	14349	-3855	0,73	15,53
Total	468532	228505	287049	267083	303722	92407	-376125	-8,48	100,00

Source: calculated by the author based on, [16].

Production expenses in the hotel and restaurant business increased at a slower pace (6,91%) than sales volumes, which positively characterizes the operating activities aimed at reducing production costs. At the same time, expenditures increased at a higher rate for enterprises engaged in restaurants and mobile food service activities (10,05% annually). Meanwhile, expenses on hotels and

similar accommodations increased by 6,27% annually. The dynamics of production costs in the sphere of temporary accommodation and catering in Ukraine, 2012-2020, UAH mln is presented in Table 4. Similarly, the dynamics of gross operating income in the sphere of temporary accommodation and catering in Ukraine, 2012-2020, UAH mln is presented in Table 5.

Table 3. The dynamics of sales of products in the sphere of temporary accommodation and catering in Ukraine, 2010-2021, UAH mln.

	2010	2017	2018	2019	2020	2021	Deviation, +/-, 2010-2021	Annual growth rate, %.	Specific weight, %
accommodation	5803,2	6115,5	7137,4	7521,5	11182,5	8419,6	2616,4	35,69	19,81
hotels and similar accommodation	3985,8	5815,4	6793,4	7166,5	8532,8	5955,4	1969,6	24,13	14,01
holiday and other short-stay accommodation	1383,3	1282,9	1727,6	2737,1	1416,2	2141,5	758,1	5,95	5,04
camping grounds, recreational vehicle parks, and trailer parks	8,2	11,9	13,0	15,2	13,9	14,8	6,6	8,94	0,03
other accommodation	425,9	276,9	300,9	370,2	227,0	307,9	-117,9	-1,49	0,72
food and beverage service activities	9249,9	9079,6	10780,8	11373,0	38772,3	11460,1	2210,2	32,51	26,96
restaurants and mobile food service activities	5698,9	22603,1	30482,0	33198,6	4812,3	7660,3	1961,4	13,05	18,02
event catering and other food service activities	1750,7	2458,2	8877,0	3920,0	7142,6	3574,4	1823,8	72,23	8,41
beverage serving activities	1160,1	1754,3	2260,1	2654,8	2065,0	2972,3	1812,2	16,90	6,99
Total	29465,9	49397,9	68372,2	68956,9	74164,5	42506,2	13040,3	11,93	100,00

Source: calculated by the author based on, [16]

Table 4. The dynamics of production costs in the sphere of temporary accommodation and catering in Ukraine, 2012-2020, UAH mln.

	2012	2016	2017	2018	2019	2020	Deviation, +/-, 2010-2021	Annual growth rate, %.	Specific weight, %
accommodation	5385,8	5631,0	7181,8	8718,3	9659,7	7583,9	2198	6,89	17,83
hotels and similar accommodation	4413,4	4909,3	6199,6	7566,2	8101,1	5712,9	1299	6,27	13,43
holiday and other short-stay accommodation	834,1	666,2	914,0	1067,2	1443,6	1313,1	479	8,44	3,09
camping grounds, recreational vehicle parks, and trailer parks	4,9	5,0	3,4	6,5	8,3	7,1	2	78,45	0,02
other accommodation	133,4	50,5	64,9	78,4	106,7	550,8	417	57,92	1,29
food and beverage service activities	8754,3	7557,2	11950,9	13860,2	15932,8	13687,5	4933	7,60	32,17
restaurants and mobile food service activities	5733,7	5302,7	8598,8	9528,8	11496,9	10746,8	5013	10,05	25,26
event catering and other food service activities	2694,9	2042,0	3019,9	3885,6	3976,2	2569,6	-125	2,55	6,04
beverage serving activities	325,8	212,5	332,2	445,8	459,6	371,1	45	5,68	0,87
Total	28280	26376	38265	45157	51185	42543	14263	6,91	100,00

Source: calculated by the author based on, [16].

Table 5. Dynamics of gross operating income in the sphere of temporary accommodation and catering in Ukraine, 2012-2020, UAH mln.

