

CONTENTS

- | | | | |
|-----------|---|-----------|--|
| 1 | Chernobay L., Yessirkepova A., Malibroda S.
Estimation of labor migration impact
on the economy of sending country | 25 | Frączkiewicz-Wronka A.
Digitalization of healthcare sector
as a tool for implementation of competition policy |
| 8 | Chernega O.
Assessment of the competitiveness
of the tourist destination | 35 | Wronka-Pośpiech M.
How social entrepreneurs learn new skills? The role of social
economy support centres in supporting know-how development |
| 17 | Dochynets N., Havrylets O., Kampo H.
On the problem of human resources
in ukrainian private health care | 44 | Yasinska A.
Accounting procedures digital transformation
for business processes improvement |

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ESTIMATION OF LABOR MIGRATION IMPACT ON THE ECONOMY OF SENDING COUNTRY

Abstract. This paper provides a theoretical framework for estimating the labor migration impact on the economy of sending country. The overall emigration impact includes two effects, which can be calculated separately, i.e., a departure effect and a remittances effect. The departure effect causes a negative impact on the economy by decreasing autonomous consumption. The remittances effect causes a positive impact by increasing disposable income and thus internal consumption and savings and imports. Calculations include the multiplier effect. The labor emigration impact on GDP is calculated as a difference between a positive remittances effect and a negative departure effect. The analysis is conducted for countries that are not at full employment.

Key words: international migration, labor emigration, impact estimation, GDP, consumption, savings.

1. Introduction

International migration, especially labor migration, and its outcomes are still under discussion after decades of active research. While most studies, developed until and during the 00s, argue on the positive impact of labor migration on economies of sending countries, lately developed

studies, usually based on different types of regression analysis, report quite contradictory results.

Although remittances are not the only effect of labor migration, their studies best represent the ambiguous academic opinion. Cazachevici, Havranek, and Hovrath (2020) provided a meta-analysis of 538 estimates from 95 studies, which “typically estimate an extended variant of ... basic regression” mainly using panel data for evaluating the impact of remittances on receiving countries. Authors revealed that approximately 40 % of studies reported a positive impact, 40 % reported no impact, and 20 % reported a negative.

At this point, we want to admit that remittances influence the GDP indirectly and are only one of the numerous variables that affect development (Appleyard, 1989). Moreover, the GDP, its growth rates, and other derivative indicators are the basis for evaluating the Push factors (Rosas & Gay, 2015), which stimulate emigration and thus reverse remittances inflow, so the question of endogeneity arises. Therefore, more

accurate results might be obtained if analysed studies focus on the relationship of remittances and consumption together or separately from saving and then calculate its weight in the GDP.

Therefore, this study aims to provide a theoretical framework for estimating the impact of labor migration on the economy of sending country. We split up the overall impact for two effects, which can be calculated separately, i.e., a departure effect and remittances effect. The departure effect causes a negative impact on the economy by decreasing in autonomous consumption of emigrants. The remittances effect causes a positive impact by increasing disposable income and thus in internal consumption and savings. Calculations include the multiplier effect.

2. Literature overview

A significant number of studies conducted until and during the '00s describe the positive and sometimes crucial role of labor migration for migrant-sending countries. Many authors focused primarily on remittances effects admitting its positive impact on consumption, savings, and investments. Many authors also admit that positive remittances impact is usually undermined by the poor financial sector and low developed economy, limiting investment possibilities.

Stahl & Arnold (1986) point out that although remittances are mostly spent on daily consumption and a little for investing, this creates a stimulus to local industries as it increases the aggregate demand. Authors also provide data, based on surveys and estimation, on the distribution of remittances on internal consumption, imports, and savings in Asia countries. Panda (2009) distinguishes micro and macro remittances effects as increasing in households' expenditures at micro-level cause the multiplier effect for the whole economy. The author also admits that remittances highly contribute to households' stability during a crisis. Turnell, Vicary & Bradford (2008), analyzing remittances' impact on Burma, concludes that mostly it is spent on basic daily needs. Kannan & Hari (2002) estimated that remittances resulted in approximately 20 % of the income of the Karela state in India during 1972–2000, also adding that low development of financial

system economic systems limited the efficiency to invest the remittances or just put into the banking system. Lika (2014), analyzing remittances' impact on Albanian's economy, concludes that approximately 90 % of remittances were spent on consumption and only 10 % for investing. The author also admits that proper financial institutions and policies can increase the rate at which remittances are converted into investment. This hypothesis was proved by Kim (2021), who applied an unobserved dynamic factor model to the data set of 46 countries during 1996–2016 and concluded that developed financial institutions increase the efficiency of remittances distribution. Woodruff & Zenteno (2007) found out that access to remittances enhances investing in micro-enterprises in Mexico.

On the other side, remittances inflows occur as the millions of migrants leave their countries, which influences their countries. In this field, scientists address labor supply questions. Stahl (1982), analyzing costs and benefits of migration, notes that it is advantageous for sending economies, but only to some extent. Extensive emigration can reduce the labor force and thus national output. Hanson & McIntosh (2010) found out that over one-fifth of young working-age Mexican males have migrated to the US, so it caused labor supply shock in Mexico. These findings limit our research, so the provided analysis is suitable for countries which are not at full employment. Rodriguez & Tiongson (2001) revealed that emigration caused decreasing in labor supply in the Philippines as relatives who received remittances were less likely to work or work fewer hours. The decline for men equals 27.7 % and 12.5 % for women. The labor market participation depended on gender and education. Meanwhile, Gonzales-Velosa (2011), estimating the impact of emigration on agricultural production in rural areas in the Philippines, concluded that the local economy did not suffer from emigration due to the elastic labor supply. Moreover, the farming outputs and value-added rose as emigrants provided the source of financing for local production. Also, Lykholat, Mulska, & Rozhko (2020) admit the emigration might balance supply and demand on the domestic labor market, but only in the short run.

Estimation of labor migration impact on the economy of sending country

At this point, we want to highlight a few findings/conclusions. First, remittances when received are spent on internal consumption, imports and savings. Its effect also includes consumption multiplier. Investments take small part out of remittances, which however depends on the quality of financial institutions and the level of economic development. The second, although intense emigration might cause supply shock on the labor market, it might balance it in a short term due to its elasticity.

3. Methodology

We apply Keynesian economics as a basis. Specifically, the research is based on the general equation of income-expenditures relationship (equation 1), however, without a government and separating net export for imports and exports (equation 2). We also consider that $I=S$ due to Keynes.

$$Y=C+I+G+NX \quad (1)$$

where Y – income (GDP), C – consumption, I – investments, G – government expenditure, NX – net export.

$$Y=C+I+(Exp-Im) \quad (2)$$

From this standpoint, we try to explain how labor emigration affects each of the components of GDP.

For the theoretical analysis, we take a household of four members where two are economically active, and the other two are economically inactive according to the IOM classification. Economically active members of emigrants household are always employed either abroad and send remittances to the home country or are domestically employed and receive a salary. Migration costs (transport, visa, insurance, etc.) are ignored.

A few more assumptions were made:

(i) a country's economy is not at full employment.

(ii) a consumption function is linear (MPC – constant);

(iii) autonomous consumption is supplied internally.

Theoretical framework

We distinguish the departure effect and remittances effect. These effects are a part of a

single process and influence the economy not separately but together. The remittances effect follows the departure effect and complements it causing however greater impact. The departure effect occurs when the emigrant leaves the country, and the remittances effect occurs when the emigrant starts to send remittances home.

It seems obvious that when the emigrant departs, the economy loses his or her consumption and probably savings. And it also seems obvious that when an emigrant sends remittances, it increases the consumption and savings in the home country. Otherwise, emigration seems to cause a change in the amount of GDP by decreasing and increasing its elements (consumption and savings) through departure and remittances effects. It is partially true, however, these effects are a bit more complicated.

Now, remember that we analyze emigrants not individually but as part of households in the economy which is not at full employment (number of unemployed exceeds the number of vacancies).

Let's take two independent households A and B . An emigrant household A consists of two economically active employed members and one of them is going to emigrate. Household B also consists of two economically active members who do not want to migrate. One of them is unemployed. Both households have two economically inactive members.

When the emigrant from household A leaves a country, his or her household's income (Y_A) and respectively consumption (C_A) and savings (S_A) will decrease. However, as the economy is not at full employment and a newly free workplace will be filled with an unemployed individual from household, B which obviously will increase this household's income (Y_B) and respectively consumption (C_B) and savings (S_B).

$$Y_A = C_A + S_A > Y'_A = C'_A + S'_A \quad (3)$$

$$Y_B = C_B + S_B < Y'_B = C'_B + S'_B \quad (4)$$

the sing ' is used for indicators after emigrant departure.

Thus, while the income of each household changes, the total income (Y_T) of these two households remains the same before and after departure:

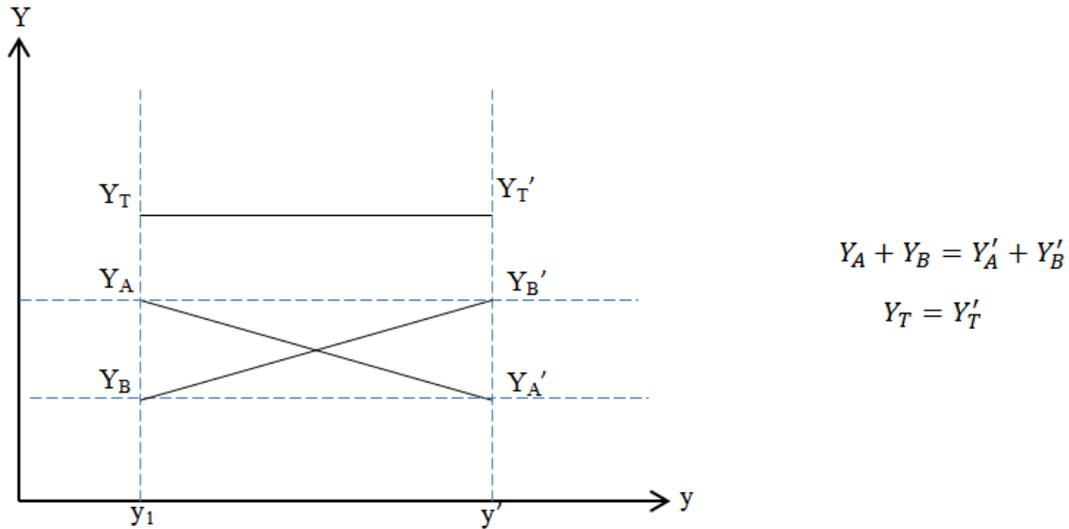


Fig.1. Total and households income before and after emigrant departure.

One might oppose that newly employed worker from household *B* will probably not receive the same salary as the worker from household *A* due to probation, so the total income will decrease. This is true for a short run in the scope of a few months, but after the probation, the total income (Y^A) will return to the initial amount.

