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**MODELS OF MODERN DIGITAL SERVICES OF ORGANIZATIONS  
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**Abstract.** At present, digitalization is the basic trend of the development of organizations operating in the basic sectors of the service sector, in particular in the infrastructure sector, the distribution and exchange sector, in the social-management sector. The purpose of the article is to define the basic features that form a process of digital service delivery that is different from the classical one. Within the framework of the research, it is proved that the process of providing classical services is different from the process of providing digital services due to changes in the character of interaction between the service provider and the buyer, changes in the mechanisms of managing service processes; changes in the availability of services and their nomenclature. The study has demonstrated and demonstrated that the changes outlined are because digital technologies are being introduced as part of the business processes of organizations, forming qualitatively new models of service delivery, the main feature of which is management.

**Key words:** model; digital service; changes; basic advantages; organization of service sphere.

**Introduction.**

At present, digitalization is a basic trend of the development of organizations operating in the basic sectors of the service sector, in particular in the infrastructure sector (which generalizes the organizations of transport, communication, the transmission of electricity, gas, and heat), in the distribution-exchange sector (which generalizes the organizations of trade, insurance, and financial intermediation), in the social-management sector (which generalizes the organizations of management, education, health care, etc.). It is important to note that the process of providing a classic service is different from the process of providing a digital service through changes in the latter:

- 1) in the character of interaction between the service provider and the buyer (a more exclusive, flexible environment of such interaction);
- 2) in the mechanisms of service processes managing (the process of rendering the service and interactions of the service provider with the buyer);
- 3) in the availability of services (access to services is expanded due to expansion and reduction of methods of interaction with clients);



4) in the expansion of the range of services (which allows clients to take advantage of their greater diversity). The changes outlined are because digital technologies are being introduced as part of the business processes of organizations, forming new quality models of service delivery, the main feature of which is manageability.

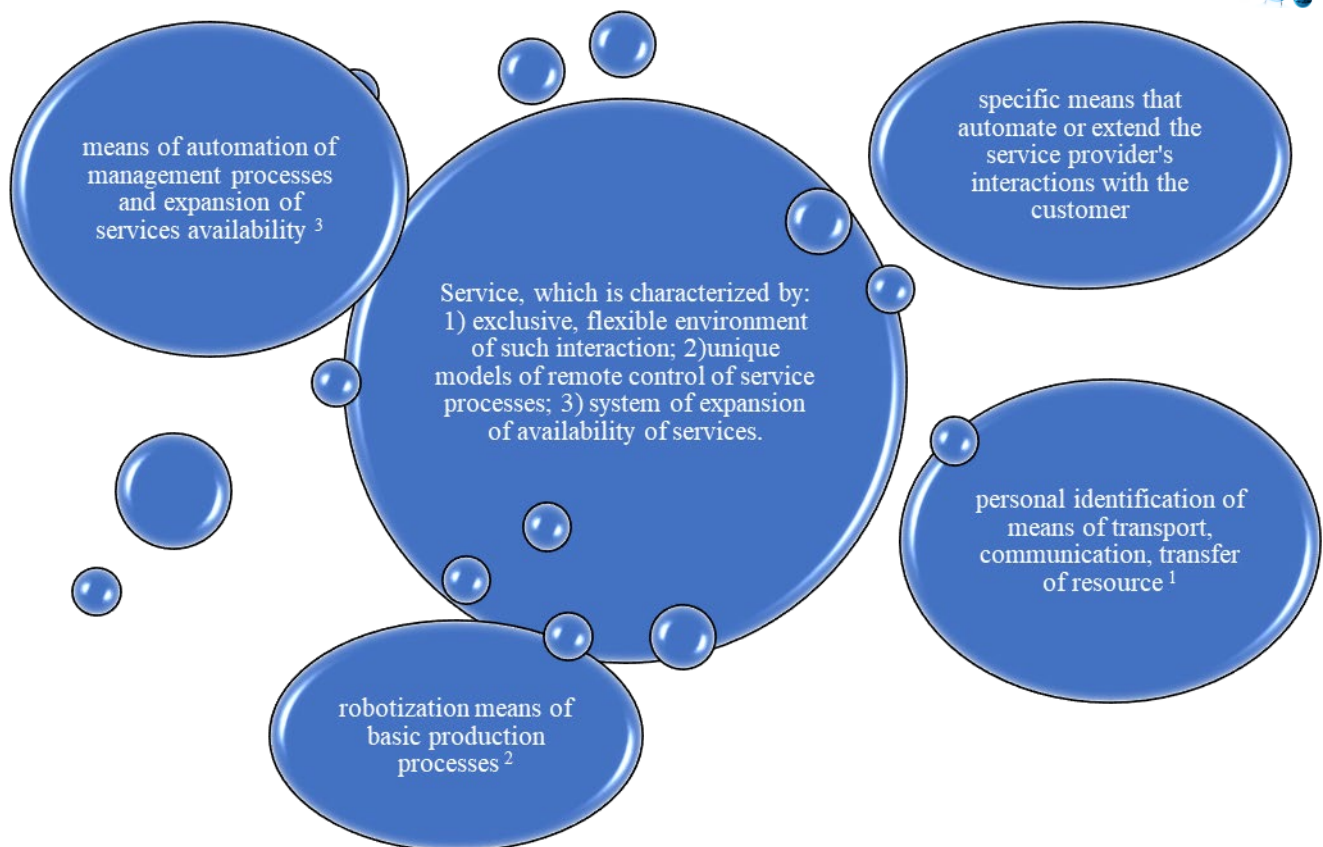
### **1. Models of modern digital services of organizations in the infrastructure sector**