	2012	2016	2017	2018	2019	2020	Deviation, +/-, 2010-2021	Annual growth rate, %	Specific weight, %
accommodation	725,4	2898,3	4022,7	3707,2	2314,4	991,9	267	65,31	20,84
hotels and similar accommodation	419,8	2765,1	3877,7	3529,0	1991,9	829,8	410	79,08	17,43
holiday and other short-stay accommodation	307,4	117,8	115,3	170,7	311,7	72,5	-235	19,58	1,52
camping grounds, recreational vehicle parks, and trailer parks	-2,2	1,4	4,1	2,6	1,6	-0,6	2	-39,18	-0,01
other accommodation	0,3	14,0	25,7	4,9	9,2	90,2	90	1858,69	1,90
food and beverage service activities	-1114,0	1001,2	649,3	253,1	234,8	1387,9	2502	-76,26	29,16
restaurants and mobile food service activities	-729,6	774,8	272,3	116,5	94,9	1280,5	2010	151,26	26,90
event catering and other food service activities	-320,3	158,4	257,7	55,5	55,4	43,5	364	-35,79	0,91
beverage serving activities	-64,1	67,9	119,3	81,1	84,5	63,9	128	-149,92	1,34
Total	-777	7799	9344	7921	5098	4760	5537	12,70	100,00

Source: calculated by the author based on [16].

Production expenses in the hotel and restaurant business increased at a slower pace (6,91%) than sales volumes, which positively characterizes the operating activities aimed at reducing production costs. At the same time, expenditures increased at a higher rate for enterprises engaged in restaurants and mobile food service activities (10,05% annually). Meanwhile, expenses on hotels and similar accommodations increased by 6,27% annually. The average annual growth rate of gross operating income in the temporary accommodation and catering sphere in Ukraine was 12.7%. In particular, the following business entities experienced the largest increase: hotels and similar accommodation - by 79,08%, restaurants, and mobile food service activities - by 151,26%. The hotel and restaurant business ensured a significant increase in gross operating income by optimizing expenses and exceeding the growth rate of sales over expenses. The coefficient of gross operating profitability (GOP) of expenses of the hotel and restaurant business amounted to 11,86% on average, with a significant increase in 2015-2018, in particular, due to the efficiency of hotels and similar accommodation enterprises (Table 6). On the other hand, according to the GOP coefficient, the activities of entities in the food and beverage service activities sphere were not efficient, in particular, due to the negative value of the coefficient in 2012-2014, with further increase in 2015-2017

Between 2015-2018, hotels and similar accommodations in the industry significantly improved efficiency, reflected in a notable rise in the GOP coefficient. In contrast, food and beverage service entities struggled, with negative coefficients from 2012-2014, gradually improving from 2015-2017. This disparity underscores the varying challenges and strategies within the sector, emphasizing the need for consistent cost management and adaptability for sustained profitability. Entities in the food and beverage service activities sphere must continue implementing effective management practices, learn from the successes of the hotel and similar accommodation enterprises, and invest in strategies that optimize operational costs and enhance customer satisfaction.

Table 6. The dynamics of the coefficient of gross operating profitability (GOP) of expenses in the sphere of temporary accommodation and catering in Ukraine, 2012-2020, UAH mln.

	2012	2013	2014	2015	2016	2017	2018	2019	2020	Average value
accommodation	13,47	26,19	15,46	9,25	51,47	56,01	42,52	23,96	13,08	27,93
hotels and similar accommodation	9,51	24,73	17,34	9,58	56,32	62,55	46,64	24,59	14,52	29,53
holiday and other short-stay accommodation	36,86	34,31	6,35	7,00	17,68	12,61	15,99	21,59	5,52	17,55
camping grounds, recreational vehicle parks, and trailer parks	-44,16	10,63	7,24	26,19	27,73	120,46	40,30	19,49	-8,77	22,12
other accommodation	0,22	23,73	20,82	8,11	27,63	39,54	6,20	8,63	16,38	16,81
food and beverage service activities	-12,72	-12,73	-0,96	8,22	13,25	5,43	1,83	1,47	10,14	1,55
restaurants and mobile food service activities	-12,72	15,23	3,77	6,55	14,61	3,17	1,22	0,83	11,91	1,57
event catering and other food service activities	-11,89	-7,89	-11,11	14,30	7,76	8,53	1,43	1,39	1,69	0,47
beverage serving activities	-19,67	2,20	-8,83	-6,39	31,96	35,90	18,20	18,38	17,23	9,89
Total	-2,75	3,61	4,59	8,62	29,57	24,42	17,54	9,96	11,19	11,86

Source: calculated by the author based on [16].

