

The Impact of Organisational Learning on Innovation: Case Study of the Serbian Hotel Industry*

Ana Jovičić Vuković, Snježana Gagić, Aleksandra Terzić, Marko D. Petrović,
Milan Radovanović**

Orientation to learning and innovation are the basis of organisational success. Innovation in the organisation implies a continuous transformation of knowledge and ideas into new products, services, processes and systems in order to provide benefits for the stakeholders. A theoretical foundation and surveys are used in the paper to examine the impact of dimensions of organisational learning on innovation. In addition, the paper investigates educational and organizational hierarchical level differences among employees in hotels, as well as hotel category differences in relation to innovation and organizational learning. The sample consisted of 512 employees in 57 hotels in Serbia. The results showed a statistically significant contribution of the dimensions of organisational learning to different types of innovation. It was determined that the dimension Shared Vision is the predictor of all types of innovation. The results provide important scientific and practical information in terms of further research in the hotel industry, particularly with regard to improving the business activities and further development of the hotel product.

Keywords: innovation, organisational learning, hotel industry, Serbia
JEL Codes: D83, J24, M54, Z31

1. Introduction

The quality of the hotel offer is determined by the ability of hotels to provide innovative products, services and solutions to their guests. Research about the state of innovation systems in hotels is one of the key sources for gaining information about business segments that need the improvements in order to ensure the optimal quality of hotel products and to achieve the best results. Innovation

* Received: 19.03.16, accepted: 19.10.17, 2 revisions.

- ** Ana Jovičić Vuković (corresponding author), PhD, Lecturer, Novi Sad School of Business, Novi Sad Serbia, Main research interests: innovation management, human resources management, tourism and hotel management, E-mail: dr.ana.jovicic@gmail.com.
Snježana Gagić, PhD, Assistant Professor, University of Business Studies, Faculty of Tourism and Hotel Management, Banja Luka, Bosnia and Herzegovina. Main research interests: hospitality management, innovation management, service quality.
Aleksandra Terzić, PhD, Research Associate, Geographical Institute “Jovan Cvijić” of the Serbian Academy of Sciences, Belgrade, Serbia. Main research interests: tourism development and hotel management.
Marko D. Petrović PhD, Research Associate, Geographical Institute “Jovan Cvijić” of the Serbian Academy of Sciences and Arts (SASA), Belgrade, Serbia; South Ural State University (SUSU), Institute of Sports, Tourism and Services, Chelyabinsk, Russia. Main research interests: tourism and hotel management, agritourism.
Milan Radovanović, PhD, Principal Research Fellow, Geographical Institute “Jovan Cvijić” of the Serbian Academy of Sciences and Arts (SASA), Belgrade, Serbia; South Ural State University (SUSU), Institute of Sports, Tourism and Services, Chelyabinsk, Russia. Main research interests: tourism and environmental issues.

in hotel management results from the organisation's ability to continually transform knowledge and ideas into new products, services, processes and systems in order to provide benefit to the stakeholders. The relationship between organisational learning and innovation is explored in a number of papers (e.g. Calantone et al. 2002; Mavondo et al. 2005; Salavou, 2005; Jiménez-Jiménez/Sanz-Valle, 2011; Fraj et al. 2015, Jovičić, 2015).

Organisational learning leads to the improvement of the key competencies of the organisation, by which it becomes able to adjust to its environment, even to create changes in it. Organisational learning is the result of involving the members of the organisation in the exchange of knowledge and experiences. It is a factor which precedes innovation, and which affects the performance of the organisation (Fraj et al. 2015). Also, the orientation to learning and the resulting innovations are the basis for business success (Wang/Ahmed, 2002) and strategic changes in the organisation (McGuinness/Morgan, 2005).

Orientation towards continuous learning helps organisations to understand the needs of their clients, which is an important factor that influences the creation of new values for clients. All new products and services that are offered to their clients must satisfy the expressed and latent needs.

Ries and Trout (1981) suggest that innovations represent a form of learning. Educational background is an important part of the employee's knowledge base, and it also influences the working methods and affects the employee's decision making and views on how to identify and solve problems (Joshi/Jackson, 2004). Studies show that organizations with a higher number of highly educated employees and diversity in the types of education have a higher likelihood of innovating, as different points of view, educational backgrounds and experiences facilitate the exploratory competence of a firm through better problem solving and generation of new ideas (Quintana-García/Benavides-Velasco, 2008), as well as their higher commitment to organization (Erdeji/Jovičić Vuković/Gagić/Terzić, 2016). The study of Nieves and Haller (2014) empirically confirmed that prior knowledge and skills at the individual and collective level in hotels are the basis for the development of the organisation through the adjustment of the resource base to changing business conditions. It should be emphasized that knowledge does not apply exclusively to knowledge acquired through formal education, but also to knowledge and experience gained by personal and professional circumstances.

Within the hospitality industry, the ability of organisations to provide innovative solutions, products, and services in more effective and more efficient ways than the competition enables organisations to retain existing clients and attract new ones (Barr/McNeilly, 2003; Mijatov/Pantelić/Dragin/Perić/Marković, 2018). The research results of Hu et al. (2009) show that it is important for organisations to

encourage knowledge sharing and to create a team culture in order to achieve results in terms of service innovation in hotels.

Innovations can be present in different forms, which is why we can talk about different divisions of innovations. Hjalager (2010), in accordance with Schumpeter's contribution, provides a typology of innovations applicable to the servicing sector and divides innovations into five categories: product innovations, process innovations, innovations of management, innovations in logistics and institutional innovations. An interesting division of innovations in the hospitality industry is given by Victorino et al. (2005), who categorise innovations according to guests' needs, varying innovations in the kitchen, innovations in rooms, internet innovations, innovations related to services such as pet facilities, etc. Nasution et al. (2011) and Hogan et al. (2011) provide the following typology, which is used in this research: Products/Services innovations, Process innovations, Administrative innovations, Customer innovations, Marketing innovations, Technological innovations.