Similar results are also obtained for households that differ from the one we take for analysis, e.g. (a) a household of two economically active members, one is unemployed and going to emigrate; b) all active members are unemployed, and one or more are going to emigrate; c) some of the active members are unemployed and receives social care, but are going to emigrate, etc.

Therefore, the departure of emigrants does not affect the total households' income

but changes the income distribution between households.

Now we add remittances which emigrant sends to the household *A*, so its income will consist from internal household income after departure (Y_A') and remittances (R):

$$Y_A'' = Y_A' + R \quad (5)$$

where Y_A'' denotes household's *A* income after receiving remittances.

We assume that the household's *A* income after emigration (Y_A'') always exceeds the household's income before emigration (Y_A) as households, when making a migration decision, are aimed at income maximization.

The total income will also rise for the amount of remittances received by household *A*:

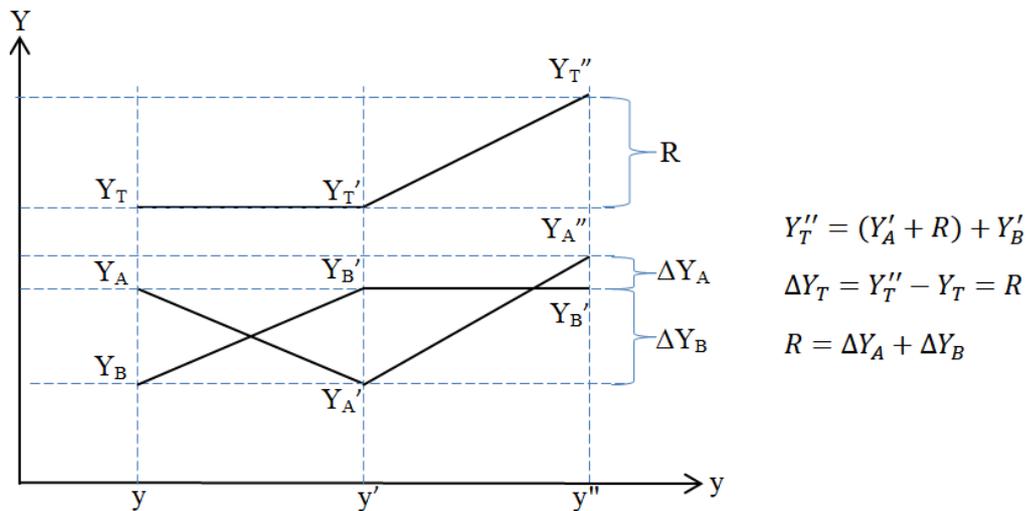


Fig. 2. Total and households' income before and after emigration

Therefore, the total income in the economy rises for the amount of remittances received, despite the household's A income rising only for a difference between remittances and the salary which may be received working domestically.

The remittances inflow from the other side increases the total disposable income of households (ΔY_A and ΔY_B) which then is spent on consumption (internal and imports) and savings. As the initial distribution of remittances launches a cycle of consumption/savings, the calculation also includes multiplier effects. From this perspective, the remittances effect is calculated as the sum of consumption and savings excluding imports, caused by remittances inflow. The final calculation results in the share of GDP caused by remittances.

$$\Delta GDP_R = \left(\frac{R}{GDP} \cdot 100\% \right) \times \left(\frac{1 - MPC \cdot MPM}{1 - MPC \cdot (1 - MPM)} \right) \quad (6)$$

where ΔGDP_R denotes the share of GDP caused by remittances effect, MPC denotes marginal propensity to consume, MPM denotes marginal propensity to import.

This equation for estimating the remittances effect and equations for estimating the amounts of consumption, savings, and imports caused by remittances were developed in our previous research (Chernobay, Malibroda, 2020).

As was mentioned remittances effect is the one part of how emigration affects the GDP, so one more adjustment has to be made. The household's disposable income is a difference between a household's total income and its autonomous consumption. As one or more household members leave the country, this household's autonomous consumption will decrease, primarily for food, clothes, transport costs, and probably for rent and some utilities (Turnell, Vicary & Bradford 2008). For simplification of calculation, we assume that household's autonomous consumption (A) is provided internally and equals the average autonomous consumption per person (a) multiplied by a number of household members currently living in a country:

$$A = (k + n - m)a \quad (7)$$

where k denotes a number of economically inactive members of household, n denotes number of economically active members, m denotes number of labor emigrants in household

So the disposable income for households with labor emigrants equals:

$$DisI = m * r + (n - m) * y - (n - m + k) * a \quad (8)$$

$n-m$ denotes a number of domestically employed members, r denotes remittances sent by one emigrant, y denotes a salary of one domestically employed household member.

As the departure of one or more household members decreases autonomous consumption, it eventually increases the disposable income:

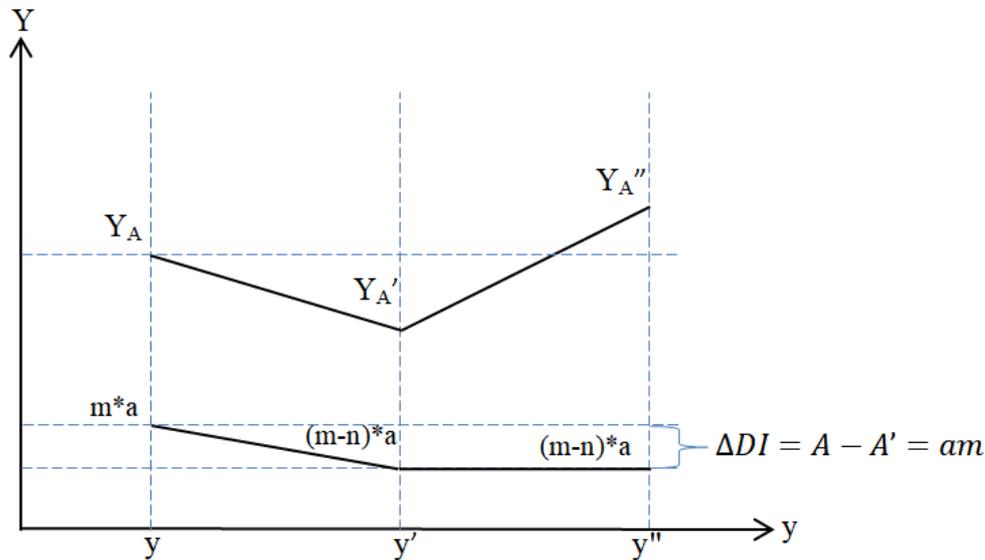


Fig. 3. The change of household's disposable income due to emigration

As we previously assumed that autonomous consumption is supplied internally, its transition into disposable income will cause a decrease in internal consumption for the amount of autonomous consumption and thus in GDP.

The equation for estimating the departure effect is quite simple:

$$\Delta GDP_d = m * a$$

where ΔGDP_d denotes departure effect.

Therefore, an emigration effect on a country's economy consists of remittances' effect, which is positive, and departure effect, which is negative:

$$\Delta GDP = \Delta GDP_R - \Delta GDP_d \quad (9)$$

$$\Delta GDP = R * \left(\frac{1 - MPC * MPM}{1 - MPC * (1 - MPM)} \right) - m * a \quad (10)$$

or

$$\Delta GDP = \frac{R * \left(\frac{1 - MPC * MPM}{1 - MPC * (1 - MPM)} \right) - m * a}{GDP} \times 100 \% \quad (11)$$

The first equation provides estimation in absolute numbers and the second in per cents relatively GDP.

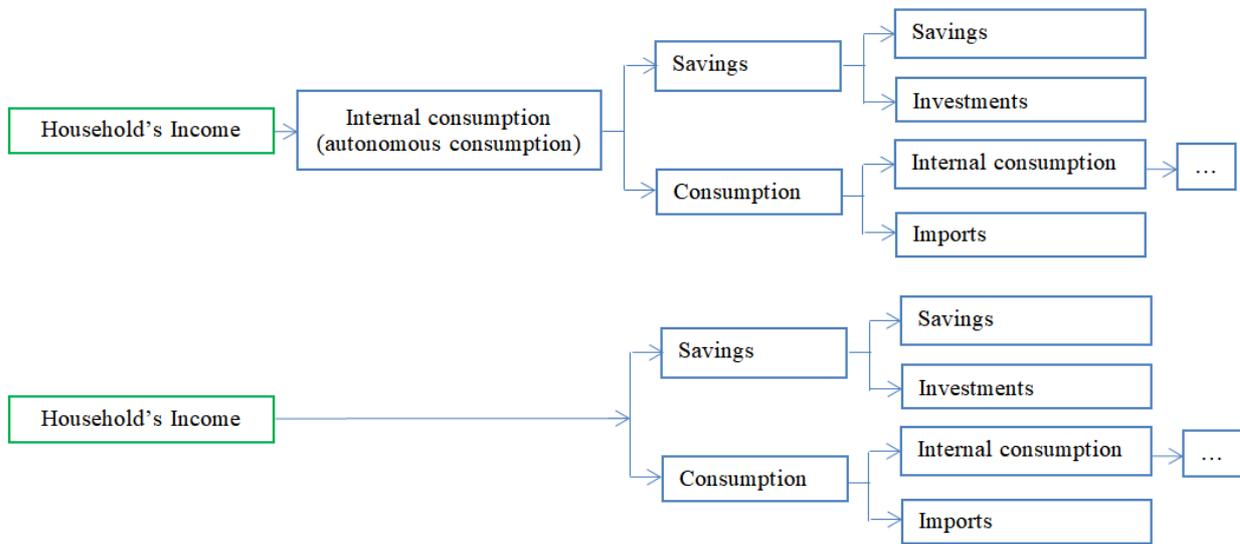


Fig. 4. Household's spending structure with autonomous consumption and without considering multiplier effect

Conclusions

The study provides a theoretical explanation of labor emigration's impact on the economy of sending country. Emigration affects the country's GDP by departure effect and remittances effect.

The departure effect occurs when the migrant leaves the country. Thus autonomous consumption is decreasing, so the disposable income of household rises. This led to the change in household's consumption structure, but GDP loses the amount equivalent autonomous consumption of emigrant.

The remittances effect increases the disposable income for its whole amount in the economy, which is not at full employment. Remittances, when received, are spent on internal consumption, imports, and savings. The increase in internal consumption is accompanied by the multiplier effect. The GDP rises for the amount of internal consumption and savings.

The overall impact of labor emigration on sending country is calculated as a difference between positive remittances effect and negative departure effect.

