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DIGITALIZATION OPPORTUNITIES AND NECESSARY DIGITAL SKILLS IN SOCIAL LOGISTICS (SPECIFICALLY LOGISTICS IN SERVICING THE UNEMPLOYED, DISABLED AND DISADVANTAGED PEOPLE)

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Abstract: The new realities associated with the entry of digitalization into all spheres of life require its active application in the provision of social services. Digitalization in the provision of social services is extremely important from the point of view of the specifics of the people using such services. It is related to their needs, the need for facilitation, shortening the time for their service, expanding access to services and providing greater opportunities for inclusion of people who need and use these services. In the provision of social services, the organization and management of logistics are extremely important, both from the point of view of the delivery of the necessary products and services to the individuals in need, and on the basis of the logistics toolkit, which provides opportunities to optimize logistics costs, which is fundamental in the conditions of resource deficit.

Social logistics (in the public sector) is a multifaceted concept that includes the application of the logistics concept, based on the integration and optimization of material and human flows and their accompanying information flows, through logistics tools, to the provision of public spheres and activities that directly or indirectly are related to people's health, their quality of life and their security and safety (Banabakova, 2023, p. 145, author's definition). The logistics of serving the unemployed, disabled and disadvantaged, which ensures the provision of social services to these users, is one of the main elements of social logistics. Digitalization and the development of digital skills in the provision of social services is directly related to the digitalization of logistics in serving the unemployed, disabled and disadvantaged. The COVID-19 pandemic has shown the important role of logistics in all areas of life, including the provision of social services and healthcare. In the conditions of the pandemic, the role of logistics was life-saving.

The purpose of the present study is to highlight the specifics of social services and, on this basis, to identify the need, benefits and opportunities for digitization and the development of digital skills in the provision of social services and the logistics for their implementation in order to ensure better service and respectively – a higher quality of life for people with specific needs. In the development of this article, scientific methods were used, such as critical analysis, comparative analysis, an overview of the leading authors in the researched fields, methods of collecting secondary information and methods of collecting primary information - survey methods (survey and semi-structured in-depth interview with focal groups of experts in the researched fields) and method of observation, analysis of secondary and primary information and others. The main results of the research are in the following directions: identification of the specifics and problem areas in the provision of social services in Bulgaria; substantiating the need, benefits and opportunities for digitization and the development of digital skills in the provision of social services; bringing out the main possible tools for digitalization and development of digital skills in logistics in serving the unemployed, disabled and disadvantaged people in order to improve the quality of social services provided.

Keywords: digitalization, digital skills, social services, logistics in serving the unemployed, disabled and disadvantaged
Field: Social sciences

1. INTRODUCTION

Digitization is "a process of conversion (transformation) of information on an analog medium (text, sound and video signals, telephone pulses) in digital form using electronic devices according the scanning method, which includes the processes of converting analog information into digital. This allows information to be processed, stored and transmitted in a digital environment, via computer networks, satellite, Internet and social networks to the user, regardless of his location." (Pernishka, Blagoeva, Kolkovska, 2021, p. 34). "Digitalization is considered not only as a process of digitizing traditional information flows, but also as an environment integrating digital resources, services and specialists with the necessary knowledge and skills at the level of technologies of this environment, related to the creation, storage, access, use, the dissemination, security and protection of information" (Pernishka, Blagoeva, Kolkovska, 2021, p. 35).

The new realities associated with the entry of digitalization into all spheres of life require its active application in the provision of social services. Digitalization in the provision of social services is extremely important from the point of view of the specifics of the people using such services. It is related to their

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needs, the need for facilitation, shortening the time for their service and others. The aim is to guarantee an effective connection between people using social services and the institutions that provide them, in order to achieve an adequate match between the demand and supply of social services. "The main idea of digitization and digital transformation is connected with the assimilation of new projects and activities through the active use of digital technologies. The aim is to master new processes, generate new user value and increase the level of user satisfaction." (Chipriaynova, 2021, p. 51).

The purpose of the present study is to highlight the specifics and problems of social services and, on this basis, to identify the need, benefits and opportunities for digitization and the development of digital skills in the provision of social services and the logistics for their implementation in order to ensure a better service and, respectively, a higher quality of life for people with specific needs.