The main objective of the research is to examine the effect of the dimensions of organisational learning on different types of innovations in the hotel sector. The aim of the research is operationalised through the following hypothesis:

- H1. Dimensions of organisational learning predict product/service innovations,*
- H2. Dimensions of organisational learning predict process innovations,*
- H3. Dimensions of organisational learning predict administrative innovations,*
- H4. Dimensions of organisational learning predict customer-focus innovations,*
- H5. Dimensions of organisational learning predict marketing innovations,*
- H6. Dimensions of organisational learning predict technological innovations.*

Different studies have found that educated employees can enhance the probability of innovation. Organizations with a higher number of educated employees are more likely to adopt new technology and innovative systems (Brynjolfsson/Saunders, 2010). Considering that variables focused on in the study are measured by employees' individual perception, the research will investigate the significant differences among the mean ratings for the educational and organizational hierarchical level of the employees in hotels, in relation to innovation and organizational learning.

By applying different innovations, organisations tend to gain and retain competitive advantage, and this is essential for all industries, especially for the hotel in-

dustry (Pikkemaat/Peters 2006). Innovations improve the quality of facilities and services, providing the differentiation between hotels within the same category. They also most likely influence the customer's choice of hotel and cause a higher level of guest satisfaction. Previous studies have shown a relationship between hotel category and innovation. Higher category hotels proved to be more innovative, as well as hotels which are part of hotel chains or which have larger capacity (Orfila-Sintes et al, 2005; Pikkemaat/Peters, 2006; Orfila-Sintes/Mattsson, 2009; Martínez-Ros/Orfila-Sintes 2012). In this study differences in terms of innovation and organizational learning in relation to the hotel category will be examined.

2. Hotel industry in Serbia

Despite its negative image because of political turmoil, wars and other negative circumstances that have taken place over the previous 20 years in the Republic of Serbia, with its natural and anthropogenic values, it is an attractive and still unexplored tourist destination. Tourism in Serbia has increasingly become more significant in recent years, as confirmed by the data of the Ministry of Trade, Tourism and Telecommunications of Serbia, which shows that there was a 12% increase in the number of tourists in 2016, as indicated by income and foreign exchange inflow, which surpassed a billion Euros. This increase in the number of foreign tourists caused significant qualitative and quantitative changes within the hotel sector.

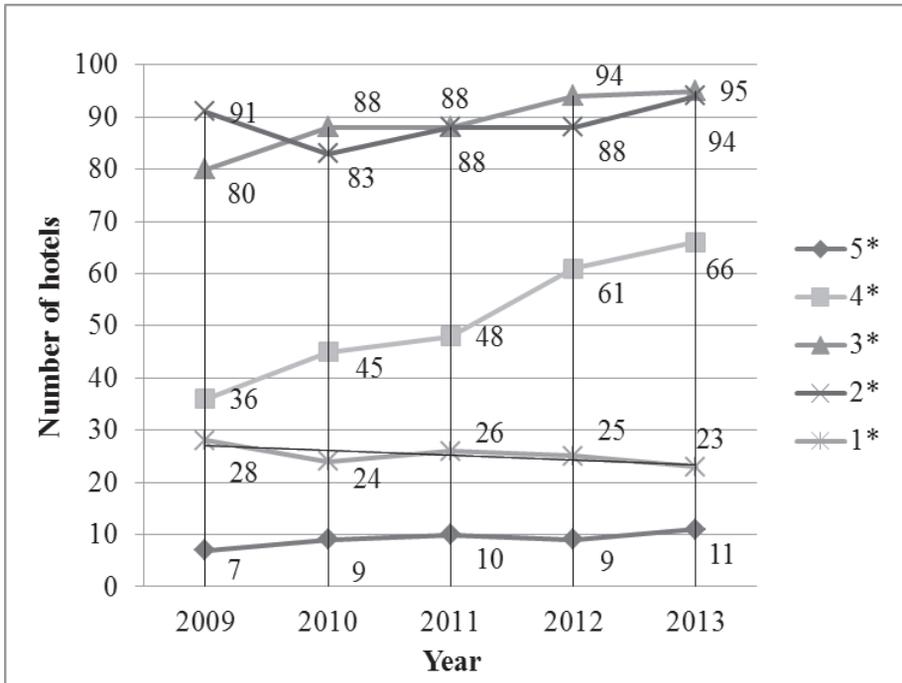
According to data from the Ministry of Trade, Tourism and Telecommunications, in 2013 in Serbia there were 297 hotel facilities; the number of accommodation capacities was 16,723, while the number of beds was 28,296. There are five hotel categories in Serbia, from one-star to five-star. Most of the hotels in Serbia are two- (33.3%) and three-star (32.3%) hotels, while the fewest hotels are five-star hotels (3.7%)

Over a five-year period from 2009 to 2013, there has been an increase of 28.57% in the total number of hotels. Figure 1 shows that the second category hotels (four-star hotels) have the highest growth rate. Their number has nearly doubled: the increase is 83.3%. The first category facilities have had an increase of 57.1%. The third category facilities have had an increase of 18.7%. Two-star facilities have had the lowest increase of 3.2% within the examined period. A decrease in the number of facilities has been noted only with one-star hotels and it is -17.8%.

Since 2007 reconstruction and modernization have brought about positive changes. Many hotels improved the quality of their offer and moved into a higher category. Until 2009 in Serbia, there were only three hotel chains, which included only five hotel facilities. Although there is a small number of hotel facilities which do their business under the names of global hotel operators in Serbia,

opening facilities under international company names has greatly improved the quality of the hotel offer. Transfer of international standards, technologies, knowledge and experience stand out as most significant. Apart from this, renovating and opening new hotel facilities which do their business under the management of domestic companies have also improved the hotel offer in Serbia significantly.