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ASSESSMENT OF THE COMPETITIVENESS OF THE TOURIST DESTINATION

Abstract. The tourism industry, which has shown exceptionally high rates of development in recent decades in the world economy, allows tourist destinations, which usually have limited resources for industrial development, to achieve income levels in industrialized regions, and with a balanced and effective government policy even overcome the effects of socio-economic crises. individual countries. One of the conditions for the successful existence of a tourist destination is the need to constantly monitor the level of its competitiveness by various criteria to identify strengths and weaknesses and, accordingly, to develop tactics and strategies for the development of the industry at different levels of management. The main criteria for the competitiveness of the destination is the compliance of the main tourist product of the territory to the needs of consumers. Various methods are used to assess the potential of tourist destinations, based on the defined capacity of the territories and the relationship to its potential, the load on resources and infrastructure, the definition of climatic, natural locations, economic indicators, etc. The definition of methods as a result of competitive analysis is the basis for building a reputable strategy for the development of the destination and subsequent vectors of positioning and the tourist world arena. Namely, it is expressed in the fact that as a result of the measures taken to manage the reputation management of the tourist destination, the competitive environment improves, the market develops, the infrastructure improves, which leads to the competitiveness of the tourist destination.

Key words: reputation management of a tourist destination, competitive tourist destination, tourist destination, reputation of a tourist destination

Formulation of the problem.

Consideration of the competitiveness of a tourist destination is of interest to different

categories of users of this information. For state bodies of tourism management (Ministry of Economic Development and Trade, which includes the Department of Tourism and Resorts) assessment of the competitiveness of a tourist destination is important in terms of prospects for the development of this destination, comparative characteristics of the competitiveness of destinations [15]. Regional tourism authorities, having received an assessment of the competitiveness of a tourist destination, can use it in developing a strategy for destination development, identifying “bottlenecks” for tourism development, in developing tourism development projects in this destination. Potential investors who consider tourism as one of the possible areas of investment can use the assessment of the competitiveness of the tourist destination when making investment decisions.

Relevance of the chosen topic

The reputation of a tourist destination is formed under the influence of many factors and gives a holistic understanding of the visual perception of a tourist destination and its competitiveness in the world market. Accordingly, and a steady increase in tourist flows. According to WTO experts before the global tourism pause caused by the pandemic, the WTO in 2018, the total annual growth of tourist flows varied by an average of 7 %, and revenues from them – about \$ 1.6 trillion. For national tourism as a destination, there were less positive trends. According to the State Border Guard Service for 9 months of 2018, Ukraine was visited by + 6.5 % of foreigners and stateless persons more than for the

same period in 2017. But it should be noted that for the 1st half of 2019 there was a slight decrease (-5, 6 %) the number of entries from border countries, compared to the same period last year. This is explained by the fact that the leaders in the number of entrances of foreigners to Ukraine have historically been border countries, the share of which since 2018 is gradually decreasing from 85.5 % to 80.7 %, which, among other things, due to the introduction of 01.01.2018 amendments to the Customs Code of Ukraine, which significantly limit the duty - free crossing of goods across the border [7]. Nevertheless, in 2019, Ukraine was visited by 14.5 million tourists, and in 2018 – 14.4 million. These are WTO data [3]. Although growth is observed, but very small. This indicates that the reputation of the regional national tourist destination, in turn, is poorly developed and has weaknesses. In addition to the imperfect political and economic situation and the current state of the global pandemic, there is a lack of effective tourism strategic planning, insufficient brand promotion and, as a result, unrecognizability, regional fragmentation and lack of integrity. This is also confirmed by the statistics of the World Economic Forum for 2019, where according to the index of tourism competitiveness of tourism, Ukraine ranks - 78th place out of 140 positions, between Sri Lanka and Armenia. While in 2017 it took 88th place [4]. In recent years, there has been a trend of low ratings. From this we conclude that the reputational management of a regional tourist destination is quite low and uncompetitive, despite the rich potential and resources of the country, and no less promising tourist destination on the tourist map of the world than European tourist destinations. That is why the reputation management of a tourist destination needs to be improved at all levels.

But it should be noted that the tourism industry is currently experiencing the deepest crisis with a drop in international arrivals by 74% in 2020. The collapse of international travel is estimated at a loss of export revenues of 1.3 trillion. Dol. US, more than 11 times the losses recorded during the global economic crisis of 2009.

The overall prospects for recovery in 2021 seem to have deteriorated. Currently, 50 % of respondents expect that the recovery will take place only in 2022 compared to 21 % in October 2020. The remaining half of respondents still see a

potential rebound in 2021, although below the expected results of the survey conducted in October 2020 (79 % expected a recovery in 2021) according to the tourist barometer [2].

And one of the conditions for the successful existence and development of a tourist destination is the need to constantly monitor the level of its competitiveness by various criteria to identify strengths and weaknesses and, accordingly, to develop tactics and strategies for industry development at different levels of management.

The purpose and objectives of the article to determine the process of evaluating a tourist destination.

Presentation of the main material of the study and the results obtained

The basis of the tourist destination competitiveness management system is a quality tourist product, which is the main purpose of the tourist destination competitiveness management system, and all management decisions should be evaluated in terms of their impact on this indicator [5, p. 158].

The basis for the formation of management of the competitiveness of a tourist destination is a model of integration of interconnected functional blocks of management (education, research and development, economic and legal support, marketing) in a single independent economic process (Fig. 1), which creates competitive advantages of the destination management decisions.

The mechanism of functioning of the system determines the location of each element of the system, ie sets its hierarchy. The mechanism of the proposed system (Fig. 1) has a complex structure (principles, goals, management tasks, functions, methods, competencies, mechanisms), represented by the interaction of different blocks.

The main element of the infographic system for managing the competitiveness of the destination (Fig. 1) is the mechanism of formation of competitive advantages of the destination. The mechanism of our proposed competitiveness management system is aimed at maximizing the competitiveness of the tourist product and meeting the needs of the population by optimizing the structure of the distribution of tourist resources in the destination.

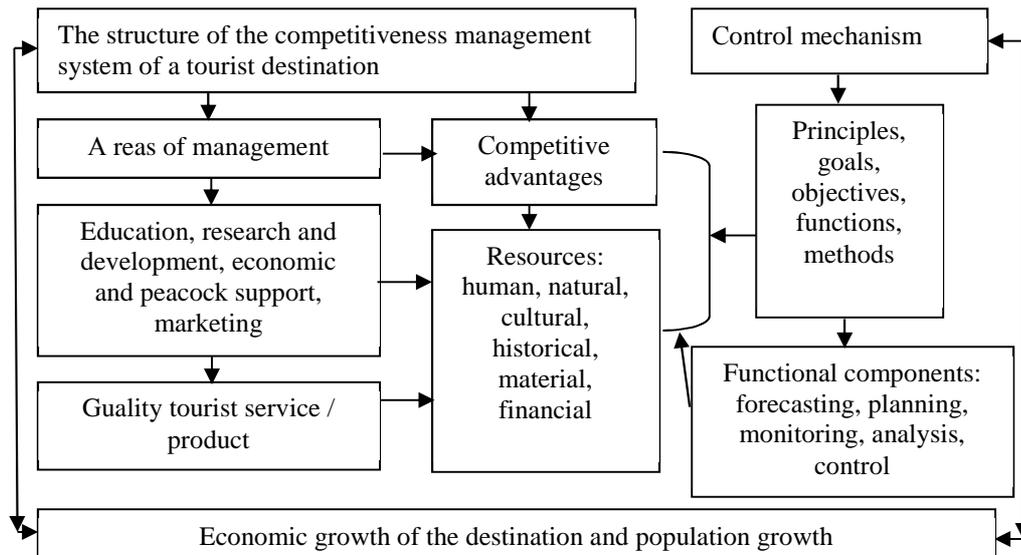


Fig. 1 Infoology of the tourist destination competitiveness management system

Source: developed by the author

The mechanism highlights the structural interaction of functional components (forecasting, planning, organization, monitoring, analysis and control), which allows to improve the relationship of system elements while increasing the positive impact of external and internal factors. [10]

The most widely presented in the literature is the cluster concept of competitiveness of the territory, which is based on the fact that the competitiveness of the territory depends on the presence of a cluster of interconnected industries. The concept is based on the system of determinants of international competitiveness of M. Porter, which together are called by him a cluster of interconnected industries. M. Porter defines a cluster as a geographically close group of related companies and interacting institutions in a specific area related to communities and complementarities. According to M. Porter, the presence of competing firms, industries, suppliers of resources and consumers in the cluster gives the economy of a region or a country the ability to compete internationally. The cluster type of economic organization allows to create integrated competitive advantages due to the following factors:

- creation of general and specialized production infrastructure taking into account the optimal spatial location of productive forces and factors of production;

- creating conditions for economic growth and minimizing costs through the production concentration of the economy;

- creation of favorable conditions for the development of both specialization and infrastructure industries;

- stimulation of competition and innovative activity of business structures within the cluster, increase the efficiency of their activities, increase productivity;

- creating favorable conditions for attracting investment and skilled labor.

The term “cluster” is used in many sciences. In a general sense, a cluster is a set of elements combined on a certain basis into a structure that has certain (common) properties. The definition of this feature in a large and complex system is one of the main and complex points and, as a rule, is a subjective factor that depends on the direction of the study and the researcher. And the more complex the system, the more difficult it is to determine this feature by which to combine elements into a given class (cluster). But, of course, the more correctly this feature is defined, the better (more adequate) the result will be, ie the cluster will be formed more correctly.

In the scientific economic literature, there are many well-established approaches in determining the attribute by which the elements are combined

into a class (cluster), but the question of determining the “proximity” of the elements remains open.

The idea of clustering is the basis for the development of modern strategies for tourism development. A tourism cluster is a group of interconnected resources, factors, enterprises concentrated on a certain territory, which are necessary or desirable for the development of a certain type of tourism, contribute to meeting the needs of tourists depending on the motive of travel [11].

As can be seen from the definition, the concept of cluster is consistent with the concept of tourist destination, ie, the destination may consist of different clusters. For a qualitative study of this area it is necessary to apply the method of decomposition, ie in a tourist destination to allocate its components – tourist clusters. This is necessary because different destinations and types of tourism can develop in the destination, which, as a rule, mutually exclude the use of the same infrastructural resources of the territory.

For example, youth tourism, and leisure tourism – family tourism (business tourism, education, health, etc.; you can continue this list of types of tourism). In this case, there are conflicts of interest of different segments of tourists. This situation is observed, for example, in a known area (destination).

Sunny beach in Bulgaria. Sunny Beach was originally positioned as a destination for family vacations. At the moment, this area is being re-profiled (positioned) for the development of youth tourism and, of course, is not attractive for people who come to rest with children. Thus, as a tourist destination of sports and youth orientation, this area has not yet been formed, but loses its appeal to those tourists who created the main segment and defined this area as a tourist destination. In this situation, there may be an outflow of tourists in this segment, and a new segment will not be formed, because at first this area had a completely different attraction and will require a lot of resources to form this area as a tourist destination.

Therefore, the territory can and should have many tourist clusters, depending on the type and directions of tourism development, which are determined by the proximity indicator, which will form these clusters.

The division of a large destination into smaller segments that have different attractions (resources, infrastructure, socio-economic, political situation, etc.) allows you to better study and manage economic regions, increase their efficiency, competitiveness.

