

*Lykhopok D.*

## THE PECULIARITIES OF COMPANIES' ACTIVITY OF THE INTELLECTUAL SERVICES SECTOR UNDER THE INFLUENCE OF DIGITALIZATION

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The peculiarities of the intellectual services sector are determined in the work, the characteristic of new properties of digital transformation within the intellectual services sector is given. The author of the article, based on the deep analysis of theoretical material on the topic, presents the concept model of the services market in the context of two sectors: highly professional and intellectual services ones. The features of the formation of the sector of «knowledge-intensive services», which are consumed by business structures, and accordingly form «knowledge-intensive business services» («Knowledge-intensive business services – KIBS») are considered in the article. The characteristics of the classification of knowledge intensive business services (KIBS) in the edition of Mueller and Zenker are revealed. The research of the use of intellectual services in ten segments on the example of Dnipro region. According to the results of the survey, tables are formed that characterize the elements of the intellectual services sector in three selected elements of KIBS: real estate, engineering and law firms, as well as in their other elements: marketing services, audit, financial services; advertising and design, recruitment. In addition, a survey of representatives of the relevant activities the rapid analysis of digital literacy of their professionals and identified features of the distribution of computer literacy in the analyzed three segments of the services market (engineering, real estate and legal) were conducted. The analysis of research results in the direction of computer and digital literacy of specialists of the companies of the specified elements of KIBS is executed. Also, the author (based on the survey) identified the degree of readiness of the staff of a number of companies to increase a computer literacy and mastering digital technologies. Some aspects of digitalization in the activities of companies in the intellectual services sector, which involves the widespread and active use of information and communication technologies are investigated. In turn, digitalization in the context of increasing the efficiency of companies in the intelligent services sector provides an opportunity to increase competitiveness by providing an individual approach to each consumer.

**Keywords:** digitalization, intellectual services sector, computer and digital literacy.

**DOI:** 10.32434/2415-3974-2021-14-2-132-141

### *Introduction and statement of the problem*

The competitiveness of countries, economic entities is largely determined by the perception of innovation and their practical implementation. Speaking of the new economy as creative, we understand that innovation is its main product. The quaternary sector of the economy is able to act as a driver of development. It is confirmed by the growing contribution of the quaternary sector companies to the GDP of developed countries. The objects of the

Ukrainian economy, despite the serious intellectual potential, tend to import more intellectually intensive products than to export.

### *Analysis and research of publications*

In the studies of prominent foreign scientists (J. Miles; M. Kautonen; K. Hipp, B. Thatcher, A. Morrison, A. Koch, P. Den Hertog, and others) the object of investigation is often not the entire sector of intellectual business services, which includes only intellectual services provided to legal entities.



F. Makhlop, who began to deal with the production and dissemination of knowledge, began a foreign study of this field. The basic classifications of intellectual services (KIS; KIBS; M-KIBS) are known.

***The purpose of the article***

The purpose of the study is to determine the characteristics of companies in the intellectual services sector under the influence of digitalization. The author of the article based on the analysis of surveys of employees of companies and firms in the intellectual services sector reveals the patterns of change in the number of customer base; changes in the scale of outsourcing; assesses the growth of the intellectual services sector and examines the degree of implementation of the proposed intellectual services. Based on the study the author makes an attempt to identify the degree of computer and digital literacy of employees of companies and firms in the sector of intellectual services in order to form a strategy to improve their literacy and development of digital technologies.

***Presentation of the main material***

There are significant structural changes within the modern sphere of services, which is reflected in the strengthening of the contribution to the general economic development of the sectors producing the so-called «knowledge» (or «intellectual») services.

In this regard, foreign and domestic scientists, among them F. Mahlup, P. Windram, M. Tomplison, began to talk about the development of processes of «quaternization» of the economy, involving the allocation of the quaternary sector, which unites the service sector focused on the production of intelligent services. It is in the sector of intellectual services, which is also called the «quaternary sector», that the main factors of economic growth take place within the market of highly professional services, taking into account the digital transformation of the economy, new scientific knowledge, intellectual capital, information and communication technologies, consulting services and e-marketing, e-management, as well as the financial sector.