Figure 1: Changes in the number of hotels in a period between 2009 and 2013 according to the hotel category



Source: Authors, according to data from the Ministry of Trade, Tourism and Telecommunications

3. Methodology

The research included 512 employees in 57 first (five-stars), second (four-stars) and third category (tree-stars) hotels in Serbia. This sample represents 19.2% of the total number of hotels in Serbia (Table 1). The average number of respondents per hotel was nine.

Table 1: Hotels and respondents' distribution according to the hotel category

Hotel category	Number of hotels	Percent (%)	Number of respondents	Percent (%)
Five-star	4	7,0	78	15,2
Four-star	24	42,1	228	44,5
Three-star	29	50,9	206	40,3
Total	57	100,0	512	100,0

Source: Jovičić, 2015

A convenient sampling method was used. The high percentage of valid questionnaires (84.9%) provides the necessary reliability and validity of the results of the data analysis. The first step in the field research entailed liaising with managers of 84 hotels, of which 11 facilities (13%) immediately rejected the study. Positive response for conducting the survey was obtained in 73 hotels, of which 57 hotels returned valid questionnaires (78%). Most contacted hotel managers were interested in research results, and some requested a follow-up on the results of the hotels they managed.

Table 2: Socio-demographic variables of respondents

Variable	Category	Number of respondents	Percentage of respondents (%)
Gender	Male	229	44.7
	Female	283	55.3
Age	≤ 20	7	1.4
	21–30	221	43.2
	31–40	128	25.0
	41–50	91	17.8
	51–60	62	12.1
	≥ 61	1	0.2
	Missing	2	0.4
Education	Secondary school	253	49.4
	College/Faculty	224	43.8
	Master	31	6.1
	Missing	4	0.77
Hierarchical level of work	Top management	47	9.2
	Middle management	93	18.2
	Lower management	51	10.0
	Non-management staff	321	62.7

Source: Jovičić, 2015

The study included a questionnaire which consisted of two parts. The socio-demographic variables of respondents were measured in the first part: gender, age, education and hierarchical level of work (Table 2). The second part of the questionnaire consisted of two instruments that measured the attitude of employees towards innovation and organisational learning.

Respondents were expected to express their level of agreement with statements on a five-point Likert scale, where 1 signified total disagreement, and 5 signified full agreement with the items.

The instrument for measuring innovation included 28 items divided into six dimensions:

- Products/Services innovations (five items) – include new products and services offered by the organisation in order to meet users' requirements (Damanpour 1991; Nasution et al. 2011). Examples of items are "Our organisation has introduced many new services to the market" and "Our organisation has introduced many modifications to existing services";
 - Process innovations (five items) – include new elements that are introduced in production /providing services, such as new materials, specification of tasks, the mechanisms of information flow and new equipment used to produce goods or provide services, that is, represent changes in the method of production or services (Damanpour, 1991; Nasution et al. 2011). Examples of items are "Our work practices are constantly updated to increase productivity" and "We constantly benchmark our processes to world-class standards";
 - Administrative innovations (five items) include changes in business methods, changes in organisational structure, policy, work methods, staff development programs and procedures and are important for change in management practices (Hine/Ryan, 1999, Nasution et al. 2011). Examples of items are "Our organisation empowers employees to take initiatives" and "Our organisation invests in updating administrative procedures";
 - Customer-focused innovations (five items) – represent the organisation's ability to offer products and services that will provide unique benefits to customers and the ability of the organisation to solve customers' problems in innovative ways (Hogan et al. 2011). Examples of items are "We provide our guests with services/products that offer unique benefits superior to those of the competitors" and "We solve guests' problems in very innovative ways";
- Marketing innovations (four items) – represent the ability of the organisation to develop and implement new ways of promotion and innovative marketing programs (Hogan et al. 2011). Examples of items are "Our organisation implements innovative marketing programs" and "We innovate with our marketing programs to keep ahead of the market";

- Technological innovations (four items) include the ability of the organisation to adopt the use of new software, integrated systems and technology (Hogan et al. 2011). Examples of items are "We introduce new integrated systems and technology" and "We adopt the latest technology in the hotel industry".

Organisational learning (Calantone et al., 2002; Nasution et al., 2011) was measured using items taken from the works of various authors (Day, 1994; Senge, 1990; Tobin, 1994). The items were consolidated into four dimensions:

- Commitment to learning (five items) – means the degree to which the organisation values and promotes a culture of learning (Galer/Van der Haijden, 1992; Sinkula et al., 1997). Examples of items are "Managers basically agree that our organisation's ability to learn is the key to our competitive advantage" and "The basic values of this organisation include learning as the key to improvement";
- Shared vision (six items) – represents a unique ideal and a view of the future and provides the basis for gathering people and leading an organisation (Sinkula et al., 1997). Examples of items are "There is total agreement on our organisational vision across all levels, functions, and divisions" and "All employees are committed to the goals of this organisation";
- Open-mindedness (four items) – means the readiness of the organisation to critically examine and evaluate routines in the organisation. It also implies the willingness of members of the organisation to accept new ideas and to make changes (Hult/Ferrell, 1997). Examples of items are "We are not afraid to reflect critically on the shared assumptions we have made about our customers" and "We continually judge the quality of our decisions and activities taken over time";
 - Intra-organisational knowledge sharing (six items) – means the collective thinking and behaviour of all members of the organisation in terms of the dissemination of knowledge among organisational units (Hult/Ferrell, 1997). Examples of items are "There is a good deal of organisational conversation that keeps alive the lessons learned from history" and "We always analyse unsuccessful organisational endeavors and communicate the lessons learned widely".