Models of modern digital services in the infrastructure sector can be organized according to the directions of services: Infrastructure, production processes, management processes, cargo transportation, communication, electricity, gas, and heat transmission [1]. We identified that the basis of the model of the above services should be considered [1; 2; 3]:

1. means of transport, communication, transfer of the resource involved in the digital sphere based on their identification on the Internet and use of the software for client involvement in the process of management and control over the provision of services;
2. robotization means of basic production processes, which require wide manual labor involvement (for example, in transport - is the warehousing, in electricity, gas, and heat transmission - is the resource transfer, in communication - is a movement within the telecommunication network, etc.);
3. means of automation of management processes (directed on the computerized support of processes of management of organizations or their separate part, for example, document circulation) and expansion of services availability (communication, payment, etc.);
4. specific means, that automate or extend the interaction of the service provider with the customer. For example, transport organizations are oriented on the introduction of vehicles for civil aircraft, and sea cargo transportation. The organizations of electricity, gas, and heat transmission are oriented on the introduction of means of remote accounting of the resources consumed by the user. Organizations of communications are oriented on the introduction of means of automation of access services control.

According to the above-mentioned, general models of modern digital services of organizations in the infrastructure sector can be presented in Fig. 1.

According to modern research [1-2] we state that the most important in the provision are means of extending the availability of services, which should include: remote communication (use of digital communication technologies for communication); remote payment (use of mobile applications for services, mobile payment, payment via online payment resource, single travel documents); remote client's office (booking and ordering of services by clients without personal contact, remote execution of documents), cloud technologies (use of big data technologies, communication through means of cloud service).



**Fig. 1. General models of modern digital services of organizations in the infrastructure sector**

- 1 creates an opportunity to manage infrastructure in real-time mode, reduce costs, reduce non-core costs, and make infrastructure work more transparent
- 2 creates an opportunity to reduce the manual labor share, facilitate infrastructure maintenance processes
- 3 creates an opportunity to make competent, thoughtful decisions without the risk of a critical error, implementation of individual process management systems, as well as maximum expansion of the client's circle

*Source: prepared by the author based on [1; 3; 4; 5]*

## **2. Models of modern digital services of organizations in distribution-exchange sector**

Models of modern digital services in the distribution-exchange sector can be organized according to the directions of services: internet infrastructure, production processes, and management processes. We state that the model of the above services is based on [1; 2; 3]:

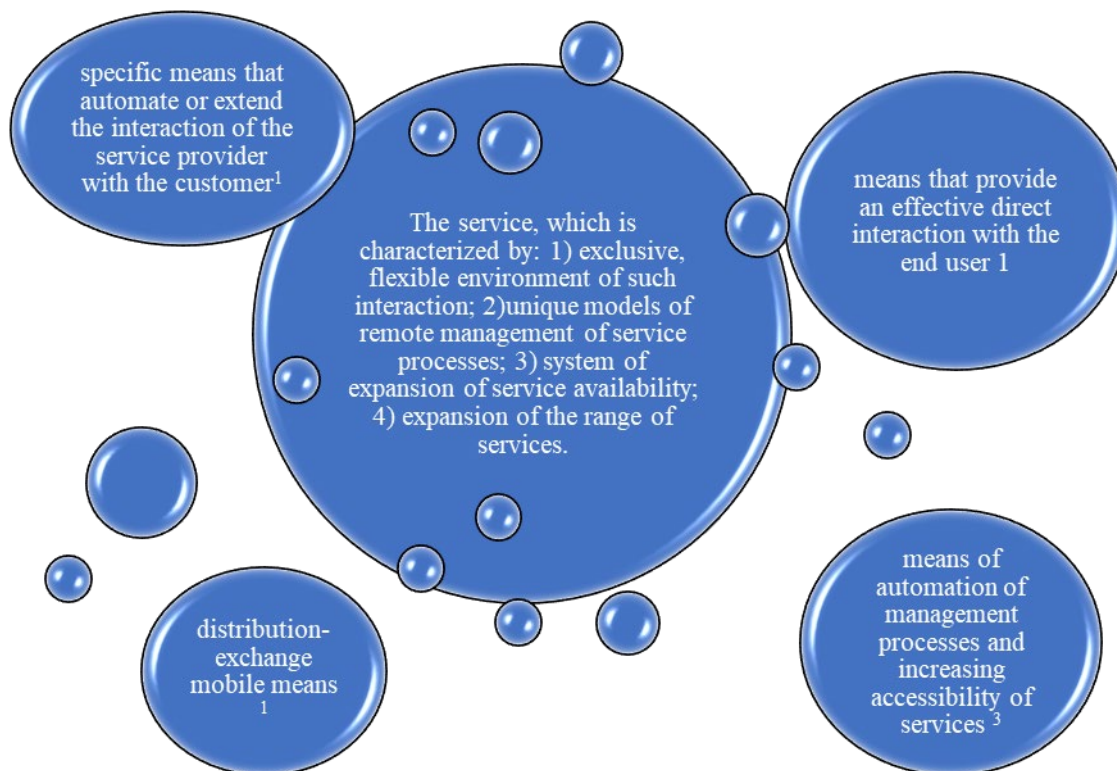
1. means that provide an effective direct interaction with the end user (in particular B2B sites, network sales companies in retail Amazon.com, Drugstore.com, Beyond.com, systems of electronic markets, and network auctions);
2. distribution-exchange mobile means that enable mobile electronic commercial transactions by using mobile devices such as mobile phones and personal digital assistants, etc.;
3. means of automation of management processes (directed at the full cycle of service providers and consumers support) and increasing accessibility of services (T-commerce, M-commerce, V-commerce, U-commerce, D-



commerce);

4. specific means that automate or extend the interaction of the service provider with the customer. Thus, trade organizations are oriented on the introduction of e-planning, e-invoicing, e-order, and electronic money. Insurance and financial intermediation organizations are focused on the introduction of public e-disclosure, electronic submitting a proposal, electronic contract assignment or insurance policy, etc.

According to the above-mentioned, general models of modern digital services of organizations in the distribution-exchange sector can be represented in Fig.2. The models outlined formed the phenomenon of dropshipping, electronic commerce, electronic trading, electronic insurance, electronic planning, etc.