Today, Ukrainian society needs clearly defined directions of social economic development, in this regard, the study of the peculiarities the process of transformation in the transition to digitalization becomes especially relevant. Digitalization sets fundamentally different trends, focused on a radical increase in highly professional services, especially in the segment of intelligent services, as well as in the training of quality professionals of another level and increasing digital literacy of the population. In the consequences, not only a number of specialties in the former economy will lose their demand, or even disappear from the labor market, but their specific

Advertising services	industrial services in the industry sector 4.0	Marketing services (electronic and digital ones)	Finance and trust management services	Legal services	Recruitment services	Digital technology services	Research services (artificial intelligence, etc.)	Engineering and outsourcing services (audit, reengineering, etc.)	Design services (Web design, etc.)
the sector of intellectual services									
the segments of the services market									
information environment of the services market									
<b>THE SERVICES MARKET</b>									
information environment of the services market									
the segments of the services market									
the sector of highly professional services									
Freight forwarding services	The consumer services (trade, etc.)	Technical and technological services in the field of housing	Technical and technological services in the field of industrial services	Real estate services	Services in the field of tourism and leisure	Professional health services	Education services	Professional services in the field of security (information security, economic security, etc.)	Engineering services in the field of energy

Fig. 1. The concept-model of the services market, the sector of highly professional and intellectual services.

knowledge, skills and abilities acquired in the learning process will be consistent with the format of digitalization, which itself will undergo constant and fairly rapid changes.

In Fig. 1 the concept-model of the services market developed by the author, in terms of highly professional and intellectual services is presented.

The composition of the service market sectors is quite diverse. The sector of highly professional services most often includes trade, transport, technical and technological services in the field of housing, real estate services, services in the field of tourism, professional services in the field of health and education, engineering and technical services in the field of energy and others.

The sector of intellectual services should include industrial services within the concept of «Industry 4.0», services in the field of finance and trust management, legal services, engineering services, services in the field of digitalization (including digital marketing management), ICT services and artificial intelligence, etc.

Moreover, it should be noted the heterogeneity of the modern services market. Thus, transport and communication services are massive, they are capital-intensive and require for their production the involvement of specialists of both high and low qualification. It can be mentioned the same about trade. Other services are more diversified, involving significant capital expenditures and the use of low-skilled labour (engineering, legal services, software development services).

These considerations motivate a number of modern researchers [1,2,3,4,5,6] to claim that among the services market there is a special sector called the quaternary sector. In foreign sources, the term “sector of intellectual services” does not occur, and the authors use the term «knowledge-intensive services» (KIS), which is more accurately translated as «knowledge services».

In Ukraine, the intellectual services sector also has high hopes for the restructuring of Ukrainian economy and increasing the country's potential. Its deployment has a spin-off effect for other sectors, which initiates qualitative changes in them. As M. Doroshenko [7], E. Muller and A. Zenker [8] notify, in fact today we can say that with the help of ICT knowledge, which is produced within the services market in the sector of intellectual services, proceed in traditional industries, dramatically increasing their efficiency and turning them into the elements of the new economy.

Due to certain difficulties, the subject of study is often not even the whole sector of «knowledge-intensive services» in general, but only the part of it, the so-called «knowledge-intensive business services» («Knowledge-intensive business services – KIBS»),

intended for consumption by firms, as well business structures.

The identification of the composition of the KIBS sector in different sources (for example, [1,5,8]) differ markedly from each other. This is due to the fact that their main distinguishing feature is «knowledge», the notion is quite uncertain, clearly not observed and not operational at all. It should be added that its presence and intensity can be judged only by indirect signs, and, as noted in M. Doroshenko [7], their set differs from different authors: some are based on the classification of the peculiarities of service production, others are created on their economic functions, the qualifications of manufacturers, the amount and structure of wages, etc.