The tourism industry includes various companies that do not necessarily compete directly with each other. The relationship between competition and economic coordination of tourism market participants is extremely important, because the successful development of tourism in the destination involves close cooperation between different market participants who do not compete directly.

One of the most important tasks is to increase the competitiveness of the tourist destination. The competitiveness of a tourist destination must be considered using the destination life cycle model, taking into account the competitive profile at each of these stages. A.R. As part of the task of managing competitive advantage in the implementation of industrial policy at the meso level, Safiullin proposes to use three stages (phases) of managing competitive advantage:

- configuration of the competitive profile,
- analysis of competitive positions,
- development and preparation for implementation of the program of strategy of development of competitive advantages [12]

When considering the issues of increasing the competitiveness of a tourist destination, it is proposed to introduce three more stages:

- construction of the desired (ideal) competitive profile of the destination taking into account its life cycle,
- assessment of the costs of achieving the desired and actually achievable competitive profile,
- development of the project of formation of really achievable competitive profile.

When considering competition between destinations, it should be noted that one of the most significant forces is the influence of the local population on the development of tourism.

To date, there are a wide variety of theories for assessing the level of competitiveness of the tourism industry in general, and tourist destinations in particular, most of which are based on general industry models of competitiveness or models of competitiveness of the national economy as a whole.

However, a number of modern tourism researchers have developed their own tourism models for assessing the level of competitiveness, among which the Ritchie-Crouch model is important, which was proposed by scientists in 1999, and later in 2003 was supplemented.

Table 1

Component assessments of the level of competitiveness of a tourist destination according to the Ritchie-Crow model

№ p / p	Group of indicators	Indexes
1.	Qualification and reinforcement indicators	1. Destination location
		2. Tourist security and protection system
		3. Cost and price of a tourist destination
		4. Interdependence
		5. The image of a tourist destination
		6. Capacity of a tourist destination
2.	Policy, planning and development of a tourist destination	1. Tourist destination definition system
		2. Philosophy and tourist values
		3. A look at a tourist destination
		4. Positioning and branding
		5. Development
		6. Analysis of the competitive environment
		7. Monitoring and evaluation
		8. Audit of the state of the tourist destination
3.	Tourist destination management	1. Organization
		2. Marketing
		3. Quality of services and experience
		4. Information system and research of tourist destination development
		5. Human resource management
		6. Finance and venture capital
		7. Visitor management
		8. Management of tourist resources
		9. Crisis management
4.	The main resources and objects of attraction of tourists	1. Geographical conditions and climate
		2. Cultural and historical resources
		3. A set of activities developing within a tourist destination
		4. Special tourist events
		5. Entertainment system
		6. Tourist superstructure
		7. Marketing links
5.	Supporting factors and resources	1. Infrastructure
		2. Availability of a tourist destination
		3. Service resources
		4. Hospitality system
		5. Entrepreneurial environment
		6. Political will

Source: [8]

The Ritchie-Crow model is based on the concept that the competitiveness of a tourist destination is determined by the level of resource availability (comparative advantage), as well as its ability to allocate resources (competitive advantage). In addition, the model recognizes the impact of

competitive microenvironment and factors of the global macroenvironment (the state of the global economy, terrorism, cultural and demographic trends, etc.) on the state and development of the tourist destination.

This model of competitiveness can be adapted to the peculiarities of the functioning of any tourist destination. It is very flexible and simple enough to assess the level of competitiveness of a tourist destination in order to develop an effective policy for the management of the tourism industry as a whole. However, one of the disadvantages of this model is its certain abstractness and the impossibility of quantitative measurement of all its components [8].

M. Porter's Diamond Model is often mentioned in Ukrainian scientific sources on competitiveness issues. The model is a component of the theory of structural competitiveness of nations, combines and organizes the main factors that allow countries (large regions), and therefore their businesses to be successful in certain sectors of the economy. Factors are grouped into four main interrelated categories and form a system capable of self-reinforcement, in which the level of change in each group depends to a greater or lesser extent on changes in other groups [13].

Ü *1 group.* Strategy, structure and competition of firms. The existence of strong industries helps to stimulate increased competitiveness in the sector. Inter-firm competition forces all firms in the sector to lower prices, improve quality, design new services and apply new creative strategies aimed at increasing market share.

Ü *2 groups.* Demand conditions, in particular its size and nature, can put pressure on business and thus ensure the innovation of goods and services.

Ü *3 groups.* Related support industries. We are talking about the presence or absence of suppliers from other market sectors that cooperate or provide services to companies in the tourism market. These providers are considered a source of benefits if they provide their services economically and efficiently.

Ü *4 groups.* Factor conditions. Unlike his predecessors, M. Porter argues that key factors of production are created, not inherited. Such factors include human resources, capital and infrastructure and argue that these factors form a stable

competitive advantage, because it is extremely difficult to copy them.

The optimal combination of these factors is possible, according to M. Porter, in the cluster – the geographical concentration of interdependent companies, suppliers of goods and services and associated organizations in a particular industry [13].

It is this opinion of the American specialist that formed the basis of numerous scientific researches of Ukrainian scientists devoted to tourism. In the works of P V Hudzia, I. V. Berezhno, I. Yu. Shvets and their followers developed conceptual principles, models, methods of creation and development of tourist and recreational clusters in Ukraine [1, 6, 14]. In addition, several local programs for the development of tourist and resort-recreational clusters are being implemented in Ukraine.

Meanwhile, foreign scientific schools tend to consider the ideas of M. Porter in the context of existing tourist destinations, developing on their basis specific “tourist” models. According to G. Crouch and J. Richie, who in the late 20th century for the first time made a theoretical justification for the market development of tourism, in order to ensure long-term competitiveness of a tourist destination, it is necessary to have both comparative and competitive advantages [19]. Researchers explain that in tourism as comparative advantages are mainly natural resources (climate, landscapes, flora, fauna, etc.), while competitive advantages include elements of tourist infrastructure (hotels, historical and cultural monuments, transport network), events, quality local government, marketing effectiveness, qualification of tourism workers, government policy and local government. In other words, rich natural resources alone are not a sufficient guarantee of long-term success. The destination must also be able to use its assets efficiently, providing value-added production.

In the domestic scientific literature, the competitiveness of the destination is directly related to the quantitative and qualitative parameters of the resource base, the ability of local enterprises to provide the necessary goods and services to tourists of a certain quality, transport accessibility. Western scholars go further, linking competitiveness not only with the quality or variety of the tour product, but also with the difference in prices in combination

with exchange rate fluctuations, productivity, the degree of coordination of local market actors, which in turn affects attractiveness or lack thereof in the destination. In addition, competitiveness is also defined as “the ability of a destination not only to maintain its position in the market through the sharing of resources by many entities, but also to strengthen these positions over time” [18].

Consider in more detail the Crouch-Richie model, which is not only the result of research in the field of tourism for more than ten years, but also a response to the growing competition between tourist destinations around the world. The model was launched in 1993 and was initially purely descriptive. Later, in response to attempts to adapt to changes in the competitive environment, it evolved and became more complicated. Thus, according to the authors of the model, competitiveness can be considered as a set of factors, the first of which is, of course, the attractiveness of the destination.

There are a number of factors that play an important role in attracting tourists to the destination, such as its appearance, culture, action, entertainment, as well as the so-called superstructure, which includes all public and private organizations that regulate, develop and coordinate tourism.

The second group of factors traditionally consists of resources and infrastructure, without which the development of tourism is impossible, and the third – the management system formed in the destination, including marketing, existing initiatives, organizational structure, information systems, human resources, quality of service, without which it is impossible exploitation of factors of the second group. The fourth group of factors is closely related to the third, because the authors of the model believe that it includes the policy of planning and development of the destination, which forms the environment of its existence.

Finally, the latter group are constraints and amplifiers that can affect the competitive potential of tourist destinations, such as security, information, image, brand, value for money.

American researcher S. Hassan adds to the model two more factors that affect the system, namely the competitive environment within the destination, ie the factors that determine competition between local tourism market, the media, financial institutions, etc. and the competitive environment at

the macro level – the state of the environment, demographic trends, the economic situation in the country and the world, the introduction of new technologies, etc. [18].

Following the work of Richie and Crouch at the beginning of the 21st century, the works of the Australian researcher L. Dwyer and the Korean scientist C. Kim [12, 13] appeared, who proposed an improved version of the Richie and Crouch model and thus tried to better take into account connections between different factors within the destination. In addition, the authors of the model came up with a rather revolutionary opinion that the determinants of competitiveness for each destination can be very different, so the destination should seek an individual approach to strengthening and developing tourism competitiveness, rather than adapting a single universal policy or strategy. It is necessary to pay attention to the peculiarities of the application of the model of destination competitiveness, the relevance and importance of its key variables at different stages of the life cycle [12].

Thus, according to this model, the determining factors for the competitiveness of a tourist destination can be considered [12]:

1. Inherited resources of the area where the destination is located, including natural and historical and cultural resources, because they determine the primary interest of tourists to the destination

2. Specially created for the development of tourism resources, which include:

- tourist infrastructure facilities, including accommodation, food, transport, tour operators and travel agents, car rental, etc.;
- special sports and leisure activities;
- leisure and entertainment facilities that are not specialized in tourism, but can attract tourists;
- trade establishments.

3. Additional factors and resources that can provide a basis for sustainable competitiveness of tourist destinations. This subgroup includes:

- institutions of general infrastructure: roads, airports, bus and railway networks, water supply, telecommunications, electricity, financial system, etc.;
- generally accepted on the territory of service quality standards, which in themselves can both strengthen the competitive advantages of the

destination and weaken them. It is important that the average level of service quality corresponds to this in the imagination of tourists and in their previous tourist experience. In this case, it is possible that a tourist destination with high quality standards but also high, according to the consumer, these of us, will be less competitive than where the quality leaves much to be desired, but the prices are reasonable for potential tourists;

- availability of the destination – another key factor of competitiveness, which includes the availability of the visa procedure, airport capacity, etc.;

- hospitality of the local population – according to the authors, one of the key social factors influencing the competitiveness of tourist destinations;

- external relations – a category that covers trade relations, migration flows, cultural relations, etc.

4. Destination management: this group includes those factors that can make resources more attractive and improve the quality and efficiency of other factors.

In addition, these factors allow destinations to adapt quickly to situational changes. According to the model, destination management includes five activities:

- destination marketing management: this category means activities for the development of new products, these new policies, as well as the creation of appropriate distribution channels. It also includes research, market segmentation and destination image building. This task must be agreed with the public and the private sector of the tourism business;

- destination planning and development policy, ie norms, laws and guidelines, goals, objectives and strategies that together contribute to the realization of the interests of enterprises and individuals in the destination;

- organization of destination management, in particular coordination between public and private sectors, provision of information on various aspects of destination tourism development, strategic control;

- development of human resources, because they play an important role in increasing the competitiveness of tourist destinations. The training system and the average level of qualification of tourist personnel determine the possible degree of

adaptation to technological, organizational and social changes in the environment;

- environmental management: management of natural resources, including – education of local people in understanding the importance of preserving the environment is a key factor in ensuring the competitiveness of tourist destinations in the long run, because in tourism more than in any other industry, product quality is closely related to the quality of the environment.