Data were prepared and analysed using statistical software IBM SPSS 20.0. Statistical data processing methods used in this paper are descriptive statistics, the reliability of the instrument, regression analysis and ANOVA.

4. Results and discussion

4.1. Innovations

The instrument used to measure innovations consisted of six sub-scales. All sub-scales showed extremely high reliability, given that Cronbach's alpha coefficient was ≥ 0.90 at each sub-scale.

Analysing the types of innovations (Table 3) on the basis of answers, it is noted that employees are largely oriented towards innovations aimed at guests ($M = 3.75$), whereas the mean value is the lowest in the administrative innovations ($M = 3.47$). Generally, all sub-scales showed a moderately positive mean value. The total innovative activity is estimated by mean value $M = 3.57$, which indicates that the analysed hotels are moderately innovative. Relatively similar results were obtained in a study of the hotel sector in Croatia on a sample of 68 hotels (Pivčević/Garbin Praničević, 2012).

Table 3: Innovation Scale – descriptive statistics and reliability

Innovation	N	M	SD	α
Customer-Focused innovations	505	3.75	.765	.909
Marketing innovations	505	3.52	.969	.928
Technological innovations	503	3.66	.940	.945
Process innovations	507	3.58	.884	.930
Products or Services innovations	500	3.54	.871	.931
Administrative innovations	501	3.47	.853	.900
Innovation – Total	478	3.57	.771	.975

Source: Jovičić, 2015

4.2. Organisational Learning

The questionnaire that measures orientation to organisational learning is composed of four dimensions. All sub-scales have an extremely high Cronbach's alpha coefficient (0.801 – 0.932), indicating good reliability of the instrument.

Analysing the mean values of four dimensions (Table 4), it has been determined that the mean values are very similar in size, where the dimension Commitment to learning has the highest mean value ($M = 3.74$), while the dimension Shared vision has the lowest mean value ($M = 3.50$).

Table 4: Organisational Learning Scale – descriptive statistics and reliability

Organisational learning	N	M	SD	α
Commitment to learning	504	3.74	.807	.880
Shared vision	495	3.50	.885	.932
Open-mindedness	505	3.61	.907	.912
Intra-organisational knowledge sharing	490	3.63	.706	.801
Organisational learning – Total	470	3.61	.738	.957

Source: Jovičić, 2015

4.3. The Impact of dimensions of Organisational Learning on different types of Innovation

The regression analysis was conducted to determine the impact of the dimensions of organisational learning on innovation. The independent variable was dimensions of organisational learning and the dependent variable was different types of innovation. Table 5. shows Standardized beta coefficient (β) weights.

Table 5: Partial contributions of the dimensions of the organisational learning in the prediction of different types of innovations

Variables		Dependent variables					
		Products or Services innovations	Process innovations	Administrative innovation	Customer-Focused innovation	Marketing innovations	Technological innovations
Independent variables	Commitment to learning	.103**	.099*	.154***	.100*	.079	.181***
	Shared vision	.234***	.303***	.353***	.240***	.320***	.270***
	Open-mindedness	.312***	.245***	.224***	.106	.227**	.207**
	Intra-organisational knowledge sharing	.132**	.171**	.126**	.287***	.090	.069
R Square		.497	.548	.595	.434	.428	.427
F		127.184***	153.674***	188.395***	97.225***	97.225***	94.578***

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

The first model shows the impact of dimensions of organisational learning on product innovation. The model proved to be statistically significant $F(4,507) = 127.184$; $p = 0,000$ and explains 49,7% of the variance. The results showed that all four dimensions of organisational learning contribute significantly to product/services innovation, where the Open-mindedness variable contributes the most ($\beta = .312$). Based on the results of the regression analysis, hypotheses H1 has been confirmed. Similar to the findings of the present study, several studies (Troy et al., 2001; Kontoghiorghe et al., 2005; Ussahawanitchakit, 2008; Phromket et al., 2010; Hernández-Mogollon et al., 2010; Calisir et al., 2013) also confirmed the significant impact of organisational learning dimensions on products/services innovation. Product innovations are directly dependent on the readiness of the members of the organisation to improve their activities and accept new ideas and ways of business management. Therefore, encouragement and flexibility in experimenting is of great importance, which means that the organisation should encourage its employees to take risks, be innovative, search

for new ideas, exchange knowledge and skills and develop new products and services.

The second model shows the impact of dimensions of organisational learning on process innovation. The model proved to be statistically significant $F(4,507)=153.674$; $p=0,000$ and explains 54,8% of the variance. The results showed that all four dimensions of organisational learning contribute significantly to process innovation, where the Shared vision variable contributed the most ($\beta=.303$), which indicates that the H2 hypothesis is confirmed. In accordance with these research results, other studies also confirmed that shared vision and innovation-supportive culture based on mutual values affect and reinforce daily practice (Higgins/McAllaster, 2002). Also, according to Detert et al. (2000), the values serve as the backbone of cultures that foster process innovation, thereby enabling or hindering performance improvements.

The third model shows the impact of dimensions of organisational learning on administrative innovation. The model proved to be statistically significant $F(4,507)=188.395$; $p=0,000$ and explains 59.5% of the variance. It was determined that all four dimensions of organisational learning significantly contribute to administrative innovation, where the Shared vision variable contributed the most ($\beta=.353$), which indicates that the H3 hypothesis is confirmed. In accordance with the results, the study of Liao et al. (2008) established that commitment to learning, shared vision and open-mindedness had positive effects on administrative innovation. Garcia-Morales et al. (2006) found that strategic factors such as personal mastery, transformational leadership, shared vision, proactivity and environment have positive effects on both organisational innovation and organisational performance. A culture of open-mindedness also enhances valuable operations with new methods of business processes (Calisir et al., 2013).