Table 7. The dynamics of labor productivity in the sphere of temporary accommodation and catering in Ukraine, 2010-2021, thousand UAH / 1 employed

	2010	2016	2017	2018	2019	2020	2021	Deviation, +/-	Average value
accommodation	83,5	253,8	397,5	439,8	458,1	290,3	523,0	439,5	251,8
hotels and similar accommodation	92,7	248,8	427,5	467,6	478,6	289,6	540,9	448,3	265,5
holiday and other short-stay accommodation	62,6	157,2	222,0	274,3	327,8	325,0	482,7	420,2	193,8
camping grounds, recreational vehicle parks, and trailer parks	29,0	63,4	126,9	126,1	160,3	159,2	197,2	168,2	90,4
other accommodation	103,7	155,0	231,4	251,1	283,0	326,6	532,8	429,1	208,4
food and beverage service activities	53,6	146,4	318,8	335,1	357,0	220,7	499,8	446,2	198,6
restaurants and mobile food service activities	47,4	139,4	170,4	185,0	212,3	315,6	539,1	491,7	168,3
event catering and other food service activities	95,3	208,6	157,2	267,1	204,9	289,2	409,9	314,6	172,5
beverage serving activities	63,7	83,4	111,9	122,1	143,1	138,2	207,1	143,4	102,3
Total	62,9	160,1	216,2	238,2	258,2	244,2	460,0	397,1	175,3

Source: calculated by the author based on, [16].

The labor productivity in the hotel and restaurant sector of Ukraine as a whole increased by UAH 397,1 thousand per employee, averaging UAH 175,3 thousand per employee (Table 7). The highest level of productivity was observed in hotels and similar accommodations and restaurants and mobile food service activities, especially since 2017, when productivity almost doubled.

### Case

During the period of managing Ribas Hotels Group's hotel properties with various investors in 2012-2021, the company achieved the following results of cooperation: an average 34% increase in profit from hotel properties, an average 30%

increase in business capitalization, and an average 20% increase in guest loyalty, [17].

The results of the investors' cooperation with Ribas Hotels Group in the field of hotel and restaurant management include the optimization of hotel operations, an increase in profit by 10-35%, and an increase in the main key performance indicators of the hotel. These include occupancy, ADR, and RevPAR, an increase in profitability a reduction in the payback period of the facility to 7 years, and an increase in the hotel's rating on Booking.com and other online booking platforms.

Operational management of the Ribas Hotels Group property includes, [17]:

1. Calculating hotel occupancy to increase profits.



2. Effective personnel management, including recruitment, training, and adaptation processes.
3. Operational management of the restaurant.
4. Quality control of services provided by the hotel.
5. Accounting.
6. Legal service.
7. Hotel and restaurant supply.
8. Support of software services.

Sales and marketing management includes marketing and advertising, a centralized reservation department, and a corporate sales department. The centralized reservation department increases sales conversion and room occupancy by 25-30% on average, and the cost by 10-40%.

Financial management of a facility involves professional organization, planning, management, and control over finances: strategic planning, budgeting, cost control, and optimization.

Implementing common standards involves developing and describing business processes to improve their management. Employees of hotel chains work according to certain algorithms, and managers evaluate them according to clearly defined performance indicators to ensure a uniform quality of service. Common standards include standards for the Reception service, standards for the operation of a single reservation service based on the sales book, and standards for the food and beverage service.