2. DIGITALIZATION AND DIGITAL SKILLS IN THE PROVISION OF SOCIAL SERVICES AND SOCIAL LOGISTICS AS A PREREQUISITE FOR IMPROVING THEIR QUALITY

According to Zlateva, "human beings have social instincts that are genetically determined. Therefore, man is originally social. The instincts for group identity, coherence, cooperation, justice and others determine his sociality and turn him into a structural element of "external" communities" (Zlateva, 2016, p. 243). The sociality of the individual and of society as a whole lies at the basis of the development of social policy (Banabakova, 2023, p. 124-136).

The main direction of social policy is the provision of social services.

Social services are activities to assist individuals and families who have difficulty or are unable to meet their basic life needs. These services are provided by the state and municipalities, by individuals and legal entities after licensing (Banabakova, 2023, pp. 136-142). Personal social services are designed to meet the social care needs of certain groups of society – children in need, elderly people, people with mental problems, people with mental retardation and disabled people. Services are offered by local authorities, charities and private organisations. State intervention in this area is carried out by local social service agencies. Social care is implemented in the form of: home care (the client is visited at home); day care (the client visits an institution for a certain part of the day or for the whole day); and residential type of care (the client leaves home, lives in an institution and receives care there). "Social services are provided in or outside the usual home environment." (Hristova, Hristov, 1999, p. 211-213)

Social logistics is important for the provision of social services in many directions.

Social logistics (in the public sector) is a multifaceted concept that includes the application of the logistics concept, based on the integration and optimization of material and human flows and their accompanying information flows, through logistics tools, to the provision of public spheres and activities that directly or indirectly are related to people's health, their quality of life and their security and safety (Banabakova, 2023, p. 145, author's definition). The implementation of social logistics in the public sphere requires active state intervention and the construction of the necessary logistics structures at the national, regional and municipal level, the appointment of logistics specialists and the use of the accumulated experience in the field of business and military logistics. However, the most important condition for the development of social logistics is the awareness of its focus on the needs of society. The exact fulfillment of the seven main tasks of logistics, namely – delivery of the right product, at the right time, at the right place, in the right quantity and quality, at the right price (from the point of view of consumers) and to the right consumers, is mandatory, but in social logistics, the needs of society and increasing its quality of life are fundamental (Banabakova, 2023, p. 174-176). In the provision of social services, the organization and management of logistics are extremely important, both from the point of view of the delivery of the necessary products and services to the people in need, and on the basis of the logistics toolkit, which provides opportunities to optimize logistics costs, which is fundamental in the conditions of resource deficit.

The logistics of serving the unemployed, disabled and disadvantaged, which ensures the provision of social services to these users, is one of the main elements of social logistics. This logistics is extremely important mainly because of the specific needs of this segment of the population. The goal is to serve more people in a shorter amount of time, while at the same time making the process less expensive and keeping people satisfied. Logistics related to disabled and disadvantaged people requires not only perfect organization in terms of time, place and costs related to supplies, transport and personnel, but also adaptation of logistics activities to the specific problems of this segment (Banabakova, 2023 , p. 174-176). According to Ilcheva, "**logistics functions in the provision of social services can** be systematized in the following way (Ilcheva, 2021, p. 453-454): resource provision of the material base; providing healthy nutrition; access and provision of health care; information function and organization of

educational services; coordination of activities for the organization of free time and personal contacts of users and others."

In the provision, access and use of social services in Bulgaria, there are a number of problems that can be overcome if these activities are considered in close connection with social logistics and modern logistics principles and tools are applied to them.

According to Ilcheva (Ilcheva, 2023, p. 143-145), the following **problems** related to the system of social services are outlined (Table 1).

Table 1. The main problems of the social services system

Problems	Essence of the problem
Underdeveloped infrastructure and limited access to social services	Despite the significant increase in the number of social services offered in the community, their total volume is not able to cover the existing needs.
Predominance of public service providers, low participation of the private/non-governmental sector and low use of the legally existing public-private partnership option	In the Bulgarian sector of social services, public providers prevail, in contrast to the imposed global practices.
Lack of efficiency and quality of social services in the process of deinstitutionalization	Despite the deinstitutionalization of social services, what has been achieved in terms of the real social integration of persons in need of support is insufficient.
Inadequacy of the model of social services, which is determined by the place of their provision	This model, to a lesser extent, corresponds to the dynamics of modern social relations, changes in the demographic structure and the observance of the rights of users of social services.

