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Digital literacy of professionals working at modern lodging and catering companies of the Republic of Crimea



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### DIGITAL LITERACY OF PROFESSIONALS WORKING AT MODERN LODGING AND CATERING COMPANIES OF THE REPUBLIC OF CRIMEA

**Abstract.** The research focuses on defining the level of digital literacy among the professionals engaged in the hospitality segment, specifically lodging and catering facilities of the Republic of Crimea in order to achieve their best possible performance and extend the field of their productive employment; the latter contributes to the greater efficiency of the performance potential use due to the implementation of advanced technologies and accommodation of its key components in the context of the information (digital) society. Notably, the key components required to reach high level of digital literacy among professionals employed at lodging and catering companies of the Republic of Crimea and develop it into a competence applicable not only in the professional scope, but also in daily life include information literacy, computer literacy, communication literacy, attitude to technological innovations, digital consumption and digital safety. It has been found that the components of digital literacy play a major role in building a professional's career under the conditions of fierce competition on the labour market or for access to professional knowledge. The conclusion has been made that the digital transformations in the economy of the Republic of Crimea and daily lives of its citizens make the driving force of the innovations, improvement of the living standards and social welfare; thus, it is important to be aware of the transformation towards new technologies while taking into consideration the components of digital literacy, of the re-education which helps acquire the competencies for the digital economy within the framework of continuing professional education and adopting new knowledge and technologies.

**Keywords:** digitalization, digital literacy, digital consumption, information technologies, software, lodging facilities, catering facilities.

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# **ЧИФРОВАЯ ГРАМОТНОСТЬ СПЕЦИАЛИСТОВ СОВРЕМЕННЫХ СРЕДСТВ**РАЗМЕЩЕНИЯ И ОРГАНИЗАЦИЙ ОБЩЕСТВЕННОГО ПИТАНИЯ РЕСПУБЛИКИ КРЫМ

Исследование посвящено процессу изучения уровня цифровой грамотности специалистов современных средств размещения (гостиниц) и организаций общественного питания Республики Крым для максимального использования их рабочей силы и расширения сферы продуктивной занятости, которая поспособствует повышению уровня эффективного использования трудового потенциала за счет применения новейших технологий и учета ее базовых компонентов в условиях информационного (цифрового) общества. При этом в качестве базовых компонентов для достижения высокого уровня цифровой грамотности специалиста средства размещения и организации общественного питания в виде значимого навыка, влияющего на все области не только его профессиональной деятельности, но и повседневной жизни выделены информационная грамотность, компьютерная грамотность, коммуникативная грамотность, отношение к технологическим инновациям, цифровое потребление и цифровая безопасность. Интенсификация процессов формирования и развития перечисленных компонентов в полной мере соответствует социальному заказу общества и способствует эффективному участию таких специалистов в развитии цифровой экономики региона. Установлено, что выделенные компоненты цифровой грамотности современного специалиста играют значимую роль в развитии его карьеры в условиях жесткой конкуренции за рабочие места или доступа к профессиональным знаниям. Сделан вывод о том, что цифровые преобразования в экономике Республики Крым, повседневной жизни крымчан являются драйвером для инноваций, роста их жизненного уровня и социального благосостояния, поэтому очень важно осознание перехода на новые технологии, необходимости развития способностей к постоянному обучению, учитывая ключевые компоненты цифровой грамотности, в том числе в сфере гостеприимства и общественного питания, переобучению по компетенциям цифровой экономики в рамках дополнительного образования, освоению новых знаний и технологий.

**Ключевые слова:** цифровизация, цифровая грамотность, цифровое потребление, информационные технологии, программное обеспечение, средство размещения, организация общественного питания.

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Digital literacy of professionals working at modern lodging and catering companies of the Republic of Crimea



#### Introduction

The relevance of the research is explained by the fact that digitalization has currently become a key trend of the economic development on both federal and regional levels.

Russia's Digital Economy Programme was approved by the Government of the Russian Federation in 2017 and together with the implementation of the Strategy for the Development of the Information Society for 2017–2030 allowed the Government of the Republic of Crimea to focus on the five key regional projects making the foundation of further digitalization process in the region, i.e. information infrastructure, e-government, information security, digital technologies and human resources for the digital economy (since 2020)<sup>1</sup>.