Table 8 illustrates the key performance indicators of Ribas Hotels Group's management processes by hotel property. Hotel management involves the following stages of cooperation between the company and the investor: 1) concept creation, project support at the design and construction stages, hotel launch, and operational management; 2) renovation, and operational management. Hotel concepts differ depending on the location and the area available for various services. Additional services for guests include free municipal parking, a business room for work and leisure, a terrace, a restaurant, SPA, swimming pools, a children's room, a ski room, etc. Hotel occupancy also varies depending on the location and customer demand for a particular type of vacation. Hotels with a more unique concept or additional services are characterized by a higher level of demand and occupancy. The unique offer of Ribas Karpaty Hotel with a large area provides the highest level of profit (average hotel sales rate). Besides, the location and the growing demand for tourist services in Bukovel in Ukraine during the war also affected the ADR of Ribas Karpaty. Richard by Ribas Resort is characterized by different occupancy rates:

1. Average load during the high season (62 days July-August): 92%.
2. Average load during the low season (70 days - May, June, and September): 55%.

Table 8. Key performance indicators of Ribas Hotels Group's management processes by hotel properties.

Indicator	Hotel Bortoli by Ribas	Richard by Ribas	Ribas Rooms Odesa	Ribas Karpaty	Helios by Ribas
Concept	City design hotel of economy-level	Midscale resort hotel	Modern business hotel of the midscale level	Upscale ski hotel	Midscale resort and ski hotel
Location	Odesa, Ukraine	Hrybivka resort, Ukraine	Odesa, Ukraine	Bukovel, Ukraine	Bukovel, Ukraine
Opening date	01.12.2017	01.06.2011	16.06.2017	26.12.2020	17.06.2017
Stages of cooperation (management)	concept development, project support at the design and construction stages, hotel launch, operational management	renovation, operational management	renovation, operational management	concept development, project management, design and construction, hotel launch, operational management	renovation, operational management
Area, m2	236	971	689,7	3200	2700
Infrastructure	free municipal parking, business room for work and rest, terrace	private beach, summer restaurant with gazebos on the beach, playground, parking	breakfast room, parking	restaurant with access to the terrace, coworking space with panoramic mountain views, swimming pool, Finnish and Roman saunas, jacuzzi, massage rooms, and a large spa area	restaurant, SPA and swimming pools, children's room, ski room, parking
Average load, %	90	77	67	67,1	62,5
Average daily rate (ADR), \$:	30	55	41	138	109
Planned return on investment in the project, %	11	17	10	14	12

Source: compiled by the author based on, [18].

To optimize its management processes, Ribas Hotels Group has standardized IT tools for the effective organization of hotel sales. In general, to automate the booking process in the company's facilities with up to 20 rooms, the company connects to Channel Manager, a single software tool for automating hotel sales management that combines several sales channels. The tool automates the sales function, the function of changing the availability of rooms, and tariffs, making it possible to create various promotional offers from a single interface, without the need to manage this data on each channel separately. According to the hotel consultant, an expert in online sales systems at Ribas Hotels Group, the hotel's channel manager prevents overbookings and ensures that prices are kept at parity.

Furthermore, the integration of a Channel Manager tool by Ribas Hotels Group has significantly streamlined its sales management processes. This unified software automates functions like sales, room availability adjustments, and pricing across multiple channels. It enables the creation of diverse promotional offers through a single interface, eliminating the need to manage data separately on each platform. Notably, this tool prevents overbookings and maintains price parity, ensuring a seamless booking experience for customers and efficient operations for the company.

Hotels managed by Ribas Hotels Group with 25 rooms or more use some services. Among them, [19]:

- CRM (customer relationship management) is a customer database management system designed to automate interaction strategies, including increasing sales, optimizing marketing, and enhancing customer service. CRM contains information about customers their contact history, and interactions with them. Moreover, it establishes and improves business processes, and performs further analysis of the results of interaction with customers. CRM provides an understanding of the level of customer loyalty and satisfaction with the company's services. One of the most important areas of work in this system is corporate sales, transactions, etc. CRM allows you not to lose any stage of communication with the client, even in the face of staff changes, as all information is stored in the company or client card and can always be processed. CRM is also used to build business processes for communicating with guests at different stages of service provision: communication with the guest after departure; creating a special offer for a guest who chooses between hotels and makes a reservation/change of reservation; selling

additional services to a guest who has already made a reservation (transfer, SPA, etc.).