Source: Table 1. is adapted from Ilcheva, M. (2023) *Social security – evolution in the conditions of crises and transformations*, Publ. House Institute for Knowledge, Science and Innovation, V. Tarnovo, p. 143-145

Optimizing the process of providing social services in Bulgaria and solving a large part of the problems in this direction is related to digitization and the development of digital skills - the application of modern information and communication technologies that allow integration, improved communication, easier access, monitoring and coordination at each stage of the process of providing social services. The digital transformation of the economy and society is the main factor for the digital development of Bulgaria as part of the European Union. Digital technologies are changing people's lives and opening up new opportunities for the development of all sectors and society as a whole. "A leading priority for the European Union is to build a society that is supported by digital technologies, in the context of common values and with the aim of making people's lives easier" (Ilcheva, 2023, p. 149-156). Digitalization is also extremely important for the social services sector, because it helps to expand access to services and provides greater opportunities for inclusion of people who need and use these services.

"Digitalization in the provision of social services is related to the general process of digitization and development of digital competences in Europe and follows the main **trends** in this direction, such as (Ilcheva, 2023, p. 151): turbulent and comprehensive digital transformation of the economy of Europe; uneven distribution – only 20% of small and medium-sized enterprises in Europe are highly digitized; different degree of introduction of electronic government - from 75% of electronic public services in some European countries to less than 30% in other countries (European Commission, 2019); increasing digital exclusion and inequality". These trends show that the digitization process in some of the European countries, including Bulgaria, is still at an initial stage of development. "Bulgaria permanently occupies the last 28th place in the EU. The trend for one of the lowest levels of digital skills in the EU is deepening, with the percentage of the population with basic digital skills in Bulgaria being 29% against an average of 58% for the EU" (DESI Index Data, 2020).

Digitization and digital transformation in the provision of social services is necessarily related **to increasing the professional qualifications and skills of employees for working with innovative information and communication technologies and respectively based platforms**. The new realities require the integration of the efforts, experience and knowledge of institutions dealing with the provision of social services and IT specialists in order to obtain a synergistic effect in terms of the quality of social services provided.

The effective and efficient application of digitization in the provision of social services in Bulgaria faces a number of challenges such as (Ilcheva, 2020, p. 241-250): Bulgaria's lagging behind in terms of insufficient investments in information infrastructure and development of the necessary digital skills, which

are interconnected and mutually conditioned; digitization and globalization lead to a growing demand for new skills, both by employers and by social workers, with the combination of technical and social skills gaining particular importance, making the transformation of human resources the most valuable capital for the development of social services; technical skills must be complemented by "soft skills", which requires large investments for training and development of the necessary skills and competencies; insufficient connection between the social sphere and the digital sector, which also explains the weak application of information and communication technologies in social services and others.

In Europe, including Bulgaria, a major social problem is the aging population. Therefore, the main applications of information technologies are aimed at their wider use for prevention, diagnosis and rehabilitation. The COVID-19 pandemic has accelerated the process of the wider use of artificial intelligence **in the form of**: artificial intelligence thermometer, smart health data support applications, social distancing software and applications, smart cameras, chatbot systems in the role of smart applications with virtual assistant, blockchain technologies and others (European Commission, 2020). Robots (telepresence and as portable devices) can also be used to provide social care. Their application reduces the risk of infection and ensures continuity of care in conditions of isolation, restrictions on freedom of movement and social distancing.

The use of the possibilities of digitalization and respectively artificial intelligence in the system of social services leads to **the optimization and respectively to the improvement** of a number of processes, such as: planning the distribution of resources; shortening the time for processing applications for benefits, submission and processing of applications for the use of various social services; forecasting the needs of users of social services at an individual level; assisting public employment services in matching possible jobs with candidates in a more efficient way and others. Digitization in the provision of social services is also necessary in social services from a distance, for which purpose the construction of digital on-line centers is necessary. The main applications of digital technologies in social services are: electronic applications; artificial intelligence; digital platforms; and digital assistant. In the social services system, digital platforms are widely used, providing more opportunities to connect social service users and providers of these services for home care and childcare. The use of this type of technology as an intermediary between users and providers of social services tends to increase in the future because these platforms create an open market for the use of this type of service (Digital labor platforms in Europe, 2019).

"The issue related to the security of service users in the mass digitization of the social services sector is also important. Eurofound studies show that digital technologies increase the sense of security of social service users" (Eurofound, 2019). This is especially true for the elderly, who having an easy-to-use digital device to monitor their individual risks can increase their sense of security.