5. Situational conditions are able to define the boundaries or increase the competitive potential of the destination. These include:

- location of the destination, ie geographical location relative to the leading territorial markets for the supply of tourists;

- competitiveness of the microenvironment – opportunities and resources of enterprises and organizations located in the destination, their strategies and alliances;

- macro environment of the destination;

- security: political instability, crime, terrorism, disease, etc.;

- prices, or the total cost of the “tourist experience”.

6. The nature of demand for the tourist product of the destination, the characteristics of the target segments [9].

Conclusions

Thus, a market economy involves the study of competitiveness in any field of activity, regardless of ownership and scale of activity. Competitive can be considered a tourist destination that is able to produce tourist products that are in demand in domestic and foreign markets, and on this basis to ensure economic growth and improve the welfare of the local population. Competitiveness of a tourist product is the main condition that distinguishes between the concepts of “tourist region” and “tourist destination”. To determine the level of competitiveness of a tourist destination, scientific models are used.

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ON THE PROBLEM OF HUMAN RESOURCES IN UKRAINIAN PRIVATE HEALTH CARE

Abstract. The article is devoted to the scientific analysis of human resources in the healthcare system of Ukraine, particularly in the private sector. The study is specifically concerned with the current staffing of the healthcare system of Ukraine with doctors and junior specialists with medical education. We analyzed the ratio of the main quantitative indicators of medical workforce in healthcare institutions of different forms of ownership, as well as the dynamics of indicators representing involvement of doctors of different specialties in the private healthcare practice. Acute issues concerning workforce in the private healthcare sector were identified and analysed, with a matter of pressing concern being inferior quality of professional training provided for medical staff. This research was aimed at substantiating the role of the state human resource policy in healthcare system and examining the political measures taken by the government in order to develop medical education and science, and to increase healthcare workforce potential. Conclusively, we formulated proposals regarding appropriate solutions to the human resource problems of the private healthcare service providers in Ukraine.

Key words: staffing, healthcare services, healthcare institution (HCI), private health care, medical workers, doctors, middle medical staff.

Statement of the problem

To increase the effectiveness of economic competition government should use not only controlling but also stimulating tools, the most important among which is the workforce supply for different sectors of the economy. One of such sectors is health care, especially, its private part, which significantly affects the competitive environment of the healthcare sector in the context of its reform.

The actuality of the research

Scientists and practitioners talk about the benefits of private health care. In our opinion, two main ones are to be highlighted: firstly, private institutions relieve the burden on public hospitals and clinics (especially during the COVID-19 pandemic), which has a positive impact on the healthcare system, and even saves it; secondly, thanks to the private healthcare services providers, the consumer has received an alternative and can exercise the right of consumer choice. Thus,

customer focus, availability, and efficiency of medical services, quality equipment, and facilities are the benefits that public healthcare institutions, as opposed to the private sector, are currently unable to offer to the patient.

Today we witness the development of private health care market. The crisis of public health care, the imperfection of its reform, chronic lack of budget funding for public health programs, as well as growing domestic demand for medical services due to pandemic of COVID-19 catalyzes the growth of private healthcare facilities in both highly urbanized areas of the country and small towns. According to experts, the share of the private medical market in health care in Ukraine is 10–15 % (according to the World Bank and the EBRD – up to 4 %). For comparison, in 2012 it was only 1 %.

Despite some positive market trends, some factors hinder the further development of the private medical market. Among the main ones is the problem of staffing in the healthcare market. It is especially relevant for the private sector, as there are higher requirements for professional training than in public healthcare facilities. All these factors determine the actuality of this research within the context of the competition policy which is currently formed in the sphere of health care.

Analysis of recent research and publications

Due to the importance of meeting the vital needs and ensuring the socio-economic stability of the state and society as a whole, health care is the object of attention of many scientists and practitioners. A significant role in the study of the problems of human resource supply in health care belongs to O. Gutsalyuk, who proposes some approaches to staffing the health care sector of Ukraine during the reformation of the industry [2]. O. Volosovets, V. Zabolotko, A. Volosovets analyze the current staffing of health care institutions in Ukraine and compare it with the world and European indicators [3]. I. Mazur, K. Naduty, A. Ananieva analyze the human resource potential of health care in Ukraine [4]. O. Limeshko studies the peculiarities of the medical staff recruitment procedure in Ukraine [5] etc.

It should be noted that researchers of the workforce in health care mainly analyze the staffing

in the national health care sector in general. However, facing the importance of the private healthcare sector for the progress of this industry, we need to focus on the problem of the workforce supply of private healthcare providers.

Setting goals and objectives

The current study aims to analyze human resources supply in Ukrainian private health care. To achieve the goal we need:

- to consider the workforce supply of the healthcare system of Ukraine with doctors and middle medical staff, in particular, to analyze the ratio of the main quantitative indicators of medical workers supply in the healthcare providers of different forms of ownership;
- to determine the current problems of staffing the market of private health care, to analyze the dynamics of indicators of involvement in the private medical practice of doctors of different specialties;
- to consider the main measures of state policy in medical education, science, and development of medical personnel;
- to propose the solution to problems of staffing of the private health care clinics in Ukraine.

Presentation of the results

Medical personnel is an important strategic capital of the state. About 70 % of all healthcare investments in the world go to human resources.

The staffing situation in the healthcare sector of Ukraine has deteriorated significantly over the last decade. According to the Center for Medical Statistics of the Ministry of Health of Ukraine, by the end of 2020, medical care in health care facilities of all forms of ownership had been provided by 488.360 medical workers, of which 179.602 were doctors of all specialties and 308.758 middle medical workers [6, p. 55]. Over 10 years, the number of working doctors decreased by 45.274 person (– 20 %), and middle medical workers – by 158 thousand person (– 33.9 %) (Fig. 1).

In recent years, a steady trend towards the decreasing the number of nationally trained medical personnel in Ukraine has been observed. Since 2014, the health care sector has lost an average of 12.744 health workers per year (Table 1).

On the problem of human resources in ukrainian private health care

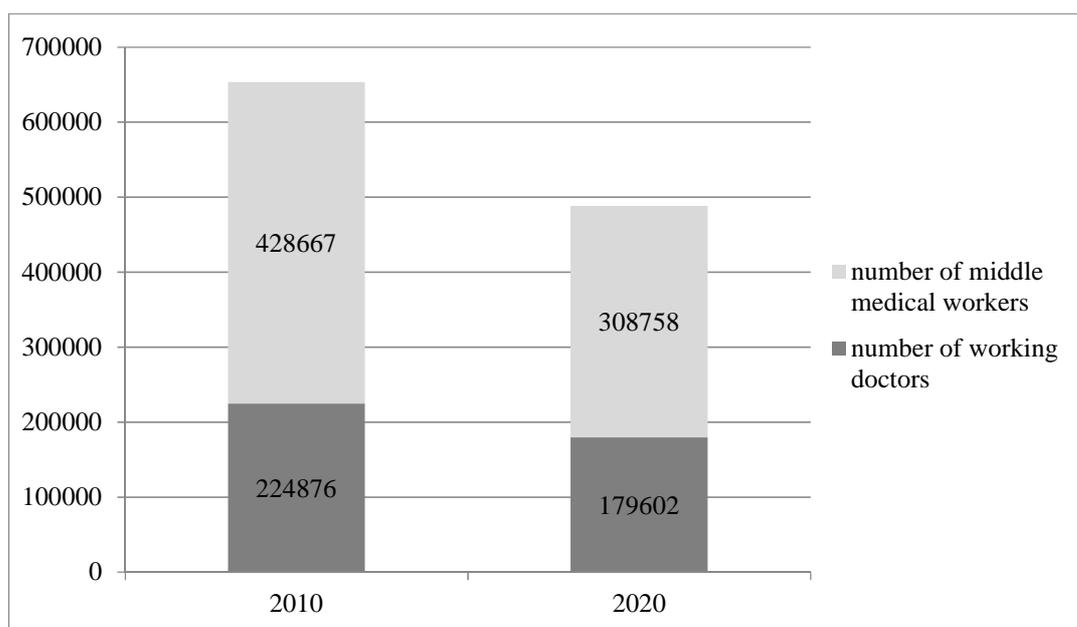


Fig. 1. Comparative analysis of the number of medical workers in Ukraine in 2010 and 2020

Source: Based on the data of the statistical reference book of the Center for Medical Statistics of the Ministry of Health of Ukraine [6, p. 56–57].

Table 1

Quantitative indicators of staffing the health care in Ukraine in 2014–2020

Number	Year						
	2014	2015	2016	2017	2018	2019	2020
Total number of medical staff, of them:	564825	557970	553532	546594	531039	515035	488360
1) doctors in health care providers of all forms of ownership,	185945	186234	186776	186178	185675	184713	179602
including doctors in private health care providers;	13549	14063	15504	16671	18844	20563	22382
2) middle medical staff in health care providers all forms of ownership,	378880	371736	366756	360416	345364	330322	308758
including middle medical staff in private health care providers	11875	11862	12889	14239	16367	18754	20421

Source: Based on the data of the statistical reference book of the Center for Medical Statistics of the Ministry of Health of Ukraine [7].

From 2016 to 2019, the number of working doctors in the health care sector decreased annually by an average of 688 person and the number of middle medical workers – by an average of 12.144 person. And in 2020, the reduction in the number of health workers reached a record high: – 5.111 doctors and – 21.564 middle medical staff. We assume that such decline is caused by the COVID-19 pandemic.

Regarding the assessment of the density of medical staff in Ukraine on the whole and from the territorial aspect, we have the following indicators in 2020:

– there are 24.2 doctors per 10 thousand people in healthcare facilities (excluding managers and their deputies, dentists, statisticians, methodologists, etc.) [6, p. 23]. For comparison, according to the WHO, the quantity of doctors

per 10 thousand people in the European region is 34.1 [8];

– the lowest density of both practicing doctors and middle medical workers was observed in Donetsk, Mykolaiv, Kherson, Kyiv, and Zakarpattia regions [6, p. 23, 26];

– meanwhile, the highest density of practicing doctors and middle medical workers is observed in Ivano-Frankivsk, Ternopil, Lviv, Khmelnytsky, Vinnytsia, and Poltava regions [6, p. 23, 26].

In contrast to the Ukrainian trend towards decreasing number of doctors in OECD countries, there is a gradual increase in their number compared to 2000, mainly due to the growth of university medical faculty graduates in these countries. That became possible because of government decisions to increase the enrollment of students in the relevant profile in response to the current shortage of doctors in most developed countries [3, p. 24].