- A PMS (property management system) is a hotel management system that allows you to manage the room stock, control occupancy, and make reservations for the room stock. This system accumulates information on hotel occupancy, stores guest cards, calculates income, generates staff tasks, prints fiscal receipts makes key cards, transfers financial results to the accounting department, and much more.

- Booking Engine is a booking module for a hotel website that allows you to book a room online on the hotel's website, pay for it, change dates, or cancel a reservation, and is integrated with the PMS.

- The technology of the interaction between these programs. For instance, a CRM system can be integrated with a PMS at the level of exchanging reservations, guest cards, and companies that are formed on the PMS side to generate mailings, sales funnels, or end-to-end analytics in the CRM system.

### **The efficiency of service, technological, and management processes in war conditions**

The outbreak of war also changed the approach to customer service and shifted to modeling possible staff behavior in the face of unpredictable changes. In a stable environment, hotels and restaurants sought to ensure uninterrupted service delivery under existing service standards. In a highly volatile environment, service processes require identifying potential problems and failures and developing algorithms to address them. The hotel and restaurant business in Ukraine is formulating new rules aimed at active communication with customers regarding possible disruptions in the provision of various services: service hours, check-in and check-out procedures, restaurant operations, etc.

Among the key factors in ensuring customer loyalty in the hotel business in wartime are, [20]:

- Individualized approach and non-standard solutions. The changes under martial law include the introduction of curfews and power outages, which make it impossible to provide services to guests (arrival, and departure) at night. To solve this problem, Ribas Hotels Group has developed new staff work schedules, including night shifts, thus combining the functions of some employees and maintaining the usual level of service. Among the innovations, for example, are night shifts for different categories of hotel employees (cooks, maids/laundry workers, waiters, technical service) to maintain the level of service. The hotels changed the operating modes of various services, the formats of check-in and check-out, and the operation of

various services, and developed algorithms for informing customers about possible failures and services. Thus, during the martial law period, the importance of standardizing communication with clients regarding possible disruptions (impossibility of cashless payments in case of power outages, catering services, etc.)

– Improvement and optimization of service processes that maintain customer loyalty and satisfaction by providing certain types of assistance and service. The service processes include a range of free services (e.g., luggage storage, taxi service, medical services). Such processes create additional value for the customer by providing assistance and creating a sense of security and care for the customer. These processes are also part of building customer experience and a loyal guest base.

– Creation of new services and standardization of procedures for their provision in times of war. For instance, Ribas Hotels Group's properties are equipped with bomb shelters: ventilation, autonomous heating, water pumps, generators, restrooms, and minimal comfort facilities and resources.

– Optimization of marketing tools and sales mechanisms due to the growing security risks in different regions of Ukraine, which leads to a decrease in demand a reduction in prices for accommodation services, and the need to reorient to new consumer segments. The head of sales at Ribas Hotels Group says that there is a decrease in search queries for hotel facilities and a need to send personalized offers to the company's loyal customers.

Optimization of processes and costs in the following subsystems, [21]:

1) recruitment and engagement of personnel (minimum involvement and maximum multifunctionality of employees), especially for professions with similar functional responsibilities: waiter and restaurant administrator, hotel manager, and booking or sales department.

2) supply to reduce costs. Changes at Ribas Hotels Group properties include switching the restaurant to local products, checking prices for products and product suppliers, and considering offers from other suppliers. Hotel managers also actively review suppliers' terms of reference, providing specific requirements for the right goods and services at the best prices.

3) Optimizing and changing the check-in process to save on utility costs.

4) optimization of resources to control consumption and inventory, as well as time spent on maintenance.

5) planning and forecasting subsystems on a quarterly and monthly basis and cost estimation concerning hotel occupancy. Ribas Hotels Group properties have implemented daily accounting of fuel and electricity consumption in terms of recording and analyzing costs depending on occupancy. The hotels have shifted processes that require high electricity consumption to times when electricity is available.

6) introduction of dynamic pricing depending on the occupancy of hotel facilities and demand.