F. Mahlup, one of the first researchers in this sector of the services market, suggested that «professional» means engineering, legal, auditing and consulting services, as well as a number of health services [1]. There is an approach to the classification from the standpoint of the contribution of labour to value added and, accordingly, wages. On this basis, E. Müller and A. Zenker [8] introduce into KIBS the following areas of activity in the intellectual services market (auditing, advertising, marketing, ICT services, engineering, management consulting, law, real estate, certification, financial services, web-design, recruitment).

It is also necessary to draw a clear conclusion that today there is no unambiguous opinion about the boundaries of the intellectual services sector, nor about what services belong to it. The author's analysis of different approaches to the classification of the intellectual services sector allows us to note that there is a certain unanimity of opinion about services produced in the field of ICT, engineering, marketing, legal services, real estate services, advertising and design, financial services. The researches conducted in this area traditionally divides services into three categories:

- standard – the same for all consumers;
- partially standardized – a basic version of the service, adapted to the needs of a particular client;
- fully individualized – services designed for a specific client.

The survey conducted by the author among a number of specialists in the intellectual services sector in Dnipro region, working in the field, identified in the classification of E. Mueller and A. Zenker showed that on average 69% produce only standard services, 56% standard services (auditing, law, ICT, finance, marketing, recruitment) account for more than two-thirds of production, and only 22% said that fully individualized services (real estate services, advertising, design) account for less than a third of output.

## The peculiarities of companies' activity of the intellectual services sector under the influence of digitalization

Table 1

**The change in the number of customer base of intellectual services producers**

Intellectual services market segment	Proportion of respondents who used the relevant services (%)	Proportion of respondents who plan to use relevant services in the future (%)	Quantitative (in terms of the number of customers) change in the demand for relevant services, etc.
[1]	[2]	[3]	[4]=[3]-[2]
Advertisement	76.6	75.7	-0.9
Marketing services	45.5	47.7	2.1
Auditing	44.7	44.7	0
ICT services	46.4	46.4	0
Recruitment	43.0	43.0	0
Engineering	22.6	22.1	-0.5
Financial services	31.5	27.2	-4.3
Law services	40.9	35.7	-5.1
Real estate services	30.6	26.8	-3.8
Design	54.9	43.8	-11.1
Average value	43.7	41.3	-2.3

Table 2

**The change of the scale of outsourcing of intellectual services**

Intellectual services market segment	Share of actual outsourcing of relevant services (%)	Planned share of outsourcing of relevant services (%)	Change in the share of outsourcing, etc.
Advertisement	27.8	39.9	12.1
Marketing services	16.0	35.1	19.0
Auditing	13.9	46.4	32.5
ICT services	15.6	40.6	25.0
Recruitment	12.6	27.6	15.1
Engineering	6.0	30.7	24.7
Financial services	9.0	24.3	15.3
Law services	9.4	21.8	12.4
Real estate services	6.0	40.2	34.2
Design	16.2	48.9	32.7
Average value	13.3	36.6	23.3

Table 3

**Assessment of the growth of the intellectual services sector**

Intellectual services market segment	Expected change in the number of employees (%)	Assessment of segment share (%)	Assessment of the segment's contribution to the dynamics of the sector (%)
Advertisement	7.3	9.7	0.71
Marketing services	9.2	2.1	0.20
Auditing	6.9	8.9	0.61
ICT services	5.2	3.8	0.20
Recruitment	11.2	0.3	0.04
Engineering	7.0	0.6	0.04
Financial services	7.6	55.9	4.23
Law services	5.8	0.2	0.01
Real estate services	6.3	18.3	1.16
Design	6.7	0.2	0.01
Average value	7.3		7.21

The change in the number of customer base of intellectual services producers Dnipro region is presented in Tables 1–2. It was important to assess the change in the scale of outsourcing.

The volume of the intellectual services sector (in terms of selected segments, are shown in Table 3).

If we consider in the framework of the extensive scenario, the respondents noted the balanced growth rate of the demand in the intellectual services market in Dnipro region (data are presented in Table 4). Data on the potential diversification of the demand within the selected segments are shown in Table 5.