**Fig. 2. General models of modern digital services of organizations in the distribution-exchange sector**

1 creates an opportunity govern the transactions in real time, to reduce expenses, to reduce non-specialized expenses, allows to make interaction of the service provider with the client more transparent

2 creates an opportunity decrease in amount of manual production work, simplification of client servicing processes.

3 creates an opportunity to make competent, thoughtful decisions without the risk of a critical error, implementation of individual process management systems, as well as maximum expansion of the client's circle

*Source: prepared by the author based on [1-2]*

According to modern researches [1-2] we state that the most important for organizations in the distribution and exchange sector are specific tools that automate or extend the interaction of the service provider with the customer, in connection with their broad functionality (Table 1).



**Table 1 - Analysis of the specific means of the model of modern digital services of organizations in the distribution-exchange sector**

Means	Means characteristic	Means significance
e-planning	Development of purchase plans, which can be used and published on a publicly accessible web-site for purchase.	monitoring and control of electronic procurement procedures
e-notice	creation and publication of service messages on the main public procurement website	monitoring of the reports of economic entities, providing the possibility of responding to them
electronic access	the possibility of registered business entities to get acquainted on the main site with the full information about the procedures of obtaining services and technical requirements	use of electronic data transfer or download means
electronic submitting a proposal	possibility of business entities to register and submit applications through the site of purchase with the express of interest, proposals etc.	encryption of offers to ensure their privacy.
electronic contract assignment or insurance policy	Possibility to evaluate the offer using electronic means and private access to the Internet.	studying the content and evaluating an offer
Electronic framework agreements and electronic contracts	ability to store documents, approve, use digital signature, edit, cancel and conclude contracts/ framework agreements using electronic means	electronic transmission of the data contained in the contracts, including: contract subject, agreed prices, deadlines, delivery locations, etc.
e-order	used to manage the process of submission and receipt of electronic purchase applications	organization of procurement procedures
e-invoicing	creation, registration, sending and receipt of confirmation of receipt of accounts to economic entities	receipt and acceptance of accounts and customers
electronic money	electronic acceptance of invoice	provision of payment of funds to the business entity

*Source: prepared by the author based on [1]*

Due to the specific means outlined in the table, the model of modern digital services of organizations in the distribution-exchange sector is not limited to the development of effective interaction with the consumer, mobile electronic commercial transactions, automation of management processes and expansion of availability of services. The model actually transforms the distribution and exchange culture of consumers and is integrated in all the process of satisfaction of needs.

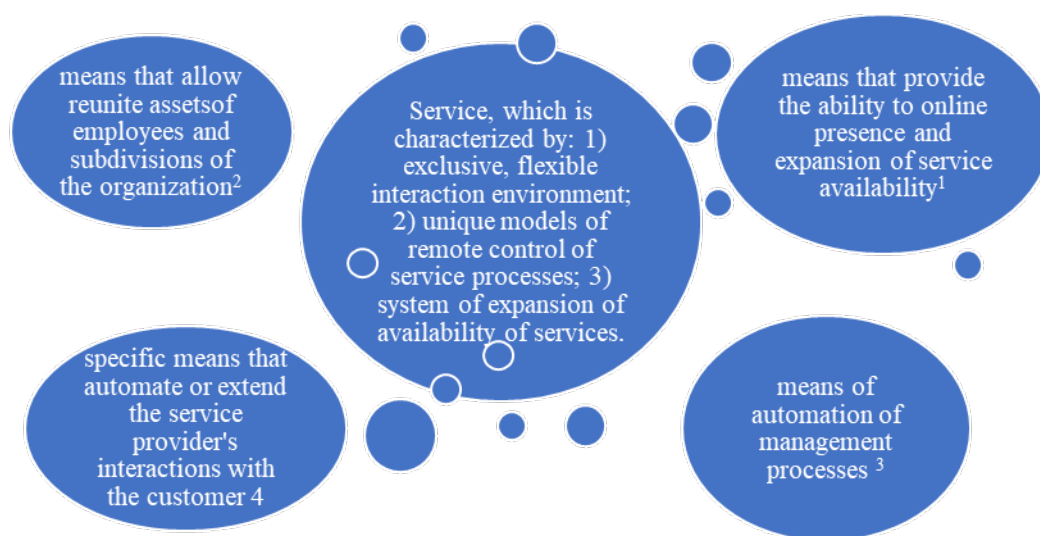
### **3. Models of modern digital services of organizations in social-management sector**