## 5 Discussion and Conclusion

The study revealed the transition to flexible operational management, cost optimization, and processes of hotels and restaurants in the following subsystems: 1) recruitment and engagement of personnel (minimum involvement and maximum multifunctionality of employees); 2) supply of resources (transfer of the restaurant to local products); 3) optimization and change of accommodation processes; 4) optimization of resources to control consumption and inventory; 5) quarterly, monthly subsystems of planning and forecasting, cost estimation to hotel occupancy; 6) introduction of dynamic pricing depending on the occupancy of hotel facilities and demand, [20]. With the outbreak of war, the approach to customer service is changing and there is a shift to modeling possible staff behavior in the face of unpredictable changes. The hotel and restaurant business in Ukraine is forming new rules aimed at active communication with customers about possible disruptions in the provision of various services. The hotel management company Ribas Hotels Group should continue to actively communicate with customers in the face of unpredictable changes to help maintain satisfaction with service and technological processes. Active communication and interaction build customer loyalty to the company's hotel chain, ensuring support for operations in times of war. Among the key factors in ensuring customer loyalty in the hotel business are, [19]: 1) individual approach and non-standard solutions; 2) improvement and optimization of service processes that support customer loyalty and satisfaction by providing certain types of assistance and service; 3) creation of new services and standardization of procedures for their provision in the war; 4) optimization of marketing tools and sales mechanism due to increased security risks; 5) optimization of processes and costs in various subsystems.

Integration of ICT into management processes and improvement of operational efficiency of all processes contributes to the efficiency of hotel facilities management: their profitability, occupancy, and cost-to-occupancy ratio. This correlates with the findings of other scholars on the positive effects of technology in the hotel business [2], [3], [4]. The standardization of IT tools ensures the optimization of Ribas Hotels Group's management processes and the efficient organization of hotel sales. The standardization of IT tools in management depends on the size of the hotels and their room capacity. ICT automates the booking processes at the company's facilities and sales management processes at the hotel, combining several sales channels. Digital tools automate the sales function, the function of changing the availability of rooms, and tariffs, and make it possible to create different promotional offers from a single interface, without the need to manage this data on each channel separately.

To implement the concept of customer experience and customer relationship management, the Group has integrated CRM (customer relationship management), a customer database management system designed to automate interaction strategies, including increasing sales, optimizing marketing, and improving customer service. With the use of CRM in hotel facilities, business processes for communicating with guests at various stages of service provision are built: communication with the guest after departure; formation of a special offer for a guest who chooses between hotels and makes a reservation/change of reservation; sale of additional services to a guest who has already made a reservation (transfer, SPA, etc.), [22]. The empirical results correlate with the theoretical provisions of the concept of customer experience in terms of functional and emotional support of customers through communication, [15]. The findings of this study also confirm the importance of active communication in the process of providing services to hotel guests, especially in the face of unpredictable changes, [13]. The company uses a PMS (property management system) to manage its room stock (controlling occupancy and booking). The PMS is integrated with the Booking Engine booking module, which makes it possible to book a room online on the hotel's website, pay for it, change dates, or cancel the reservation.

#### References:

- [1] Ip, C., Leung, R., Law, R. (2011). Progress and development of information and communication technologies in hospitality. *International journal of contemporary hospitality management*, 23 (4), 533-551. <https://doi.org/10.1108/09596111111130029>
- [2] Law, R., Buhalis, D., & Cobanoglu, C. (2014). Progress on information and communication technologies in hospitality and tourism. *International Journal of Contemporary Hospitality Management*, 26 (5), 727-750. <https://doi.org/10.1108/IJCHM-08-2013-0367>
- [3] Malmström, S. (2020). Competition and competitive actions in the hotel industry in Finland. <http://urn.fi/URN:NBN:fi:jyu-202006305166> (Accessed Date: June 22, 2023)
- [4] Ivanov, S. H., Webster, C. (2017). Adoption of robots, artificial intelligence, and service automation by travel, tourism, and hospitality companies—a cost-benefit analysis. *Artificial Intelligence and Service Automation by Travel, Tourism, and Hospitality Companies—A Cost-Benefit Analysis*.
- [5] Snyder, H., Witell, L., Gustafsson, A., Fombelle, P., & Kristensson, P. (2016). Identifying categories of service innovation: A review and synthesis of the literature. *Journal of Business Research*, 69(7), 2401-2408.
- [6] Meyer, C., & Schwager, A. (2007). Understanding customer experience. *Harvard business review*, 85(2), 116.
- [7] Kazandzhieva, V., Lukanova, G., & Santana, P. S. H. (2019). Bulgarian customer attitude towards technological innovations in hotel service. In *6th SWS International Scientific Conferences on social sciences 2019*, 41-48.
- [8] Pillai, S. G., Haldorai, K., Seo, W. S., & Kim, W. G. (2021). COVID-19 and hospitality 5.0: Redefining hospitality operations. *International Journal of Hospitality Management*, 94, 102869.
- [9] Wang, K. C., Liao, K. P., Wu, B., Hsieh, M. T., Liao, W. T., & Yu, C. M. (2022). Priority? The Combination of Intelligent Services and Warm Services in Cross-Strait Hotel Service Delivery Processes. *Management Review*, 41, 87-108.
- [10] Galdolage, B. S. (2021). Barriers to entering the digital world: Exploring customer value