Table 4

**The balanced growth of the demand in the intellectual services market (in the extensive scenario)**

Intellectual services market segment	Expected changes in demand for relevant services (%)	Expected changes in the offer of relevant services (%)	Balanced growth rates (%)
Advertisement	-0.9	7.3	1.1
Marketing services	2.1	9.2	1.2
Auditing	0	6.9	1.3
ICT services	0	5.2	1.3
Recruitment	0	11.2	1.2
Engineering	-0.4	7.0	1.2
Financial services	4.3	7.6	1.1
Law services	-5.1	5.8	1.1
Real estate services	-3.8	6.3	1.3
Design	-11.1	6.7	1.2
Average value	-2.3	7.3	1.2

Table 5

**Potential of the demand for diversification within the intellectual services sector segments**

Intellectual services market segment	Average number of services	Maximum number of services	The potential of the demand for diversification
Advertisement	3.5	7	3.5
Marketing services	2.1	6	3.9
Auditing	2.0	5	3.0
ICT services	5.4	21	15.6
Recruitment	2.0	11	9.0
Engineering	3.9	14	10.1
Financial services	2.5	8	5.5
Law services	2.8	16	13.2
Real estate services	2.1	11	8.9
Design	2.6	10	7.4

Table 6

**The degree of implementation by customers of the results of the activities of intellectual services producers (the share of respondents who indicated the appropriate answer,%)**

The degree of implementation	Intellectual services market segment										
	Advertisement	Marketing services	Auditing	ICT services	Recruitment	Engineering	Financial services	Law services	Real estate services	Design	Average value
The results were practically not used	2.9	1.0	1.9	3.0	1.1	2.3	1.8	1.8	0	0	1.8
The results are partially applied	13.5	20.0	1.9	14.1	12.5	4.7	2.6	3.5	10.9	2.7	9.5
The results are applied mainly, but not completely	36.5	33.3	37.9	33.3	38.6	37.2	18.4	45.6	30.9	38.4	34.3
The results are completely applied	47.1	45.7	58.3	49.5	47.7	55.8	77.2	49.1	58.2	58.9	54.5

The degree of implementation by customers of the results of the activities of intellectual services producers (the share of respondents who indicated the appropriate answer) is presented in Table 6.

As it can be seen (Tables 1–6), that in Dnipro region intellectual services are characterized by a

high degree of heterogeneity. And a small share of services of this kind is provided on a standard basis. It is noteworthy that none of the respondents in audit companies, law firms, real estate agencies did not name standardized services among them. At the same time, it should be noted that in audit companies

there is such a phenomenon as mandatory audit, and in law firms, a fairly high level of standardization based on legal results. According to the data in tables 6, it was revealed that the results of the activity of the virobniks in the intellectual services are sufficient in the range from 45.7% to 77.2%.

Thus, both theoretically and empirically, we can assume that a specific feature of intellectual services distinguish them from others, there is a high degree of individuality, that is, the same heterogeneity of the product. In principle, according to the author, it is probably possible to bring the service to a standardized («box») form, but in this case it will lose its specificity and cease to be intellectual. In this case, it will be «commoditized», i.e. the transformation into a normal homogeneous product. Then, strictly speaking, this service should be included in the tertiary sector, and selected services according to the classification of E. Mueller and A. Zenker (partially standardized or fully individualized) to the quaternary sector.

Intellectual services can be characterized as certain professional actions of specialists in various fields, the main resources of which are general and special (professional, subject) knowledge and information. The process of creating intellectual services involves the use of intellectual and creative work, as well as professional competence. By its nature, the creation of intellectual services is due to human abilities to intellectual work, which is characterized by mental and creative nature. This feature determines their most important role in the system of institutions of the knowledge economy, the driver of which is the processes of intellectual activity, which, enriching the existing information base gives birth to new knowledge.

The process of developing individualized services, which are increasingly intellectual services, implies the need to generate product (and often organizational, technological and marketing) innovations. That is why innovation is considered as a production of intellectual services, the most important condition for ensuring their competitiveness. At the same time, E. Zakharova adds, the formation of the «knowledge economy», one of the most important manifestations of which is the development of quaternary processes, makes new demands on the organization of interaction between participants in innovation as a form of practical implementation of new knowledge.