In the fourth model, the independent variable was dimensions of organisational learning and the dependent variable was customer-focused innovation. The model proved to be statistically significant $F(4,507)= 97.225$; $p=0,000$ and explains 43.4% of the variance. The results of the regression analysis determined that all dimensions of organisational learning, excluding the Open-mindedness dimension, significantly contribute to innovation, which indicates that the H4 hypothesis is partially supported. By examining the Standardized beta coefficients, it was determined that the Intra-organisational knowledge sharing variable mostly contributed to customer-focused innovation ($\beta=.287$). Similar results were achieved in a study by Ussahawanitchakit (2008) who explored the significant effects of intra-organisational knowledge sharing and shared vision on innovation. The results are contrary to the study by Hernández-Mogollon et al. (2010) which confirmed the significant effect of open-mindedness on organisational innovation by collecting data from small and medium-sized enterprises in Spain. The results show a significant effect of knowledge exchange for innovation in

relations with clients, which is why it is particularly important to encourage and expand the knowledge between different functions and services. In this way information acquired from various sources is actualised and used by those who need it most. Thus, for example, experiences with guests acquired from the employees at reception may be useful in marketing. Continuous knowledge exchange is particularly important as it prevents loss of knowledge (Lukas et al. 1996), which mostly happens when an employee leave the company, as happens relatively often in the hotel business. Therefore, it is particularly important that all previous experiences, knowledge and skills be exchanged among all members of the organisation and preserved in organisational memory (Calantone et al, 2002).

The fifth model shows the impact of dimensions of organisational learning on marketing innovation. The model proved to be statistically significant $F(4,507)=97.225$; $p=0,000$ and it explains 42,8% of the variance. Out of four dimensions of organisational learning, it was determined that dimensions Commitment to learning and Intra-organisational knowledge sharing do not contribute to marketing innovation, while the Shared vision variable contributed the most to this form of innovation ($\beta=.320$). The results show that the H5 hypothesis is partially supported. The acquired results partially collide with studies which show that organisational learning has a positive effect on new product (Imai et al. 1995) and service (Tajeddini, 2011) development, customer responsiveness fulfillment, marketing effectiveness, marketing advantage, and marketing performance (Muangkhrot/Ussahawanitchakit, 2015). In addition, the leader has a significant role in ensuring an inspiring climate, communications, and the focus of all members of the organisation on a mutual cause – ensuring a high quality of service and a higher number of satisfied guests.

The sixth model shows the impact of dimensions of organisational learning on technological innovation $F(4,507)= 94.578$; $p=0,000$ and it explains 42,7% of the variance. Out of four dimensions of organisational learning, it was determined that dimension Intra-organisational knowledge sharing does not contribute to technological innovation, while the Shared vision variable contributes the most to this form of innovation ($\beta=.270$). The results show that the H6 hypothesis is partially supported. The acquired results are in accordance with the study by Liao et al. (2008) which explored the significant effects of commitment to learning, shared vision and open-mindedness on technical innovation, as well as in the study by Lynn et al. (1996) who determined that having a clear and shared vision on the team is one of the most critical factors for successful technological innovation. A shared vision is important because it helps internal communication and integration and lowers inter-functional barriers in the organisation, in order to ensure a better flow of information, coordinated actions among sectors and services (Brown/Eisenhardt, 1995). Also, establishing a shared vi-

sion facilitates the introduction of new technologies and reduces employee resistance.

4.4. Education Level and Hierarchical Level differences on Innovation and Organizational Learning

One-way Analysis of Variance (ANOVA) was performed in order to investigate the educational and organizational hierarchical level differences on innovation and organizational learning. Preliminary assumption testing was conducted to check for normality, linearity, homogeneity of variance-covariance matrices, and multicollinearity, and no serious violations were noted.

Table 6: ANOVA according to the educational level

Variables	Education level	Number of respondents	M	SD	F	Sig.
Innovation	Secondary school	253	3.724	.7169	12.716	.000
	College/Faculty	224	3.425	.7188		
	Master	31	3.264	.8938		
	Total	508	3.564	.7461		
Organizational Learning	Secondary school	253	3.705	.6678	5.335	.005
	College/Faculty	224	3.516	.7039		
	Master	31	3.428	.9139		
	Total	508	3.605	.7067		

Concerning educational level, respondents were divided into three groups (secondary school, college/faculty and master's degree). Results showed statistically significant differences among groups in the case of innovation $F(2,507)=12.716$, $p=0.000$, as well as organizational learning $F(2,507)=5.335$, $p=0.005$ (Table 6). In spite of its significance, the actual difference between the mean values of the groups is rather small (Eta square=0.04 for innovation and Eta square=0.02 for organizational learning).

To further investigate the perceived differences between the mean scores for the Educational level group, post-hoc analysis was conducted. Results of the Tukey HSD test on organizational learning and innovation showed statistically significant differences between employees with secondary education and those with higher education levels. The results are not in line with some previous studies that indicate that more highly educated people have more receptive attitudes towards innovation (Kimberly/Evanisko, 1981; Junge et al. 2012). Hotel employees that do not have a university degree are usually non-management staff, presenting, in general, the front-line employees that are in direct contact with guests and that are particularly important as ideas makers, based on their interaction with customers (Sundbo, 2003; Rubalcaba et al., 2012). These processes can be

described as bricolage innovations, when frontline employees together with guests initiate and implement alterations or add new elements in their work practice by using resources at hand.