In Ukraine, there is no balance between the increasing number of employees leaving the health care sector and the annual number of medical graduates. The reduction of human resources for health care and medical training has been observed since 2017. The personnel reserve of medical students in Ukraine is no longer sufficient to replace the medical staff of retirement age. The ratio of medical school entrants and doctors of retirement age is about one to three, and the correlation between nursing school entrants and working middle medical staff retirees is one to four. [9, p. 5]. At the same time, the share of foreign students who receive higher medical education in medical specialties is growing every year. In 2018, the total number of foreign entrants to the medical school for the first time exceeded the number of Ukrainian entrants. As a result, the industry's staffing figures are likely to decline further.

The problem of staffing the market of medical services is exacerbated by external workforce migration. There are no official data on the number of Ukrainian doctors going abroad. However, it is well known that Ukraine has been an important provider of medical personnel for many EU countries for many years. Migration intensified in 2020 when in response to the COVID-19 pandemic,

many European countries took steps to attract internationally trained medical professionals to meet the growing demand for health services.

Thus, the current state of staffing the health care sector in Ukraine is characterized by a constant decrease in the number of medical workers, respectively, and the number of practicing doctors and middle medical workers; reduction of medical training in higher education and postgraduate education institutions; uncontrolled processes of migration of medical workers from Ukraine to other countries. As a result, a shortage of staff in public health care facilities (at the end of 2020, the staffing of full-time medical positions by physicians was 81 %, middle medical workers – 88.5 %) is observed. [6, p. 56–57].

However, in the private sector, we can see the opposite trend. The number of medical workers involved in private healthcare clinics is constantly growing (Fig. 2).

Since 2014, the average increase in healthcare workers in private healthcare facilities has been 2.896 person per year (1.472 doctors and 1.424 middle medical workers). At the end of 2020, in total 42.803 health workers were employed in the private sector, which is almost 41 % more than in 2014.

By the end of 2020, 12.5 % of doctors (22.382) and 6.6 % of middle medical workers (20.421) had been employed in the private sector. During 2010–2020, the proportion of staff working in the private sector more than doubled.

The analysis of staffing private medical institutions with doctors of different specialties shows that dentists and dermato-venereologists are most involved in the work here: at the end of 2020, 40 % of all dentists (8.940 out of 22.180) worked in private healthcare institutions, about 21 % of all dermatologists-venereologists (647 out of 3.127). Currently, psychiatrists and family doctors are the least involved in the private healthcare sector – 1.5 % and 2 %, respectively (Table 2).

In general, in private medical institutions, there is a tendency to increase the share of doctors of all specialties, except for oncologists (Fig. 3)

On the problem of human resources in ukrainian private health care

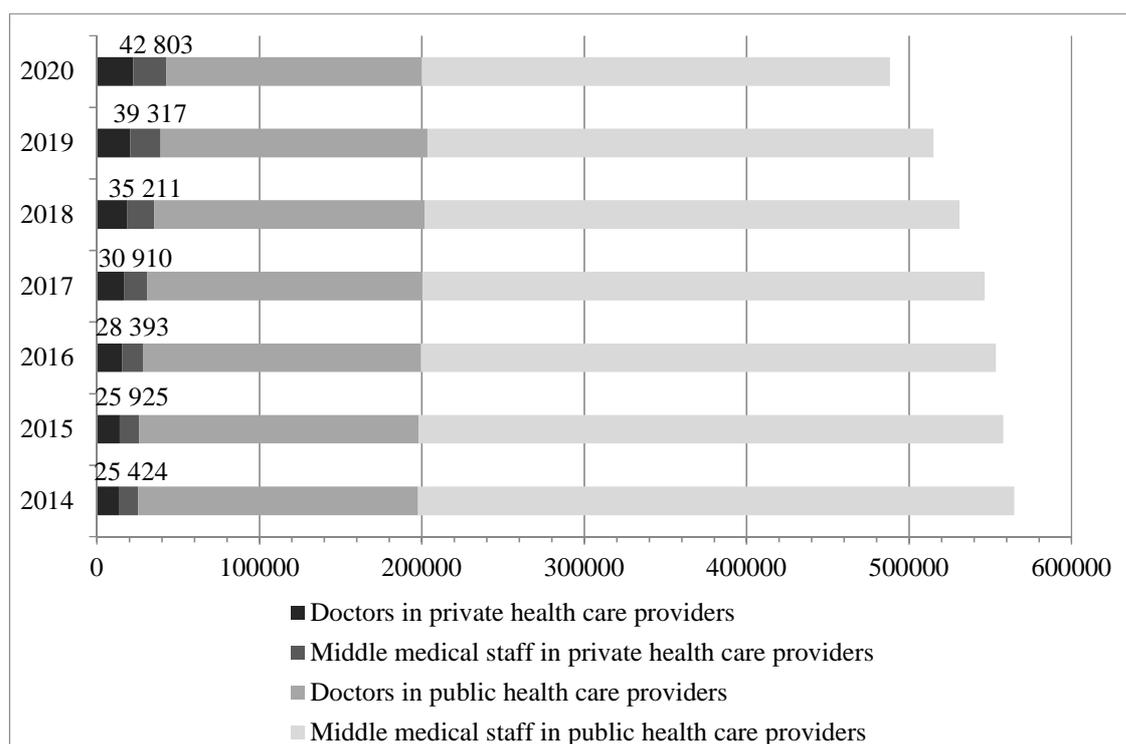


Fig. 2. Quantitative indicators of medical workers staffing in healthcare facilities of various forms of ownership in 2014–2020

Source: Based on the analysis of data of the statistical reference books of the Center for Medical Statistics of the Ministry of Health of Ukraine [7].

Table 2

Analysis of quantitative indicators of staffing the market of medical services by doctors of different specialties

Specialty	2018 year		2019 year		2020 year	
	in general in healthcare providers of all forms of ownership	in private healthcare providers	in general in healthcare providers of all forms of ownership	in private healthcare providers	in general in healthcare providers of all forms of ownership	in private healthcare providers
Total number of doctors, including:	185675	18844	184713	20563	179602	22382
Psychiatrists	3290	50	3211	47	3069	58
Family doctors	15197	303	15576	456	15557	646
Surgeons (whole group)	27652	1507	27854	1639	28363	2009
Pediatricians	8981	544	8966	636	8812	698
Physicians (whole group)	34960	2659	34455	2880	33551	3241
Oncologists	835	86	809	79	1916	175
Obstetricians - gynecologists	11398	1051	11248	1166	10871	1261
Dermato-venereologists	3327	598	3276	605	3127	647
Dentists	25651	8089	24622	8595	22180	8940

Source: Based on the data of the statistical reference book of the Center for Medical Statistics of the Ministry of Health of Ukraine [6, p. 55].

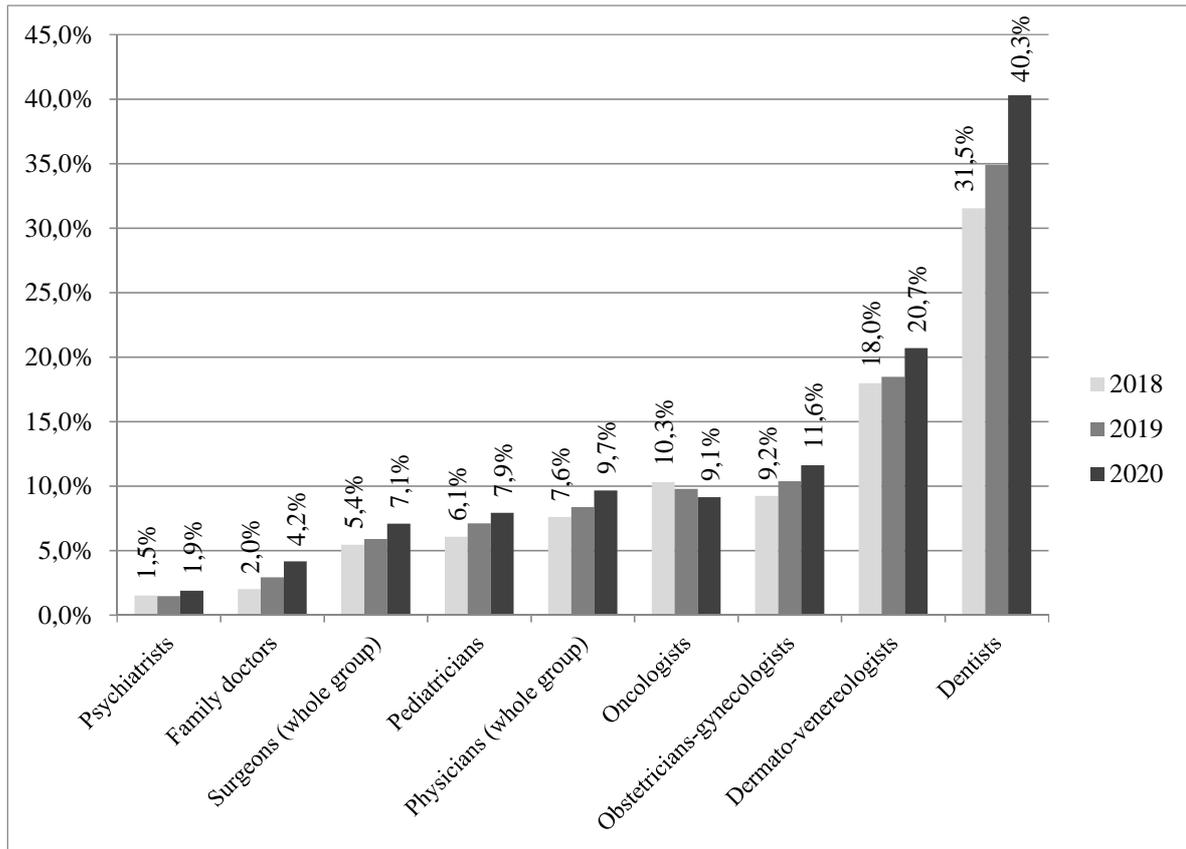


Fig. 3. Percentage of doctors working in private medical institutions in the total number of such professionals, 2016–2018

Source: Based on the analysis of data of the statistical reference books of the Center for Medical Statistics of the Ministry of Health of Ukraine [7].

The main problem of staffing health care is not the number of professionals but the quality of medical training. According to the results of our expert surveys, the heads of private institutions identify the quality of staff as a key factor in ensuring the competitiveness of health services. At the same time, they face insufficient satisfaction of the demand for medical staff, emphasizing the low general level of quality of professional knowledge of healthcare workers, which form the supply in the workforce market.

The international monitoring study of the quality of higher medical education, conducted in 2019, confirmed the severity of the problem of the medical training quality. The study used the International Foundations of Medicine (IFOM) test, which measures competence in the basic sciences relevant to medical practice. The average result of the tested 4th-year students of the medical school of Ukraine is 26.6 %, while the international

comparison group passed this test on average twice as well – 54 % [10]. This result demonstrates a significant difference in approaches to the training of doctors in Ukraine and abroad, indicates the isolation of medical education from global trends. The competencies that students acquire are not always relevant due to the lack of international experience among the teaching staff and facilities necessary for effective preparation for the international component of the Unified State Qualification Exam.