Also, the analysis of the survey conducted by the author showed the following picture in terms of the readiness of respondents to digital literacy of specialists in the certain forms and methods of training to promote intellectual services in the service market. According to the respondents, the most optimal teaching methods were:

- solving situational tasks in small groups (not more than 4–8 people) – 68%;
- creating illustrative and informational graphic presentations – 79%;
- creating projects (including multimedia) – 68%;
- conducting trainings with the use of role functions (to consider a specific practical problem) – 78%;
- solving practical problems, where the situation must be developed, justify the management decision – 84%;
- developing practical solutions to information security problems, business analyst – 74%.

It should be noted that there is a difficult situation in the field of digital literacy of employees and managers of companies providing intellectual services in Dnipro region. The author, based on the developed survey, conducted a rapid analysis of digital literacy of a number of firms: law services, real estate services and engineering services. The results are presented in Fig. 2. The analysis shows that in engineering firms the situation with digital literacy is slightly better than in employees of law firms and real estate agencies (real estate services). The work with a text editor is averaged 49.5% (level 1). The work with spreadsheets is averaged 13.5% (level 7), and the change of software configuration settings or settings is averaged 5.3% (level 10). Possession of skills of independent writing of the software on the average is made 2,05%, and such experts in the law firms didn't appear. At the same time, according to the study [9] it was found that according to official data, the share of the population of Dnipro region with computer skills (elements of digital literacy) in a particular subject area is less than 50%.

It should be noted that in the economy of the regions of Ukraine, modern approaches to modeling the staffing needs of the regional economy have a number of limitations. Among them it is necessary to note the most significant, namely:

- focus on large and medium-sized businesses, while regional development (including infrastructure development) is accompanied by a fairly high growth rate of small business, with the pandemic coronavirus COVID-19, the most confirmed by economic risks [9];
- lack of accounting for the impact of a number of facts that cause structural changes in the main components of the regional economic system: in the economy (by type of economic activity and number of employees); in the labor market (by professions, specialties, by competencies); in the system of professional and higher education (by levels of training, including digital literacy and specialties). Such factors include the implementation of innovation-digital and investment projects, the