3. DIGITALIZATION OPPORTUNITIES AND NECESSARY DIGITAL SKILLS IN LOGISTICS IN SERVING THE UNEMPLOYED, DISABLED AND DISADVANTAGED

The digitalization and development of digital competencies in the provision of social services is directly related to the digitalization of **logistics of serving the unemployed, disabled and disadvantaged**, which ensures the provision of social services to these users.

The COVID-19 pandemic has shown the important role of logistics in all spheres of life, including the provision of social services and healthcare. In the conditions of the pandemic, the role of logistics was life-saving. According to Zlateva, "COVID-19 has further accelerated and compressed the course of digitalization of the economy, social processes and, respectively, of logistics, and has actually confirmed the correctness and necessity of the adopted direction of social development. Dealing with the pandemic was assisted by digital infrastructure – online business, online education, online services and digitalization of public services. All this has categorically shown that the future of public life and in particular the economy and logistics is digitalization." (Zlateva, 2021, p. 743). Modern realities require active application and development of digitalization and digital skills in business and military logistics (Banabakova, 2022, p. 12-14). The experience gained in these two types of logistics can also be successfully applied in the logistics of serving the unemployed, disabled and disadvantaged. "As a result of the advent of digitalization, logistics and transport are taking on a new face and the supply chain is undergoing a complete change. With logistics becoming the foundation of every field, new development strategies are already being developed, aimed at the constantly emerging innovations in logistics, such as robotics, artificial intelligence and algorithms for smart machines. The latest technological innovations aim, on the one hand, to reduce the total costs of logistics, and on the other hand, through logistics to improve customer satisfaction and achieve a higher quality of service" (Nahata, 2018).

According to Rakovska and other researchers in the field, the applied "information systems in logistics, also called logistics software, are very diverse" (Rakovska, Dragomirov, Lukanov, 2018, p. 283). They are constantly developing and improving with the idea of better meeting the needs of logistics and consumers. Digitalization in the field of logistics is manifested in a number of **directions** (Banabakova, 2023, p. 109). The opportunities for digitalization in the logistics sector are also fully applicable in logistics when serving the unemployed, people with disabilities and people in disadvantaged situations.

The main place is occupied by **Enterprise resource management (ERP) software systems**, which are imposed as a standard for software supporting logistics management (Rakovska, Dragomirov, Lukanov, 2018, p. 289). "The application of ERP systems is required and established due to the complexity of organizational processes and the separation of a large number of heterogeneous organizational units. As a result, the need arises for an effective way to exchange information, a unified database for its storage, as well as a tool to sift data, analyze it and present it in a form that corresponds to and supports the making of correct decisions by every employee throughout the organization, regardless of their functions" (Hlebarov, 2021, p. 182).

The transport is very important for logistics related to the provision of social services. Digitalization in transport companies is already widely used and has proven benefits. The experience gained can also be used in the digitalization of transport, necessary for the provision of social services. The main types of software used in transport are distinguished by the criteria of software with an installation nature and functionality (Banabakova, 2022, pp. 12-20). In transport management, a suitable choice for operational and business software **are Transport management systems – TMS**, which are software developments that are part of supply chain management systems. TMS has many forms, and can be a standalone information system or a component of wider process management software. The functions of a TMS system vary depending on its developer and needs, but in terms of transport, **the optimal functions are: deliveries** - monitors important events and manages contacts with shippers; **planning and optimization** - selects the most effective options and routes and finds options for optimizing processes; **task execution** - manages daily processes, loading and unloading, transport documents, information exchange and process monitoring; **audit** - manages all financial processes of the transport operation; **report and analysis** - analyzes the performance of individual units, as well as the entire organization.

For logistics related to the provision of social services, the storage of inventories is also important. Therefore, **Information systems for managing warehouse activities in logistics** are also applicable. Such are **Warehouse Management Systems (WMS)** (Rakovska, Dragomirov, Lukanov, 2018, p. 286). Their purpose is to support warehouse processes related to: tracking material flows and document flow; optimization of a number of warehouse activities; and management of automated warehouse systems.

If necessary, in logistics of serving the unemployed, disabled and disadvantaged, **the information technologies for automatic identification of units in logistics** can also be applied (Rakovska, Dragomirov, Lukanov, 2018, p. 290-298). Automatic identification is an automated identification of units through computer systems. For the application of automatic identification in logistics when providing social services, **barcode technology and radio frequency identification (RFID) technology** can be used.