Digital literacy of the professionals, which is a key competitive advantage on the labour market, appears to be one of the relevant parameters when it comes to evaluating the success rate of the listed projects' implementation.

Presently, starting and operating a company in the Republic of Crimea in any market segment, which also includes the hospitality (lodging) and catering industries, would definitely require professionals with high level of digital literacy.

Therefore, there is obviously a call for a study that would explore the level of digital literacy among the professionals engaged in the hospitality segment, specifically lodging (hotel) and catering companies of the region; this would help to achieve their best possible performance and extend the field of their productive employment which would contribute to the greater efficiency of the performance potential use due to the implementation of advanced technologies and accommodation of its key components in the context of the information (digital) society.

#### Analysis of publications on this topic

These days, domestic and global scientific community has been showing considerable interest in the digitalization and digital literacy of the professionals employed in different economic segments.

For instance, some studies are dedicated to the experience of teaching digital literacy to the population of certain foreign countries in order to meet the challenges of the digital transformation. The emphasis is put on the key aspects of digital literacy development, sources and methods of its financing as well as the basic forms of digitalization in tourism and hospitality. It has been outlined that the emergence of a new kind of the worker, i.e. the digital worker, is of great importance for the development of modern companies. The model of the digital platform for the efficient development of tourism and hospitality has been elaborated and accompanied with a description of the key factors and principles that provide for its efficient performance [1–4].

In the meantime, a number of Russian researchers have worked out a description of the conditions and prospects for the development of the digital economy in the Russian Federation in the context of implementing innovation technologies in the hospitality business. The key tendencies to back up the development of the digital environment at the hospitality facilities have been defined. There are many research projects dedicated to the probable requirements to separate categories of employees in the light of the digital transformation in the tourism and hospitality segment, elaboration of ideas on the improvement of staff training in the segment, which also concerns teaching digital competencies, and rationalization of the methodological approach to the digital literacy evaluation [5–8].

In their turn, international researchers focus on the basic needs for digital literacy and the corresponding resources relying on the basic digital technologies as well as on separate categories of professionals. It has been proven that team leaders should take into account the key levels of digital literacy of their employees which has to be

<sup>&</sup>lt;sup>1</sup> Information Society State Programme of the Republic of Crimea approved by the Resolution of the Soviet of Ministers of the Republic of Crimea of 25<sup>th</sup> December 2017 № 702: amended according to the Resolution of the Soviet of Ministers of the Republic of Crimea of 28<sup>th</sup> February 2020 № 107. URL: http://docs.cntd.ru/document/446680303.pdf (Accessed on: 25.07.2021).



upgraded accordingly whereas adopting digital tools into the production process alone, without the adequate staff training, will not be enough. The digital divide is another research interest which is studied taking into account the access of separate categories of citizens to the digital technologies that they actively use not only in their workplace, but also for personal goals [9–12].

In their joint research, the Australian scientists have elaborated a concept expected to increase the level of digital literacy and to establish a correlation between the categories of 'an employee' and 'digital technologies' as well as 'an employee – an employee' correlation in the context of the digital transformations currently happening in the companies [13].

Moreover, Karel Pavlica (Skoda Auto University, Czech Republic) has studied the level of digital literacy development among separate social groups of the population of the Czech Republic and carried out a sociological research to find out the opinion of the respondents on the practical value of the digital literacy, its correlation with a number of key digital indices and major problems hampering the development of modern digital technologies [14].

The research group from Bina Nusantara University outlined the role of the digital literacy in the production efficiency with due regard for the innovative behavior of separate categories of employees working in the area of telecommunication and studied the relations between the transformation leadership, innovative work behavior, job performance and digital literacy of employees [15].

The scientific contribution and relevance of the above research is indisputable; however, certain theoretical and practical aspects, in particular such related to the hospitality industry, require further elaboration.

#### **Methods**

The tools and methods of the research are as follows: monographic, statistical and comparative methods which allowed detecting separate trajectories of the research related to the formation of the key components and level of the

digital literacy of the professionals employed at modern hotel and catering companies, analyzing the statistical data available on the lodging and catering companies which implement information technologies and information and communication networks as well as on the employees using personal computers, the Internet and portable devices at least once a week.

#### Results.

## The components of digital literacy of the professionals employed at modern lodging and catering companies

At present, the notion 'digital literacy' is a unifying category for a number of components in the hospitality and catering segments that define the competitiveness of certain categories of professionals under the conditions of digitalization.