It should be noted that the government is taking some systematic steps to solve the problem of the medical training quality in Ukraine. In 2016, following the Strategy for the Development of Medical Education in Ukraine, medical education, science, and human resources development policy was evolved. So, as a result:

- new increased admission requirements for entrants to medical schools have been established;

– under the best international practices, a new type of comprehensive attestation of medical students has been introduced – a unified state qualification exam, which includes not only a test of theoretical knowledge but also a practical exam, an international exam in medicine, and an English language exam; the bases of the introduction of doctors professional licensing are evolved;

– a new model of continuous professional development of medical workers was introduced, which, particularly, provides the requirement of mandatory training with a set of at least 50 BPD points per year, the abolition of the procedure of “certification”;

– a new model of ordering and internship has been developed, according to which internship enrollment will take place by electronic distribution and will depend on the graduate's rating score and his priority applications, regardless of the form of payment (contract or budget) for training.

In our opinion, one more advanced act was realized to improve the staffing of private healthcare clinics. Thus, in 2018, the Ministry of Health of Ukraine changed its approach to healthcare facilities management, taking into account that clinical competence and manager competence differ significantly. By order of the Ministry of Health of Ukraine № 1977 of October 31, 2018, changes were made to the National Classification of Occupations regarding the separation of functions of a director and medical director in a health care institution: the director of the institution is responsible for economic activities, and the medical director (chief physician) – only medical questions. We should remind that the profession of health care manager has not been singled out in Ukraine so far, and only medical doctors could become health care managers. It reduced the effectiveness of healthcare management.

It is too early to talk about the effectiveness of measures to improve the staffing of the medical services market. At present, Ukraine ranks 38th in the European region by the level of medical staff supply and is twice as low by the level of physicians supply in countries such as Slovakia, Hungary, Norway, and Italy [3].

Conclusions and prospects for further research

Thus, according to the results of the study of the human resources supply in health care of Ukraine, we state the presence of crisis phenomena, which not only reduces the competitiveness of the industry but also seriously threatens its viability. The general decrease in the quantitative indicators of staffing the healthcare system is due to the withdrawal from the national market of employees of public medical facilities. The private sector, on the other hand, is characterized by a steady increase in these indicators. However, the issue of the staff professional training quality remains acute, despite the government measures to improve medical education, science, and human resources.

In this regard, the state's efforts to staff private healthcare providers (as well as the industry in general), of course, should be strengthened to improve the quality of medical training. It is necessary to improve the internship procedure, which is excessively bureaucratic, non-transparent, and inefficient for staff motivation. Also, a new system of continuous professional development needs improvement (annual set of points due to formal or informal education) because it has no guaranteed funding. That's why doctors have to pay for training themselves, which is hardly affordable. The requirements for providers and contents of training programs should be improved, as well as the search the way to prevent falsifications during the professional training. Also, we need to increase the prestige of medical professions in society.

Given the European integration vector of Ukraine's development, it needs further research on human resources in health care using a comparative analysis of staffing the national health care system (the private and other sectors) with the workforce supply of the industry in the EU. But, as the national system of accounting of medical personnel overestimates the indicators of staffing because it includes specialties that are not taken into account according to the international classification. So, it is important to harmonize national statistical reporting with international standards ISCO-2008, which will simplify the comparison of Ukrainian data on

human resources with other countries and ensure the validity and reliability of research results.

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DIGITALIZATION OF HEALTHCARE SECTOR AS A TOOL FOR IMPLEMENTATION OF COMPETITION POLICY

Abstract. Competitiveness of modern states is increasingly dependent on the method and scope of using information-communications technologies (ICTs) in the economy and in the implementation of the states' care functions. The application of information-communications technologies (ICTs) in health care is of special importance due to observed dynamic changes taking place in social structures. The main factors contributing to the widespread use of information-communications technologies (ICTs) in health care include demographic changes, the increase in the duration of human life, the increase in health care expenditures, progress in medical science and the increase in patients' ability to use automated devices. The aim of this article is to characterize the main ideas forming the architecture of the Healthcare 4.0 concept and to place this concept in a broader perspective of the Industry 4.0 concept.

Key words: healthcare 4.0., public management, ICT

Health care in the face of challenges of technological transformation

The cultural changes taking place in the last decade of the twentieth century, resulting from the transition from an industrial civilization to a knowledge civilization (OECD 2020a) and the dominance of *information-communications technologies* (ICTs) have fundamentally affected not only the scope and quality of relationships between people, but also the conditions under which states, public entities and firms operate (Lindgren, 2017). The environment in which states, public entities and companies now compete is characterized by volatility, diversity, technological saturation and short economic cycles (Cavallone, Palumbo 2020). The new context of doing business and services implies the need to look at the success factors

of managing organizations differently from the previous ones (Vogelsang, Liere-Netheler, Packmohr, Hoppe, 2019). Indeed, *information-communications technologies* (ICTs) have become the most essential element in the global development of the knowledge economy. As such, they are seen as the main driver of the growth of competitiveness of countries and organizations in the global economy.

The ongoing transformation from an analogue to a digital society has become so intense in recent years that it was decided to distinguish it as a new era of socio-economic development, and it was given the name of the fourth industrial revolution - Industry 4.0 (Acseente, 2010). The characteristics of this era are: (1) widespread digitization and the provision of technical capabilities for the continuous communication of people with each other, people with devices and devices with each other; (2) the increasing implementation of so-called disruptive innovations that allow for leaps in productivity and efficiency of the socio-economic system and (3) the development of machines in such a way that they acquire the ability to undertake autonomous behavior through the use of "artificial intelligence" (AI) in their control process (Liao, Deschamps, Loures, & Ramos, 2017; Xu, Xu, & Li, 2018, Rejikumar, Raja Sreedharan, Arunprasad, Jinil Persis, & Sreeraj, 2019, [Philbeck & Davis, 2019](#)).

One of the many strong social trends that can be observed globally in recent years is the dynamic increase in public spending on health care on the one hand, and the measurable effects in the form of improved health condition of societies on the other. More and more often the literature discusses the results of studies that aim at demonstrating the

relationship between health improvement and technological changes. It is obvious that improvement in patients' health results from the impact of various factors, but the incorporation of new information and information technology solutions into routine medical practice is treated as one of the important factors contributing to this improvement.

As the European Union has recognized health as a value of paramount importance for the harmonious development of societies and identified it as one of the objectives of the cohesion policy, the European Commission has prepared economic, legal and awareness forms of assistance to Member States in their efforts to provide it to their citizens at the best possible level. This decision made it possible, among other things, to implement financial instruments to support cooperation on health care between EU countries. Under the cohesion fund, many billions of euros have been allocated to the development of actions taken to improve medical care, including digitisation and automation¹.

A measurable result of actions taken by the EU is the increasing use of Healthcare 4.0 solutions in the practice of healthcare systems and organizations operating in them as a consequence of the development of the Industry 4.0 concept.

From the Industry 4.0 concept to the Healthcare 4.0 concept

The concept of Healthcare 4.0. grew out of the fourth industrial revolution – Industry 4.0. Industry 4.0 is the name used to describe the system architecture and designed functionalities using value chain logic (Kim, Park, & Choi 2017). The term was originally used in Germany – Industry 4.0 – to name the new national industrial strategy prepared by the government of the Federal Republic of Germany (Kagermann, Wahlster, & Helbig, 2013, Kagermann, 2015). At the same time, similar terms appeared in other countries of the world, for example: Industrial Internet Connected Enterprise, Integrated Industry, Advanced Manufacturing Partnership, Smart Industry, Smart Manufacturing, Smart Factory, or Internet of Things for Manufacturing. Soon the name Industry 4.0 became a collective name for a new concept describing the principles of production of goods and services, which is characterized by moving towards digitization and automation of

production and service environments (Lee, Kao, & Yang 2014; Oesterreich & Teuteberg, 2016; Sreedharan & Unnikrishnan, 2017). It has been noted that industrial automation systems enable the creation of new and innovative functions through network and cyberspace access. Access to the network and cyberspace has enabled the creation of entirely new business frameworks, processes, and methods for implementing innovations. They will also affect the efficiency of organizations and how they are managed. Moreover, technologies such as IoT, cloud, blockchain, and Big Data can be integrated into organizations operating according to Industry 4.0 architecture to deliver smart services (Schaffers et al., 2011; Witkowski, 2017, Schuh et al., 2014; Trappey et al., 2017; Wang et al., 2016).

Industry 4.0 allows products, machines, components, people, and systems to form an intelligent network (Mrugalska & Wyrwicka, 2017; Sreedharan & Unnikrishnan, 2017; Kamble, Gunasekaran, & Gawankar, 2018; Kamble, Gunasekaran, & Sharma, 2018) that can integrate cyber-physical systems. It has also been noted that integration by combining information and physical memory with the smart grid allows for faster and more efficient customer service (Erol et al., 2016; Saldivar et al., 2015; Shafiq et al. 2016).

Industry 4.0 can deliver smarter services and make business processes in various sectors such as manufacturing, healthcare, agriculture, logistics, public sector, government institutions, higher education institutions and other business areas more efficient. Moreover, organizations can empower their customers by responding to their needs using facilities such as 3D printing, cloud applications, mobile devices, and Big Data, creating a whole new smart environment (Lobo, 2016; Hofmann & Rüsçh, 2017).

The basic building blocks of the Industry 4.0 system architecture are: *Internet of Things (IoT)*, *electronics/wearable devices*, *Big Data*, *mobile apps*, *blockchain*, and *artificial intelligence (AI)* (Maier, Emery, & Hilliard, 2001). Importantly, these elements integrate while providing *interoperability*, *decentralization*, *virtualization*, *modularity*, *services orientation* and *real-time capabilities*. The development of Industry 4.0 led to the emergence of systems dedicated to separate areas of functioning of social and economic

¹ https://ec.europa.eu/poland/news/210326_sante_pl

structures, for example, the public sector (Government 4.0), health care (Healthcare 4.0) or society (Society 5.0). For healthcare, the fourth industrial revolution has meant a fundamental modernization of the functional architecture assumptions from individual-distributed activities and processes to the widespread use of information

technology to create a more efficient system ensuring new quality and value for society. The concept of Healthcare 4.0 will be further discussed below due to the topic of the paper.

The concept of Healthcare 4.0 developed gradually as a response to the growing demand for efficient and less costly healthcare services.