Models of modern digital services in the social-management sector can be organized according to the directions of services: Online presence; common digital assets; management processes. We state that the model of the above services is based on [1; 2; 3]:



1. means that provide the ability to online presence and expansion of service availability (such as websites, groups of social networks, contact bases, matchmaking platforms, knowledge base (reports, white books, shady), etc.;
2. means that allows reuniting assets of employees and subdivisions of the organization (content placement, traffic, individual resources - training courses, health, and social assistance practices, etc.);
3. means of automation of management processes (aimed at the full cycle of suppliers and consumers support);
4. specific means that automate or extend the service provider's interactions with the customer (proprietary programs to complete a videoconference over the Internet, remote PC access program).

According to the above-mentioned, general models of modern digital services of organizations in the social-management sector can be represented in Fig. 3.



**Fig. 3. General models of modern digital services of organizations in the social-management sector**

1. the means has a key role in establishing the online presence of organizations in the social-management sector, improving joint positioning and image, and cooperation
2. the means has a key role in combined assets that can be used, including content and traffic, and individual resources
3. creates an opportunity to make competent, thoughtful decisions without the risk of a critical error, implementation of individual process management systems, as well as maximum expansion of the client's circle
4. the means has a key role in Conducting online conferences, training, and webinars on the Internet via a personal PC / laptop or mobile phone with and without video in the organization of remote access to the PC.

*Source: prepared by the author based on [3]*

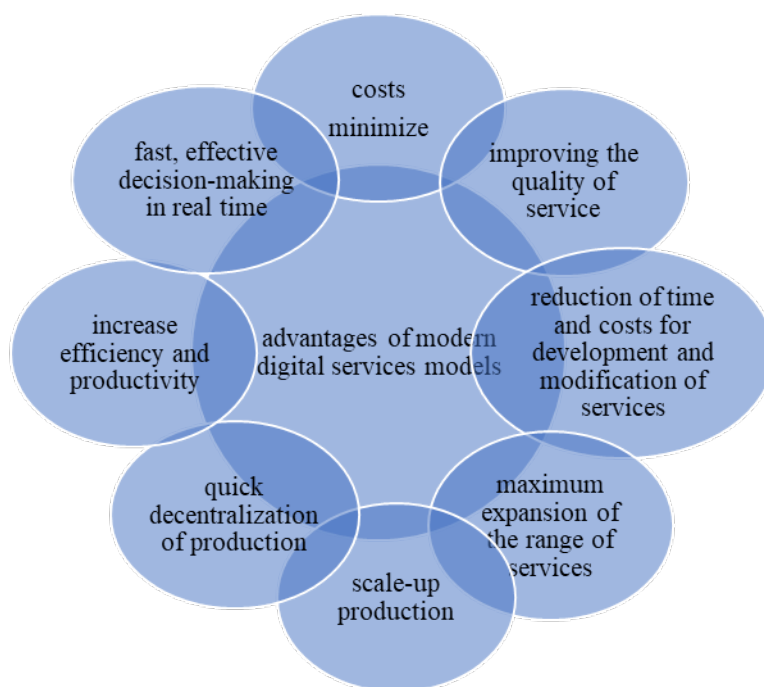
The models outlined formed the phenomenon of online education, telemedicine, cyber security, etc. Specific is the fact that this model transforms the social-management culture of service providers and consumer behavior of consumers (requirements for availability and quality of services are increasing). According to modern research [4-5], we state that the most important for organizations in the social-management sector are specific means that automate or expand the interaction



of the service provider with the buyer in connection with their broad functionality. These include proprietary programs to complete a videoconference over the Internet (Zoom, Wizer, PlayPosit, etc.) and a remote PC access program (AnyDesk, Ammyy Admin, Hamachi, etc.).