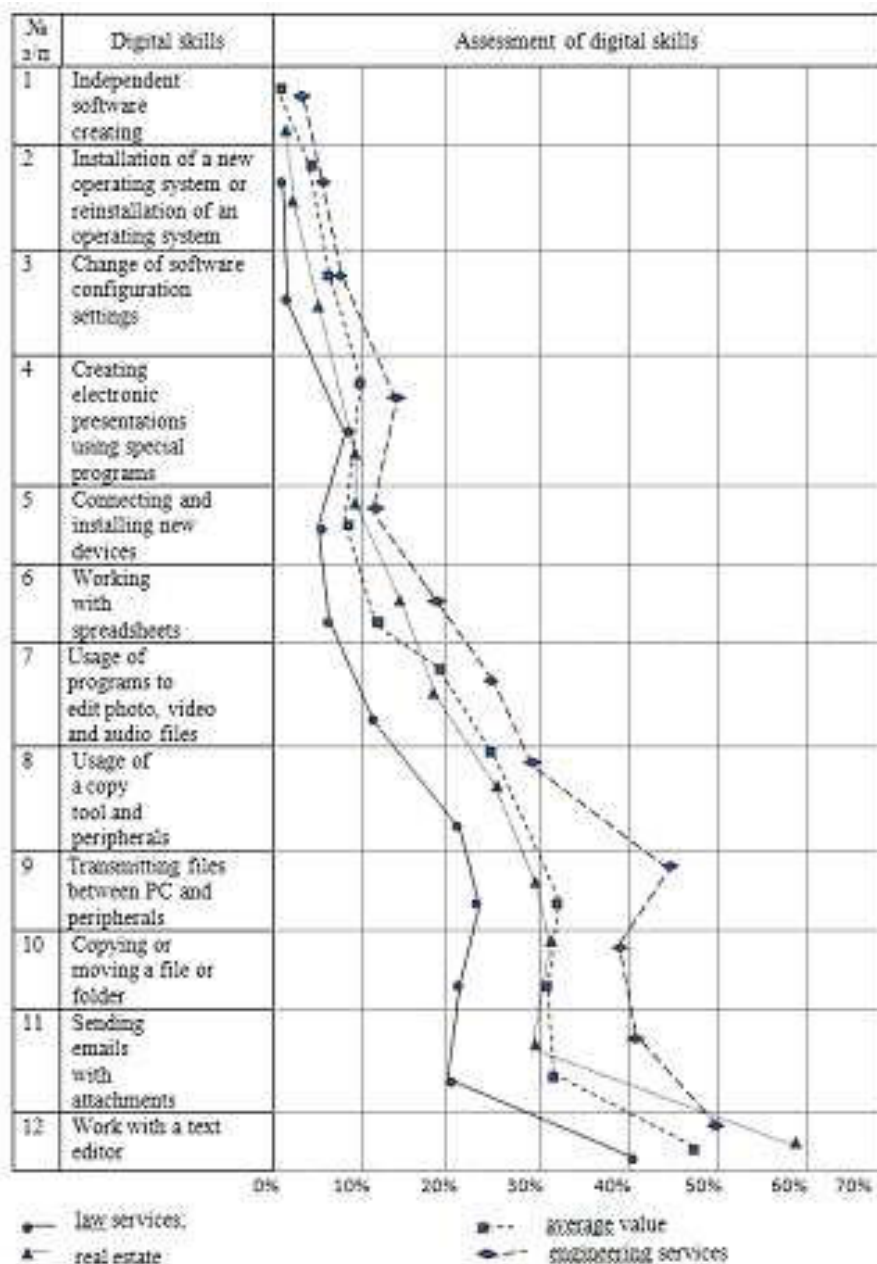


Fig. 2. Distribution of computer literacy among employees of analytical forms of the sector of intellectual services in Dnipro

development of regional technological platforms, the formation of promising labor markets;

– orientation of forecasting methods on the retrospective period and development trends, which does not allow to identify and take into account changes in the qualitative and quantitative composition of the personnel needs of the regions of Ukraine, including in the sector of intellectual services.

Analysis of scientific publications [11,12,13,14] showed that the widespread opinion – digitalization in terms of forms of the intellectual services sector involves the widespread and active use of information and communication technologies (ICT).

It is assumed that the introduction of ICT

through digital repositories, cloud services will allow professionals in the intellectual services sector to implement active forms based on the theory of social constructivism of project-based learning and situational learning, in order to implement in practice.

Digitalization in the sector of intellectual services in Ukraine also involves the creation of a fundamentally new information structure for professional activities. This structure will provide unlimited access to educational and information resources, primarily through access to the Internet.

It is worth to understand that obtaining information is not training, not professional development and not education. Undoubtedly, most professionals in the intellectual services sector have

the skills to use some digital technologies, but mostly these technologies are associated with good skills in finding the necessary information in Internet resources and creating (if necessary) electronic presentations.

Undoubtedly, the search for information through Internet resources, using other people's ready-made texts, lose the ability to think critically, develops «fragmentary thinking».

In today's realities of the economy, under the influence of COVID-19, crisis financial risks, certainly a positive aspect is the format of e-learning.

It is important to note that the constant immersion in the redundant information environment and in the absence of a certain systemic approach, leads to the fact that the specialist of the intellectual services sector uses individual tactics to avoid information (information output phenomenon), the essence of which is that people ignore relevant useful information, because it is too much to understand and accept it [15]. There is a paradox of choice, i.e. «there is a refusal to comprehend (analyze) information and fixation on a quick solution» [12]. However, despite a certain level of information and computer literacy, a specialist can not select the necessary and sufficient sources of information. The choice leads to a random, not always correct choice of information.