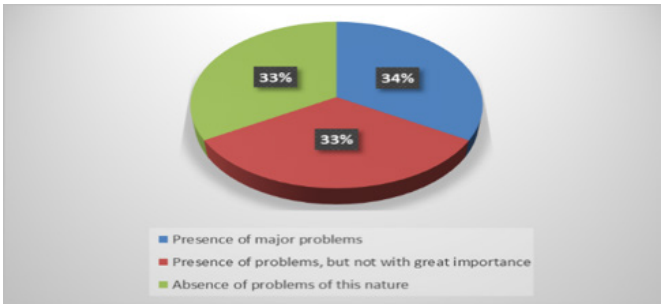
In addition to the use of appropriate software products, digitalization in logistics is also developing in a number of innovative directions (Nahata, 2018), which are also applicable in logistics of serving the unemployed, disabled and disadvantaged in order to increase the efficiency and improve the quality of social services, such as: flexible logistics; blockchain (a system for tracking computer records); drones; sustainable logistics and others.

Information management systems used in logistics can be adapted to the needs of any organization. But for this purpose, IT companies that implement, configure and make training are extremely important, because if the procedure is not carried out well, the results may not be positive. The main **reasons** for this are that the procedure is long, expensive and often there is a lack of good communication between the organization that needs logistics software and the IT company. "To identify the main problems and forms of communication between IT service client organizations and IT companies, a study was conducted using the following **methods**: desk research, in-depth interviews, focus group interviews and a questionnaire survey" (Serafimova, D., Andreeva, A., Banabakova, V., 2022, p. 347-348). The studies were conducted among representatives of organizations performing logistics (managers, experts and employees) during the period 2021 - 2023.

One of the main problems faced by all participants in the survey is the need for the provided IT service to be modified and improved soon after. Of the respondents, 67% indicated that this is often necessary, and 33% indicated that this has been necessary at most once. **Another important problem** for organizations performing logistics (34% often, and the remaining 66% - at least once) is related to the fact that when assigning the task, the client organizations have explained in detail what services are expected

from the IT companies, but have received a service that does not fully meet their initial requirements. **A significant problem** is related to communication, with the results of the survey showing that 34% of the interviewed logistics experts indicated that they had great difficulties in communicating with IT specialists, due to the specific computer terminology that the latter use. Of the remaining respondents, 33% indicated that they had such difficulties, but they were not serious, and the remaining 33% showed that they had no such problems. – Figure 1.

Figure 1. Problems communicating with IT specialists due to the specific computer terminology they use



Source: Figure 1. is adapted from Serafimova, D., Andreeva, A., Banabakova, V. (2022). Digitalization of Business and Public Organizations - Communication Problems with IT Companies and Possible Solutions. In: Ciurea, C., Boja, C., Pocatilu, P., Doinea, M. (eds) Education, Research and Business Technologies. Smart Innovation, Systems and Technologies, Vol 276, p. 348, Springer, Singapore

The results of the study show that effective communication and interaction between the client and the IT service provider are very important, because of they are the main prerequisite for providing an information product adequate to the needs, which guarantees the provision of a quality logistics service.

4. CONCLUSIONS

Digitalization and the improvement of digital skills in the provision of social services, including in the logistics of serving the unemployed, disabled and disadvantaged are an element of the overall strategy for implementing a sustainable transformation of social services. “The strategy for sustainable transformation is inextricably linked to promoting social innovations (which also include digitalization and the development of digital competencies in the provision of social services) and improving social safety nets” (Ilcheva, 2023, p. 163-165).

The benefits of applying digitalization in transport related to the provision of social services are expressed in: a significant reduction in overall logistics costs; strict fulfillment of requests; transportation of the necessary goods within the agreed deadlines; ensuring high quality of logistics services, and others.

The benefits of implementing information systems for managing transport and warehouse activities in logistics related to the provision of social services are: reducing the level and accelerating the turnover of inventories; increasing the number of users served; reducing the time for providing social services; improving the quality of social services; opening up opportunities to reduce the cost, respectively - the costs of social services; opportunities for more flexible response to changes in the demand for social services, and others.

The benefits of applying automatic identification technologies in logistics in the provision of social services - barcode technology and radio frequency identification (RFID) technology are: they are flexible, easy and convenient to use; automatic operation; human intervention to correct information is excluded; user service costs are reduced; they work in real time and in different environments; the traceability of material assets is facilitated and accurate; high data security is achieved, and others.

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