- co-destruction in self-service technologies. *FIIB Business Review*, 10(3), 276-289.
- [11] Kahneman, D. (2003). A perspective on judgment and choice: mapping bounded rationality. *American psychologist*, 58(9), 697. <https://psycnet.apa.org/doi/10.1037/0003-066X.58.9.697> (Accessed Date: June 22, 2023)
- [12] Kahneman, D., & Tversky, A. (2013). Choices, values, and frames. In *Handbook of the fundamentals of financial decision making: Part I*, 269-278.
- [13] McKinsey & Company (2016). Customer experience: Creating value through transforming customer journeys. <https://www.mckinsey.com/~media/mckinsey/industries/public%20and%20social%20sector/our%20insights/customer%20experience/creating%20value%20through%20transforming%20customer%20journeys.pdf> (Accessed Date: June 22, 2023)
- [14] Nilashi, M., Nasir, M. H. N. B. M., Ibrahim, O. (2018). Predicting determinants of hotel success and development using Structural Equation Modelling (SEM)-ANFIS method. *Tourism Management*, 66, 364-386.
- [15] Klaus, P. P., Maklan, S. (2013). Towards a better measure of customer experience. *International Journal of Market Research*, 55(2), 227-246.
- [16] Ribas Hotels Group (2023a). Optimizing the service business during the war: how to survive? <https://ribashotelsgroup.ua/blog/optimizatsiya-servisnogo-biznesa-vo-vremya-voyni-kak-vizhity/> (Accessed Date: June 22, 2023)
- [17] Ribas Hotels Group (2023b). The role of a management company in hotel operations: case studies Ribas Hotels Group. <https://ribashotelsgroup.ua/blog/roly-upravlyayushtey-kompanii-v-funktsionirovanii-otelya-keysy-ribas-hotels-group/> (Accessed Date: June 22, 2023)
- [18] Ribas Hotels Group (2023c). How the hotel is transferred to the management company. <https://ribashotelsgroup.ua/blog/kak-proishodit-peredacha-otelya-upravlyayushtey-kompanii/> (Accessed Date: June 22, 2023)
- [19] Ribas Hotels Group (2023f). How to organize a comprehensive sales system in a hotel without a Russian automated management system. <https://ribashotelsgroup.ua/blog/kak-organizovaty-kompleksnyu-sistemu-prodazh-v-otele-bez-rossiyskoy-avtomatizirovannoy-sistemi-upravleniya/> (Accessed Date: June 22, 2023)
- [20] Ribas Hotels Group (2023e). How hotel service changed during the war. <https://ribashotelsgroup.ua/blog/kak-izmenilsya-gostinichny-servis-vo-vremya-voyni/> (Accessed Date: June 22, 2023)
- [21] Ribas Hotels Group (2023d). How to keep your team motivated in a time of war. <https://ribashotelsgroup.ua/blog/kak-sohranity-motivatsiyu-komandi-v-usloviyah-voyni/> (Accessed Date: June 22, 2023)
- [22] Buhalis, D., Harwood, T., Bogicevic, V., Viglia, G., Beldona, S., & Hofacker, C. (2019). Technological disruptions in services: lessons from tourism and hospitality. *Journal of Service Management*.

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The authors have no conflict of interest to declare.

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