Table 7: ANOVA according to the hierarchical level of work

Variables	Hotel category	Number of respondents	M	SD	F	Sig.
Innovation	Top management	47	3.779	.7397	1.595	.190
	Middle management	93	3.595	.6781		
	Lower management	51	3.512	.6898		
	Non-management staff	321	3.536	.7704		
	Total	512	3.566	.7453		
Organizational Learning	Top management	47	3.865	.5985	3.338	.019
	Middle management	93	3.671	.6354		
	Lower management	51	3.649	.6388		
	Non-management staff	321	3.543	.7431		
	Total	47	3.865	.5985		

Additionally, in order to investigate the significant difference among four different hierarchical level groups in an organization on innovation and organizational learning, an ANOVA was performed. Respondents were divided into four groups (top management, middle management, low management and non-management staff). The results showed that there was no significant difference between hierarchical levels regarding innovation ($p > 0.05$). A statistically significant difference was determined in terms of the organizational learning variable $F(3,508) = 1.65$, $p = 0.19$ (Table 7), which is a small difference (Eta squared = 0.02) according to Cohen's criteria (Cohen, 1988). Additional comparison using the Tukey's HSD test points to the difference between organizational learning perception of top managers and non-management staff. These results are consistent with the previous research conducted by Yang (2010), explained with the fact that top management has the key role in encouraging flexibility, communication, experimentation, and knowledge exchange within the organisation.

4.5. Hotel Category differences in Innovation and Organizational Learning

In order to investigate the significant differences among the mean ratings for hotel categories on the construct of Innovation and Organizational Learning, ANOVA was performed. Results showed that there are statistically significant differences among three hotel categories $F(2,475) = 4.283$; $p = 0.014$ (Table 8). The impact factor, eta square, indicates that the actual difference among the groups is rather small according to Cohen's criteria (Cohen, 1988): Eta squared = 0.01 for innovation and Eta squared = 0.02 for organizational learning. The Tukey post

hoc test revealed that employees in four-star hotels show greater orientation towards innovation and organizational learning in comparison to the three- and five-star hotels.

Table 8: ANOVA according to the hotel category

Variables	Hotel category	Number of respondents	M	SD	F	Sig.
Innovation	Five-star	78	3.469	.6333	4.271	.014
	Four-star	228	3.673	.7582		
	Three-star	206	3.485	.7580		
	Total	512	3.566	.7453		
Organizational Learning	Five-star	78	3.407	.6406	6.122	.002
	Four-star	228	3.712	.7088		
	Three-star	206	3.565	.7124		
	Total	512	3.606	.7074		

Such results can be partly explained by quantitative and qualitative changes that happened recently in the hotel industry of Serbia and was most prominent in the four-star hotels: in particular, the intense competition in this segment, with a large number of newly opened hotels, some operating within international hotel chains, but also some newly built and recently reconstructed old hotels in domestic ownership. This situation has made hotels within the „four stars“ category more willing to change and more innovative than the other two test categories. By enhancing customer relationships and providing services that exceed guest expectations, hotels can survive in the market and develop further (Jovičić et al, 2016).

5. Conclusion

Although the relation between the organisational learning dimensions and organisational innovation has often been studied, there is little empirical evidence in regard to the hotel industry. The study results provide evidence for the impact of the dimensions of organisational learning on different types of innovation in the Serbian hotel industry. Moreover, the study examined the differences in innovation and organisational learning in reference to the different educational and hierarchical levels within organisations. Finally, the differences among hotel categories in terms of innovation and organisational learning were observed.

The results of the study conducted on a sample of 512 respondents and 57 hotels in Serbia showed that there is a significant impact of dimensions of organisational learning on innovation. The results show that dimension Shared visions is a predictor of all types of innovation. Dimension Commitment to learning is a predictor of product/services innovations, process innovations, administrative

innovations, customer-focused innovations and technological innovations. Dimension Open-mindedness is a predictor of all types of innovation defined by this research except Customer-focused innovation. Dimension intra-organisational knowledge sharing affects product/services innovations, process innovations, administrative innovations, and customer-focused innovations.

The results of ANOVA show the higher medium values of Innovation and Organisational learning variables within the secondary education respondent group in comparison to the higher education groups. In terms of hierarchical levels, employees' differences were assumed in terms of Organisational learning, whereas the top management group showed significant differences compared to the other respondent groups. Medium values of respondent perceptions in four-star hotels indicate the higher orientation of those hotels towards innovation and organisational learning.

The transformation of hotel organisations from traditional to learning ones presents a challenge for the Serbian hotel industry in the future. This includes involving employees in creating a vision of the hotel and pointing to the importance of flexibility and openness to changes, providing educational activities for improvement of staff competencies. They are the key to creating a climate in which employees will be satisfied, committed and motivated to provide new and creative solutions and to meet increasingly demanding and selective guests.

In today's business environment, the tourism industry of Serbia with a special emphasis on the hotel industry, is faced with a revolution of requirements demanded by stakeholders. In terms of more and more significant competition and the ever-growing demands of guests, the hotel facilities are expected to adapt more quickly and powerfully to changes they face, where innovation becomes a critical factor of success and a condition of hotel survival.

However, the research contains certain limiting factors, given that this is a convenience sampling. Generalisation of the results is not recommended. Moreover, the employee's potential subjectivity is another issue that couldn't be avoided. In addition, all tested variables were measured at one point in time, i.e. from a static perspective. It would be useful to examine the proposed model on an annual basis in order to take into account the dynamics of employees.

Although similar studies have not been carried out in Serbia in the field of hospitality so far, compared to studies in other countries, there is still no consistency. Most of the research is generally without a coherent and integrated theoretical and empirical research framework. Solving problems of one-time or ad hoc research would ensure easier and greater comparability of the results obtained in the future. This research should serve the scientific community as a guideline for creating and adapting research instruments specific to certain social and organisational contexts and for adapting to a specific activity such as hospitality. Also,

the study involved only employees in hotels, but it would be very useful to investigate innovation from the perspective of hotel guests or tourism professionals, which would provide more comprehensive results. This also opens new questions in terms of conducting further research in this field and comparing the results. The greatest notion of such studies is that their theoretical basis can actually be applicable in practice in order to enhance the business results in the hotel industry.