This research defines digital literacy of professionals employed at modern lodging (hotel) and catering facilities as a particular set of components necessary for active participation in the digital activity of the companies that use information and communication technologies to achieve the key goals related to the performance of the function roles and targeting improvement of the customer satisfaction among the major social groups (guests).

The key components to achieve high level of digital literacy of a professional employed at the lodging or catering company and to turn it into a skill which has an impact on the professional's life at and out of work include information literacy, computer literacy, communication literacy, attitude to technological innovations, digital consumption and digital safety.

Formation and development of the abovementioned key components at a fast pace fully corresponds to the public demand and contributes to the effective participation of such professionals in the development of the digital economy of the region.

The relevance of the discussed processes is primarily explained by the fact that in our time the hospitality and catering segments are tightly interwoven with the digital economy; nevertheless, in these segments the interaction between the



professionals and the guests mainly happens via information and communication technologies, automated programmes and systems contributing to the development of the general professional and specialized professional competencies which do not only complement each other, but also allow to effectively operate the necessary information resources.

The rationalization allows making a conclu-

sion that professionals employed at lodging (hotel) and catering companies are capable of effectively solving different kinds of tasks only in case they use modern digital systems and technologies at work on a daily basis.

Figure 1 shows the structure of digital literacy of a professional working at a lodging or catering facility taking into account the mentioned components [16, p. 30-31; 17, p. 377-379; 18].

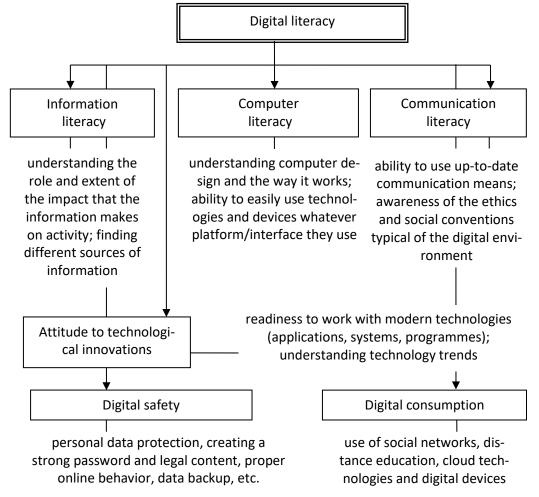


Fig. 1 – The structure of digital literacy of a professional employed at a lodging or catering company

The components of a modern professional's digital literacy as shown in Figure 1 play a significant role in the development of the career of such a professional in the context of stiff competition on the labour market and for access to professional knowledge.

Figure 2 presents the basic values of the key components comprising digital literacy of a modern professional employed at a lodging or catering company in the Republic of Crimea.

The analysis of the data presented in Figure 2 allows for the conclusion that among the key basic components of digital literacy of modern professionals employed at lodging or catering facilities the ones with the highest value are information literacy – 93% and computer literacy – 92% whereas the component with the smallest value is the attitude to technological innovations – 85%, which is mostly connected with the fact that some professionals in separate (in particular,



age-related) social groups refuse to follow new technological trends and prefer working with outof-date modules of automated programmes and systems.

In the course of the research, it has been found that active development of the information

society and steadily increasing volumes of digital information provide for the components of the digital literacy performing as one of the most valuable elements among the professional characteristics of a modern employee in the field under study.

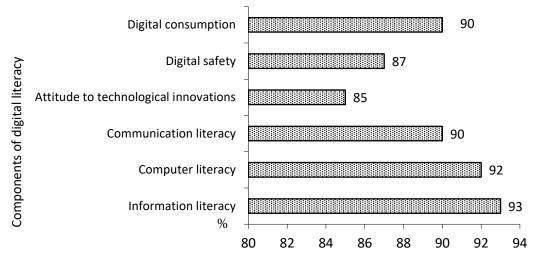


Fig. 2 – The values of the key components comprising digital literacy of a modern professional employed at lodging or catering facilities

#### The level of digital literacy of the professionals employed at lodging and catering companies in the Republic of Crimea

Since December 2017 it has become relevant to train skilled professionals for the digital economy in order to provide for the human resourcing in the major areas of the economic activity with account for the key components of digital economy. The activity of lodging and catering companies appears to be one of such components.