In these conditions, the preconditions for the emergence of a new type of mediation, both within the services market and outside this market - information and digital mediation. Increasingly, info-internet companies are emerging that provide aggregate services or intellectual customer service, aimed at strong/highly professional and technically assisted assistance in carrying out activities in the intelligent services sector in all aspects.

Such companies in the intellectual services sector form a so-called communicative and organizational environment for the convenience of service consumers and, of course, their own business. It is interesting to note that information intermediaries within the intellectual services sector can be companies that have frequent contacts with all market participants (business interaction and relationships) and who have the appropriate digital technologies, as well as potentially useful information about these participants from existing databases. Software systems and services of Internet companies help consumers – members of the intellectual services sector to find the best options.

It is also important to take into account the fact that the digital technology platform (techno-digital basis of the new economy) gives companies in the intellectual services sector opportunities to implement the methodology of selective-targeted interaction of social economic entities. The individual

approach to each consumer or participant of relations in the conditions of globalization of relations, thanks to digitalization tools, becomes a reality and an effective means of management.

### **Conclusions**

Due to the broad boundaries of the intellectual services sector, researchers are more likely to focus on the area of it. It was found that the sector of intellectual business services (KIBS) is of the greatest interest to many of them. Of course, in the context of the development of the creative economy, under the influence of digitalization, the issue of human capital management in the field of intellectual services is of particular interest. In this paper, a study of the features of the use of intellectual services in ten segments (according to the classification of E. Mueller and A. Zenker) on the example of Dnipro region. Also, the author (based on the survey) identified the degree of readiness of the staff of a number of companies to increase computer literacy and mastering digital technologies. The results are disappointing, as less than 50% of employees in the segment of engineering, legal and real estate services are ready to use digitalization in practice. The author considers it necessary to study in more depth the activities of companies and firms in the intellectual services sector both in terms of regions of Ukraine and in terms of business structures.

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Received 21.09.21.

Reviewer: Doct. of Econ. Sc., Ass. Prof. Chupryna N.M.

## ОСОБЛИВОСТІ ДІЯЛЬНОСТІ КОМПАНІЙ СЕКТОРУ ІНТЕЛЕКТУАЛЬНИХ ПОСЛУГ ПІД ВПЛИВОМ ЦИФРОВІЗАЦІЇ

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В роботі визначено особливості сектора інтелектуальних послуг. Надана характеристика нових властивостей цифрової трансформації в рамках сектора інтелектуальних послуг. Надана концепт-модель ринку послуг у контексті двох секторів: високопрофесійних та інтелектуальних послуг. Розглянуто особливості формування складу сектора «знанняємих послуг», які споживаються підприємницькими структурами, та відповідно формують «знанняємі бізнес-послуги» («Knowledge-intensive business services – KIBS»). Виявлені особливості класифікації знанняємі бізнес-послуги (knowledge intensive business services – KIBS) у редакції Мюллера та Зенкера. За результатами опитування сформовані таблиці, які характеризують елементи сектора інтелектуальних послуг в трьох обраних елементах KIBS: ріелторських, інжинірингових і юридичних компаніях, а також в їх інших елементах: маркетингові послуги, аудит, фінансові послуги; реклама та дизайн, підбір персоналу. Крім того, за результатами опитування представників суб'єктів відповідних видів діяльності був викона-

ний експрес-аналіз цифрової грамотності їх фахівців та виявлені особливості розподілу комп'ютерної грамотності у аналізованих трьох сегментах ринку послуг: інжинірингових, ріелторських і юридичних. Виконаний аналіз дослідних результатів в напрямі комп'ютерної та цифрової грамотності фахівців компаній вказаних елементів KIBS. Досліджені окремі аспекти цифровізації у діяльності компаній сектора інтелектуальних послуг, що передбачає широке і активне використання інформаційно-комунікаційних технологій. В свою чергу, цифровізація в умовах підвищення компаніями сектора інтелектуальних послуг ефективності їх надання дає можливість підвищувати конкурентоспроможність за рахунок забезпечення індивідуального підходу до кожного споживача.