Acknowledgement

The research was supported by the Ministry of Education, Science and Technological Development, Republic of Serbia (Grant III 47007).

References

- Barr, T.F./McNeilly, K.M. (2003): Marketing: Is it still “just advertising”? The experiences of accounting firms as a guide for other professional service firms, in: *Journal of Services Marketing*, 17, 7, 713–729.
- Brown, S.L./Eisenhardt, K.M. (1995): Product development: past research, present findings, and future directions, in: *Academy of management review*, 20, 2, 343–378.
- Brynjolfsson, E./Saunders, A., 2010: *Wired for Innovation. How Information Technology is Reshaping the Economy*. Cambridge: MIT Press.
- Calantone, R.J./Cavusgil, S.T./Zhao, Y. (2002): Learning orientation, firm innovation capability, and firm performance, in: *Industrial marketing management*, 31, 6, 515–524.
- Calisir, F./Altin Gumussoy, C./Guzelsoy, E. (2013): Impacts of learning orientation on product innovation performance. in: *The Learning Organization*, 20, 3, 176–194.
- Cohen, J. (1988): *Statistical power analysis for the behavioral sciences*. Hillsdale, NJ: Lawrence Earlbaum Associates, 2.
- Damanpour, F. (1991): Organizational innovation: A meta-analysis of effects of determinants and moderators, in: *Academy of Management Journal*, 34, 3, 555–590.
- Day, G.S. (1994): The capabilities of market-driven organizations, in: *The Journal of Marketing*, 37–52.
- Detert, J.R./Schroeder, R.G./Mauriel, J.J. (2000): A framework for linking culture and improvement initiatives in organizations, in: *Academy of management Review*, 25, 4, 850–863.
- Erdeji, I./Jovičić Vuković, A./Gagić, S./Terzić, A. (2016): Cruisers on the Danube – the impact of LMX theory on job satisfaction and employees' commitment to organization, in: *Journal of the Geographical Institute “Jovan Cvijić” SASA*, 66, 3, 401–415.
- Fraj, E./Matute, J./Melero, I. (2015): Environmental strategies and organizational competitiveness in the hotel industry: The role of learning and innovation as determinants of environmental success., in: *Tourism Management*, 46, 30–42.
- Galer, G./Van Der Heijden, K. (1992): The learning organization: how planners create organizational learning, in *Marketing Intelligence & Planning*, 10, 6, 5–12.

- García-Morales, V.J./Llorens-Montes, F.J./Verdú-Jover, A.J. (2006): Antecedents and consequences of organizational innovation and organizational learning in entrepreneurship. in: *Industrial Management & Data Systems*, 106, 1, 21–42.
- Hernández-Mogollon, R./Cepeda-Carrión, G./Cegarra-Navarro, J.G./Leal-Millán, A. (2010): The role of cultural barriers in the relationship between open-mindedness and organizational innovation, in: *Journal of Organizational Change Management*, 23, 4, 360–376.
- Higgins, J.M./ McAllaster, C. (2002): Want innovation? Then use cultural artifacts that support it, in: *Organizational dynamics*, 31, 1, 74–84.
- Hine, D./Ryan, N. (1999): Small service firms—creating value through innovation, in: *Managing Service Quality: An International Journal*, 9, 6, 411–422.
- Hjalager, A.M. (2010): A review of innovation research in tourism, in: *Tourism Management*, 31, 1, 1–12.
- Hogan, J.S./Soutar, N.G./McColl-Kennedy, R.J./Sweeney, C.J. (2011): Reconceptualizing Professional Service Firm Innovation Capability: Scale Development, in: *Industrial Marketing Management*, 40, 8, 1264–1273.
- Hu, M.L.M./Hornig, J.S./Sun, Y.H.C. (2009): Hospitality teams: knowledge sharing and service innovation performance, in: *Tourism Management*, 30, 1, 41–50.
- Hult, G.T.M./ Ferrell, O.C. (1997): Global organizational learning capacity in purchasing: Construct and measurement, in: *Journal of Business Research*, 40, 2, 97–111.
- Imai, K./Nonaka, I./Takeuchi, H. (1995): *Managing the New Product Development Process*, in: Clark K. Hayes, R. Lorenz, C. (ed.): *The Uneasy Alliance*, Boston: Harvard Business School Press, 337–375.
- Jackson, S.E./ Joshi, A. (2004): Diversity in social context: a multi-attribute, multilevel analysis of team diversity and sales performance, in: *Journal of organizational Behavior*, 25, 6, 675–702.
- Jiménez-Jiménez, D/Sanz-Valle, R. (2011): Innovation, organizational learning, and performance, in: *Journal of Business Research*, 64, 4, 408–417.
- Jovičić, A. (2015). *Organizacioni faktori kao prediktori inovativnosti u hotelijerstvu Srbije*, doktorska disertacija, Novi Sad: Univerzitet u Novom Sadu, Prirodno-matematički fakultet, Departman za geografiju, turizam i hotelijerstvo. (in Serbian).
- Jovičić, A./Gagić, S./Sekulić, D. (2016): Interdependence of innovativeness and category of a hotel: Case study of Serbian hotels sector, in: *Marketing*, 47, 2, 93–103.
- Junge, M./Severgnini, B./Sørensen, A. (2012): Evidence on the Impact of Education on Innovation and Productivity, Working Papers from Copenhagen Business School, 2, 1.
- Kimberly, J. R./Evanisko, M. J. (1981): Organizational innovation: The influence of individual, organizational, and contextual factors on hospital adoption of technological and administrative innovations, in: *Academy of management journal*, 24, 4, 689–713.
- Kontoghiorghes, C./Awbre, S. M./Feurig, P.L. (2005): Examining the relationship between learning organization characteristics and change adaptation, innovation, and organizational performance, in: *Human resource development quarterly*, 16, 2, 185–212.
- Liao, S.H./Fei, W.C./Liu, C.T. (2008): Relationships between knowledge inertia, organizational learning and organization innovation, in: *Technovation*, 28, 4, 183–195.