#### 4. Features of models of modern digital services of service sector organizations

The peculiarities of the models of modern digital services presented in the study are that they are not limited to exclusive use of technologies and are characterized by a change of culture, integrated in all spheres of work, transformation of management processes. The features outlined form the numerous advantages of the newest models of modern digital services of organizations, which are outlined in Figure 4.



**Fig. 4. The basic advantages of the newest models of modern digital services of organizations in the sphere of services**

*Source: prepared by the author based on [1-5]*

Thus, the general advantages of such models are: costs minimize (this advantage is formed due to processes of document circulation digitalization, which leads to general optimization of process, digitalization and authorization of basic business processes – introduction of maintenance through the application); quick decentralization and scale-up production (this advantage is formed by the use of digital offices and "digital" workplaces); maximum expansion of the range of services (this advantage is formed by the conversion of services into convenient online services); increase efficiency and productivity of service production; fast, effective decision-making in real-time (this advantage is formed by automation of management processes); reduce time and cost of service development and modification (this advantage is formed by branding, additional functionality, data and statistical data, which contributes to more efficient use, etc.); improvement of service quality (increase of internal orientation of digital services, speed of response to changing market conditions, quick response to consumer requests, etc.). It is assumed



that the more internally oriented digital products can support higher output efficiency and quality.

Despite the numerous advantages of the creation of the newest models of modern digital services of organizations is connected with their lack of shortcomings (which generates digitalization), among which are:

1. violation of the labor market in the sphere of services (automation and use of robotics, active automation of management processes leads to the reduction of the labor market, growth of unemployment and income inequality);
2. increase the digital divide between different categories of the population (due to uneven access to digital technologies and lack of skills to use them, lack of trust in digital technologies);
3. increased data security concerns, increased privacy risks; deepening of social alienation, cleaning of ethical borders (impossibility to control in the future artificial intelligence, risk of theft of confidential data);
4. decrease in cultural development (in particular, digitalization leads to a decrease in the quality of education, and the formation of dependence on digital technologies).

### **Conclusions.**

To effectively develop models of modern digital services organizations, need to make maximum use of their advantages through systematic actions aimed at overcoming shortcomings. In particular, it is necessary at the state level to introduce measures aimed at: leveling the digital divide through the strengthening of digital development for all; the solution of online disputes; the development of digital infrastructure and the expansion of technical education; regulation of labor market in the sphere of services (retraining systems, development of digital competencies of labor resources). Service organizations should focus on the use of reliable digital technologies (they should provide enhanced data privacy protection and algorithms that do not discriminate against any “player”), and introduce the concept of “digital” workplaces.

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**Анотація.** Наразі цифровізація є базовою тенденцією розвитку організацій, що діють у базових секторах сфери послуг, зокрема в інфраструктурному секторі, в розподільчо-обмінному секторі, в соціально-управлінському секторі. Метою статті є визначення базових рис, що формують такий процес надання цифрової послуги, що відмінний від класичного. У межах дослідження доведено, що процес надання класичної послуги відмінний від процесу надання цифрової послуги шляхом змін в характері взаємодії надавача послуги з покупцем, в механізмах керування сервісними процесами; в доступності послуг; в номенклатурі послуг. У дослідженні доведено та наочно проілюстровано, що окреслені зміни зумовлені тим, що цифрові технології впроваджуються як частина бізнес-процесів організацій, створюючи якісно нові моделі надання послуг, головною ознакою яких є керованість.

**Ключові слова:** модель; цифрова послуга; зміни; базові переваги; організації сфери послуг.

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