**Ключові слова:** цифровізація, сектор інтелектуальних послуг, комп'ютерна та цифрова грамотність.

## ОСОБЕННОСТИ ДЕЯТЕЛЬНОСТИ КОМПАНИЙ СЕКТОРА ИНТЕЛЕКТУАЛЬНЫХ УСЛУГ ПОД ВЛИЯНИЕМ ЦИФРОВИЗАЦИИ

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В работе определены особенности сектора интеллектуальных услуг. Дана характеристика новых свойств цифровой трансформации в рамках сектора интеллектуальных услуг. Представлена концепт-модель рынка услуг в контексте двух секторов: высокопрофессиональных и интеллектуальных услуг. Рассмотрены особенности формирования состава сектора «знанияёмких услуг», которые потребляются предпринимательскими структурами, и соответвенно формируют «знанияёмкие бизнес-услуги» («Knowledge-intensive business services – KIBS»). Вывявлены особенности классификации знанияёмких бизнес-услуг (knowledge intensive business services – KIBS) в редакции Мюллера и Зенкера. По результатам опроса сформированы таблицы, характеризующие элементы сектора интеллектуальных услуг в трех выбранных элементах KIBS: риелторских, инжиниринговых и юридических компаниях, а также в других элементах: маркетинговые услуги, аудит, финансовые услуги; реклама и дизайн, подбор персонала. Кроме того, по результатам опроса представителей субъектов соответствующих видов деятельности был проведен экспресс-анализ цифровой грамотности их специалистов и выявлены особенности распределения компьютерной грамотности в трех сегментах рынка услуг: инжиниринговых, риелторских и юридических. Проведен анализ опытных результатов в направлении компьютерной и цифровой грамотности специалистов компаний указанных элементов KIBS. Исследованы отдельные аспекты цифровизации в деятельности компаний сектора интеллектуальных услуг, что предполагает широкое и активное использование информационно-коммуникационных технологий. В свою очередь, цифровизация в условиях повышения компаниями сектора интеллектуальных услуг эффективности их предоставления позволяет повышать конкурентоспособность за счет обеспечения индивидуального подхода к каждому потребителю.

**Ключевые слова:** цифровизация, сектор интеллектуальных услуг, компьютерная та цифровая грамотность.

THE PECULIARITIES OF COMPANIES' ACTIVITY OF THE INTELLECTUAL SERVICES SECTOR UNDER THE INFLUENCE OF DIGITALIZATION

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The peculiarities of the intellectual services sector are determined in the work, the characteristic of new properties of digital transformation within the intellectual services sector is given. The author of the article, based on the deep analysis of theoretical material on the topic, presents the concept model of the services market in the context of two sectors: highly professional and intellectual services ones. The features of the formation of the sector of «knowledge-intensive services», which are consumed by business structures, and accordingly form «knowledge-intensive business services» («Knowledge-intensive business services – KIBS») are considered in the article. The characteristics of the classification of knowledge intensive business services (KIBS) in the edition of Mueller and Zenker are revealed. The research of the use of intellectual services in ten segments on the example of Dnipro region. According to the results of the survey, tables are formed that characterize the elements of the intellectual services sector in three selected elements of KIBS: real estate, engineering and law firms, as well as in their other elements: marketing services, audit, financial services; advertising and design, recruitment. In addition, a survey of representatives of the relevant activities the rapid analysis of digital literacy of their professionals and identified features of the distribution of computer literacy in the analyzed three segments of the services market (engineering, real estate and legal) were conducted. The analysis of research results in the direction of computer and digital literacy of specialists of the companies of the specified elements of KIBS is executed. Also, the author (based on the survey) identified the degree of readiness of the staff of a number of companies to increase a computer literacy and mastering digital technologies. Some aspects of digitalization in the activities of companies in the intellectual services sector, which involves the widespread and active use of information and communication technologies are investigated. In turn, digitalization in the context of increasing the efficiency of companies in the intelligent services sector provides an opportunity to increase competitiveness by providing an individual approach to each consumer.

**Keywords:** digitalization, intellectual services sector, computer and digital literacy.

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