The level of digital literacy of the professionals employed at modern lodging and catering facilities of the region is determined by means of retrospective evaluation which makes an important tool in the process of studying cause-effect relations based on a number of objective indices showing readiness of the professionals to take advantage of the opportunities offered by digital technologies in the workplace as a dynamic system: use of information technologies and information and communication networks, use of personal computers and the Internet, use of portable devices at least once a week, use of cloud services by companies and professionals, use of

the electronic data interchange and the radio-frequency identification technology as well as use of special purpose software.

Table 1 contains data on lodging and catering companies using information technologies and information and communication networks.

Table 1 – Companies that used information technologies and information and communication networks from 2017 till 2019 (the percentage of the total number of companies)

	Serv- ers	Local area net- works	The In- ternet	including broad- band ac- cess	Web- sites
2017					
Total	50,8	61,1	88,9	83,2	47,4
Hotels and catering facilities	50,6	53,1	85,7	78,9	45,4
		2018			
Total	53,4	63,9	91,1	86,5	50,9
Hotels and catering facilities	48,7	53,0	84,7	79,3	43,2
2019					
Total	53,8	63,5	91,2	86,6	51,9
Hotels and ca- tering facilities	51,8	55,6	86,7	81,5	46,0



Over the studied period, the number of companies using the mentioned information technologies as well as information and communication networks increased, which is also true for the number of professionals actively using technologies and networks in their workplace. As to the hotel and catering companies, in 2018 there was a slight fall in the use of all the technologies by 1% on average; however, in 2019 there was a steady growth, in particular in the use of servers - by 3,1%, in the use of the local area networks by 2,6%, in the use of the Internet – by 2% and in the use of the websites – by 2,8%, which is mainly related to the active development of regional projects such as Information Infrastructure Project, Information Safety Project and Digital Technologies Project [2].

Table 2 contains information on the employees using personal computers, the Internet and portable devices at least once a week.

Table 2 – Professionals using personal computers, the Internet and portable devices at least once a week in the period from 2017 till 2019 (the percentage of the average total number of employees)<sup>2</sup>

employees					
	Personal computers	The Internet	Portable devices provided by the company and providing access to the In- ternet via mobile network		
2017					
Total	44,0	32,9	3,7		
Hotels and catering facilities	22,7	20,0	4,4		
2018					
Total	45,1	34,5	4,2		
Hotels and catering facilities	20,8	19,0	3,2		
2019					
Total	45,0	35,4	4,4		
Hotels and catering facilities	20,2	18,6	3,5		

The analysis which was also based on the above data provided for the conclusion that in the

given period there was an increase in the number of professionals employed in different fields of economy and using personal computers, the Internet and portable devices at least once a week by 1,4% on average.

However, in the hospitality and catering segment there was a decrease in the number of such professionals in the same period – by 1,6% on average.

Table 3 presents information on the companies using cloud services with account for the purpose of their use.

Table 3 – Companies using cloud services in the period from 2017 till 2019 (the percentage of the total number of companies)<sup>2</sup>

total number of companies)-					
Total	Purposes				
	Software for customer rela-				
	tionship management (CRM),	Others			
	•				
	•	0			
	puting service, email hosting				
2017					
22,9	10,5	12,4			
22 N	11 5	11,5			
23,0	11,5				
2018					
26,1	12,9	13,2			
22.2	15.6				
32,3	13,0	16,7			
2019					
28,1	14,5	13,6			
25.5	20.2	15,4			
33,3	20,2				
	22,9 23,0 26,1 32,3	Purposes Software for customer relationship management (CRM), computer performance used to start their own software, computing service, email hosting  2017  22,9 10,5 23,0 11,5  2018  26,1 12,9 32,3 15,6  2019  28,1 14,5 35,5 20,2			

The data from Table 3 allows for the conclusion that over the given period there was an increase in the total number of companies using cloud services – by 5,2% as well as in the number of hotel and catering companies using the same kind of services – by 12,5% respectively. Moreover, the level of cloud services use is 4,6% higher in the hotel and catering segment as compared to the other kinds of companies.

The information on the companies of the

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<sup>&</sup>lt;sup>2</sup> The Information society in the Russian Federation. 2020: Coll. of articles. Federal State Statistics Service; National Research University Higher School of Economics. Moscow: NRU HSE, 2020. Pp. 163-164. URL: http://rosstat.gov.ru/storage/media-bank/lqv3TORk/info-ob2020.pdf.