- Lukas, B.A./Hult, G.T.M./Ferrell, O.C. (1996): A theoretical perspective of the antecedents and consequences of organizational learning in marketing channels, in: *Journal of Business Research*, 36, 3, 233–244.
- Lynn, G.S./Valentine, W.S./Wright, R.C. (1996): A benchcasing study of new product and process development, in: *Engineering Management Journal*, 8, 4, 5–14.
- Martínez-Ros, E./Orfila-Sintes, F. (2012): Training plans, manager's characteristics and innovation in the accommodation industry, in: *International Journal of Hospitality Management*, 31, 3, 686–964.
- Mavondo, F.T./Chimhanzi, J./Stewart, J. (2005): Learning orientation and market orientation: relationship with innovation, human resource practices and performance, in: *European Journal of Marketing*, 39, 11/12, 1235–1263.
- McGuinness, T./Morgan, R.E. (2005): The effect of market and learning orientation on strategy dynamics: The contributing effect of organisational change capability, in: *European Journal of Marketing*, 39, 11/12, 1306–1326.
- Mijatov, M./Pantelić, M./Dragin, A./Perić, M./Marković, S. (2018): Application of sustainable development principles in hotel business, in: *Journal of the Geographical Institute "Jovan Cvijić" SASA*, 68, 1, 101–117.
- Muangkhot, S./Ussahawanitchakit, P. (2015): Strategic marketing innovation and marketing performance: an empirical investigation of furniture exporting businesses in Thailand. in: *The Business & Management Review*, 7, 1, 189.
- Nasution, H.N./Mavondo, F.T./Matanda, M.J./Ndubisi, N.O. (2011): Entrepreneurship: Its relationship with market orientation and learning orientation and as antecedents to innovation and customer value, in: *Industrial Marketing Management*, 40, 3, 336–345.
- Nieves, J./Haller, S. (2014): Building dynamic capabilities through knowledge resources, in: *Tourism Management*, 40, 224–232.
- Orfila-Sintes, F./Crespi-Cladera, R./Martínez-Ros, E. (2005): Innovation activity in the hotel industry: evidence from Balearic hotels, in: *Tourism Management*, 26, 6, 851–865.
- Orfila-Sintes, F./Mattsson, J. (2009): Innovation behavior in the hotel industry, in: *Omega*, 37, 2, 380–394.
- Pikkemaat, B./Peters, M. (2006): Towards the measurement of innovation—A pilot study in the small and medium sized hotel industry, in: *Journal of Quality Assurance in Hospitality & Tourism*, 6, 3–4, 89–112.
- Pivčević, S./Garbin Praničević, D. (2012): Innovation activity in the hotel sector—the case of Croatia, in: *Ekonomski istraživanja*, 25, SE1, 337–363.
- Phromket, C./Prajudtasri, P./Phangkhon, D./Phromket, C. (2010): The influences of product innovation development on performance: an empirical study of electronics and electrical equipment industry in Thailand, in: *Journal of Academy of Business and Economics*, 10, 1, 78–88.
- Quintana-García, C./Benavides-Velasco, C.A. (2008): Innovative competence, exploration and exploitation: The influence of technological diversification, in: *Research Policy*, 37, 3, 492–507.
- Ries, A./Trout, J. (1981): *The battle for your mind*. New York: McGraw-Hill.

- Rubalcaba, L./Michel, S./Sundbo, J./Brown, S. W./Reynoso, J. (2012): Shaping, organizing, and rethinking service innovation: a multidimensional framework, in: *Journal of Service Management*, 23, 5, 696–715.
- Salavou, H. (2005): Do customer and technology orientations influence product innovativeness in SMEs? Some new evidence from Greece, in: *Journal of Marketing Management*, 21, 3–4, 307–338.
- Senge, P.M. (1990): *The fifth discipline: The art and practice of the learning organization*. New York: Currency.
- Sinkula, J.M./Baker, W.E./Noordewier, T. (1997): A framework for market-based organizational learning: linking values, knowledge, and behavior, in: *Journal of the Academy of Marketing Science*, 25, 4, 305–318.
- Sundbo, J. (2003): Innovation and strategic reflexivity: an evolutionary approach applied to services. *The international handbook on innovation*, 97–114.
- Tajeddini, K. (2011): Customer orientation, learning orientation, and new service development: an empirical investigation of the Swiss hotel industry, in: *Journal of Hospitality & Tourism Research*, 35, 4, 437–468.
- Tobin, D.R. (1994): *Re-educating the corporation: Foundations for the learning organization*. John Wiley & Sons.
- Troy, L. C./Szymanski, D. M./Varadarajan, P. R. (2001): Generating new product ideas: An initial investigation of the role of market information and organizational characteristics, in: *Journal of the Academy of Marketing Science*, 29, 1, 89.
- Ussahawanitchakit, P. (2008): Impacts of organizational learning on innovation orientation and firm efficiency: an empirical assessment of accounting firms in Thailand, in: *International Journal of Business Research*, 8, 4, 1–12.
- Victorino, L./Verma, R./Plaschka, F./Dev, C. (2005): Service innovation and customer choices in the hospitality industry, in: *Managing Service Quality*, 15, 6, 555–576.
- Wang, C. L./Ahmed, P. K. (2002): Learning through quality and innovation, in: *Managerial Auditing Journal*, 17, 7, 417–423.
- Yang, J. T. (2010): Antecedents and consequences of knowledge sharing in international tourist hotels, in: *International Journal of Hospitality Management*, 29, 1, 42–52.