Republic of Crimea using electronic data interchange and radio-frequency identification (RFID) technologies is shown in Table 4.

It has been found that in the period under study there was a steady growth in the number of companies using technologies of electronic data interchange between the internal and external information systems as well as radio-frequency identification (RFID); the growth amounted to 2.6%.

The same tendency was observed in the activity of the hotel and catering companies; the growth amounted to 4% accordingly, 2018 being an exception with a slight drop by 0,4%.

Table 5 shows information on companies using special purpose software.

Table 4 – Companies using electronic data interchange and radio-frequency identification (RFID) technologies in the period from 2017 till 2019 (the percentage of the total number of companies)<sup>2</sup>

(the percentage of the total number of companies)						
	Electronic data interchange	Radio-fre-				
	between the internal and	quency iden-				
	tification					
	(RFID)					
2017						
Total	63,1	5,0				
Hotels and ca-	64,0	7,8				
tering facilities	04,0	7,0				
2018						
Total	64,9	5,4				
Hotels and ca-	62,4	8,7				
tering facilities	02,4					
2019						
Total	67,0	6,3				
Hotels and ca-	67,8	11,9				
tering facilities	07,6					

Table 5 – Companies using special purpose software in the period from 2017 till 2019 (the percentage of the total number of companies)<sup>2</sup>

(and personnings of the countries of companies)							
	Systems of	tronic pay-	For finding solutions	To provide access to da-	CRM-,		
	electronic		to organizational, ad-	tabases via global infor-	ERP-,	Education	
	data inter-		ministrative and eco-	mation networks in-	SCM-	software	
	change ments		nomic problems	cluding the Internet	systems		
2017							
Total	66,1	54,8	52,4	29,8	17,4	14,2	
Hotels and catering	60.4	E 0 0	50,9	34,1	20,4	12,0	
facilities	60,4	58,0					
2018							
Total	68,6	56,4	54,9	31,9	19,6	16,9	
Hotels and catering	F0.0	F0.0 FF.6	FO 0	21.0	20,9	13,7	
facilities	58,8	55,6	50,0	31,8			
2019							
Total	70,0	57,1	54,8	32,0	20,5	16,4	
Hotels and catering	62.1	C2.1 F0.0	F1 4	22 C	24.2	140	
facilities	63,1	58,8	51,4	32,6	24,3	14,8	

The analysis of the above data showed that all the selected special purpose software used by hotel and catering companies of the Republic of Crimea and the key professionals in these segments were more often used in the given period, i.e. there was a 2,7% increase in the use of electronic data interchange, a 0,8% increase in the use of software for electronic payments and a 3,9% increase in the use of software providing access to databases via global information networks

including the Internet and in CRM-, ERP- and SCM-systems.

#### Conclusion

The analysis of the available data on the matter of digital literacy of professionals employed at modern lodging and catering companies of the Republic of Crimea allowed making the following conclusions:

The digital transformations in the economy of the Republic of Crimea and daily lives of the

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Digital literacy of professionals working at modern lodging and catering companies of the Republic of Crimea



Crimea citizens are the driving force of the innovations, improvement of the living standards and social welfare; thus, it is essential to understand the importance of the transition towards new technologies, the necessity to develop aptitude for continuous learning while taking into consideration the key components of digital literacy, in particular, in the hospitality and catering segments as well as to focus on the re-education targeting improvement of the digital economy competencies as a part of continuing professional education, acquiring new knowledge and embracing technologies.

Digital literacy of separate categories of professionals is a unifying category for a number of components in the hospitality and catering segments that define their competitiveness under the conditions of digitalization. Within the frame-

work of this study, these components include information literacy, computer literacy, communication literacy, attitude to technological innovations, digital consumption and digital safety; all of these components play an important role in the careers of certain categories of professionals employed at lodging and catering companies in the context of stiff competition on the labour market and for the access to professional knowledge.

In the period from 2017 till 2019 there was an increase in the level of digital literacy among the working professionals in general as well as among those employed in the hospitality and catering segments; its key components were actively applied to benefit the digital development of the Republic of Crimea in accordance with the strategies outlined in the regional projects and programmes.

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