Table 1

Transformation from Healthcare 1.0 to Healthcare 4.0

	Healthcare 1.0	Healthcare 2.0	Healthcare 3.0	Healthcare 4.0
Main objective	Improve efficiency and reduce paperwork	Improve data sharing and productivity	Provide patient-centered solutions	Provide real-time tracking and response solution
Focus	Simple automation	Connectivity with other organizations	Interactivity with patients	Integrated real-time monitoring, diagnostics with AI support
Information sharing	Within an organization	Within a cluster of healthcare providers	Within a country	Global healthcare supply chain
Key technologies Used	LIMS (laboratory instrument management system) and administrative systems	EDI (electronic data interchange) and cloud computing with HL7 messages for exchange	EMR, Big data, wearable devices, optimization system	IoT, Blockchain, AI, Data analytics
Limitations	Stand-alone systems with limited functionality	Sharing of critical information only but not interacting with patients	Different standards used within the community with limited interoperability	New and untested technologies with concerns about data privacy

Source: (Chanchaichujit, Tan, Meng, Eaimkhong, 2019)

The term Healthcare 4.0 has emerged recently and is derived from the concept of Industry 4.0 (Jayaraman, Forkan, Morshed Haghighi, & Kang, 2019). Healthcare 4.0 is an *umbrella concept* term for digital health technologies based on solutions such as smart health, mHealth (mobile health), wireless health, eHealth, online health, medical IT, telehealth/telemedicine, digital medicine, health informatics, pervasive health, and health information system, among others. Many factors have influenced the emergence and development of Healthcare 4.0.

- The first was the desire of governments of highly developed countries to more effectively achieve societal goals of increasing access to healthcare and improving patient outcomes. The aforementioned goals were to be achieved as a consequence of the creation of national information systems that enable the integration and exchange of data within the *electronic medical record (EMR)* (Qin et al., 2016; Sligo, Gauld, Roberts, & Villa, 2017).

- The second factor was the dynamic increase in the number of people using technological

facilities in the delivery of medical services provided because of the use of various IT solutions as tools to increase the efficiency of the activities undertaken (Eysenbach et al., 2013).

- Another significant factor contributing to the development of Healthcare 4.0 was the ability to create large databases containing the results of diverse diagnostic tests (e.g. laboratory, radiological, haemodynamic). Easy and relatively inexpensive use of *information-communications technologies (ICTs)* for data collection and transmission, combined with the use of cheap and fast connections (Internet communicators) for contact between medical professionals and patients and medical professionals among themselves, enabled rapid development of personalized forms of integrated care. As a result of the use of such solutions, it has become possible to make a fast and reliable diagnosis based on the assessment of multiple laboratory parameters (Eysenbach et al., 2013) without the need for physical contact between the parties involved in the described process.

The functionality and capabilities of Healthcare 4.0 are determined by three main components: Internet of Things, cyber-physical systems and cloud computing.

The Internet of Things (IoT) is a technology that makes it possible to connect any device to the Internet, remotely access and manage it from any place with Internet access. An example application of IoT is remote health monitoring and performing at home medical procedures that can be done in this way (e.g., response to heart rate). The data obtained from biosensors and electronic devices, in addition to being used for remote monitoring of the patient's health, can also be helpful in scientific research.

Cyber-physical systems are intelligent systems that include machines, devices, and software that operate autonomously or in a network, communicate over the Internet and use Internet services, and make decisions in a decentralized manner or in collaboration with humans. These systems are used to monitor and control devices in the physical world and the processes in which these devices are used. The main application of cyber-physical systems in the healthcare sector is the modelling of treatment processes.

Cloud computing is a technology that allows data to be remotely stored and processed on secure servers. The source of data can be medical records,

laboratory test results, prescription data, well-being data, data generated by electronic galleries and demographic factors such as zip code, local weather, shopping habits. Cloud computing uses analytics and calculation systems to process data.

The elements of Healthcare 4.0 characterized above make it possible to effectively use elements such as IoT, Blockchain, AI and Big data to improve healing processes. IoT and AI enable patients to self-monitor their health and thus better manage their own health. The ability to quickly contact medical professionals when a health condition arises that requires external intervention is also not insignificant. Blockchain allows real-time creation and exchange of information about a patient's clinical data and uses it to diagnose and determine medical intervention. With artificial intelligence, it is possible to provide detailed predictive models about a patient's health status. And Big data and mobile applications help to maximize the efficient use of healthcare resources and enhance the preventive and predictive aspects of planned and ongoing health procedures to deliver the best possible healthcare to all those eligible (Chanchaichujit, Tan, Meng, & Eaimkhong, 2019). The other elements that make up the Healthcare 4.0 architecture are shown in the figure below (Fig. 1).

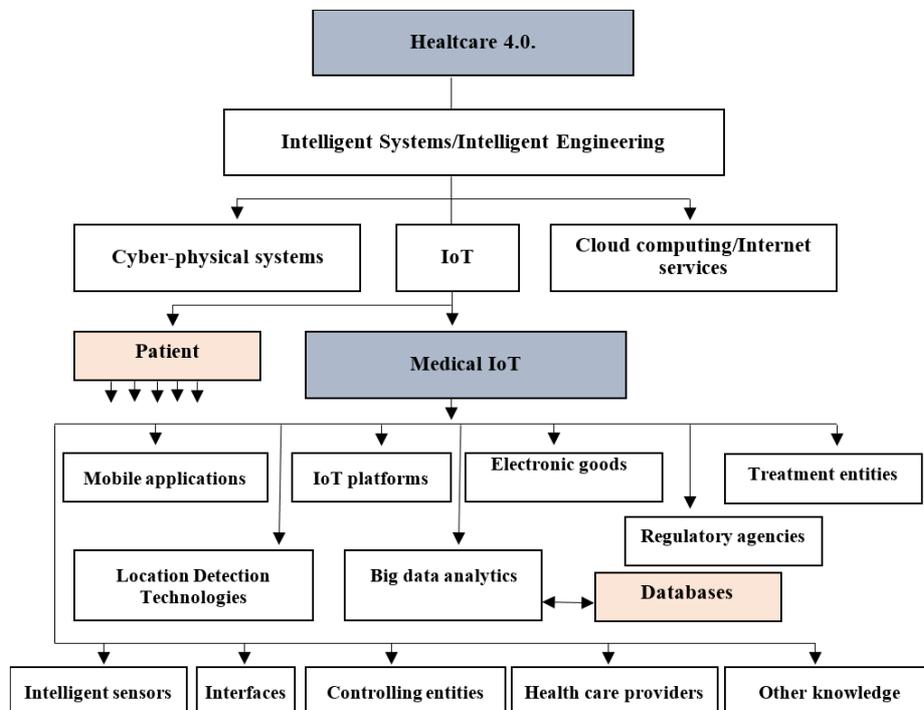


Fig.1. The Healthcare 4.0 architecture

Source: (Estrela et al., 2020).

Healthcare 4.0, has various applications that contribute to improving healthcare (Orcajo, 2021), including: diagnostic and therapeutic decision support (Corral-Acero et al, 2020); patient monitoring (Schwartz, Wildenhaus, Bucher, & Byrd, 2020); surgery simulation – surgery risk assessment (Morrison, Pathmanathan, Adwan, & Margerrison. 2018); medical device design and optimization – MedTech (Morrison, Pathmanathan, Adwan, & Margerrison. 2018); drug development and dosage optimization – clinical trials (Pappalardo, Russo, Tshinanu, & Viceconti, 2019), regulatory decision making (Morrison, Pathmanathan, Adwan, & Margerrison, 2018), and others.

The comprehensive applicability of Healthcare 4.0 to improve healthcare has significantly influenced the development of the *Value Based Healthcare* (VBHC) concept (Teisberg, Wallace, & O'Hara, 2020). The indicated concept is in line with one of the major challenges of the European Union countries, i.e., striving to create a basis for sustainable development (Kapferer, 2016). In the indicated concept, value is defined as the relationship between the achieved treatment effects and the incurred treatment costs. In addition, the analysis of the results of studies of entities operating in the health care sector indicates that the application of information and information technologies in the treatment of patients can positively affect the financial performance of companies and the organization of work and service to patients in the short term, and can also improve management processes in the long term (Das, Yaylacicegi, & Menon, 2011; Sanal, 2019).

The design and implementation of increasingly sophisticated information and information technology and the readiness of medical professionals to use it in the delivery of health care services is beginning to play a key role in effectively meeting patient needs and improving the quality of health care (Gellerstedt, 2016). The design and implementation of increasingly sophisticated information and information technology and the readiness of medical professionals to use it in the delivery of health care services is beginning to play a key role in effectively meeting patient needs and improving the quality of health care (Gellerstedt, 2016). The widespread use of information and information technology is enabling the development of *information-communications technologies (ICTs)*, new health

care services that can help both providers (e.g., physicians, hospitals, and clinics) and users (patients and their families) move toward personalized, proactive, and predictive models of health care. The comprehensive use of information and information technology has expanded the application of artificial intelligence and digitization in various areas of health (Sultan, 2014; Yang et al., 2015, Kobayashi et al., 2019), creating the conditions for a fundamental change in the structure and operation of healthcare (Emanuel & Wachter, 2019).

The impact of the COVID-19 outbreak on the development of Healthcare 4.0

The current pandemic situation is a challenge for creating new *information-communications technologies (ICTs)* applications in health care. Further development of the use of *information-communications technologies (ICTs)* in health care activities depends on the course and final results of the Covid-19 pandemic. Like any global threat, the Covid-19 pandemic contributes to changing individual and collective social behavior. Suffice it to say that the last three major epidemic threats have significantly affected the way health systems operate. After the Spanish Flu epidemic in 1918, which is estimated to have killed at least 50 million people, many governments around the world introduced public health systems and created ministries of health, and developed countries initiated actions that led to the creation of the World Health Organization (Spinney, 2020). The outbreaks of SARS in 2003 and Ebola in 2014 contributed to the creation of the Coalition for Epidemic Preparedness Innovations (CEPI), an institution that internationally supports vaccine development to improve the world's preparedness for future infectious diseases. The current COVID-19 epidemic has already had a significant impact on redefining the role and importance of digital technologies, Big Data solutions and artificial intelligence in socio-economic life and is contributing to dynamic technological advances, including in health care.

The authors of the report *What future for science, technology and innovation after Covid-19* (OECD 2021) identified many changes in the use of *information-communications technologies (ICTs)* in healthcare as consequences of the global COVID pandemic19. Some of these are characterized below. The first consequence is the need for countries and

societies to prepare for longer-term disruptions, including a possible backlash against globalization. Seric and Winkler (2020) believe that a prolonged COVID-19 crisis or other future shocks could lead to accelerated automation and wider adoption of digital tools. Fear of possible trade barriers and possible tendencies to move production back to places where labor is expensive may further contribute, because of the search for cost efficiency, to increased automation efforts in firms. The best confirmation of this thesis is the jump observed at the beginning of the pandemic in the use of 3D printing to produce personal protective equipment for medical staff or simple medical instruments useful in the care of coronavirus patients. Not without significance is the currently observed strengthening of supply chains as a consequence of deeper than previously digitized logistics systems and especially the tools monitoring the course, flexibility and consistency of supplies in the medical industry. This is being served, among other things, by increased investment in the Internet of Things (IoT) and blockchain technologies, which are helping to increase transparency, security, and trust in supply chains (Khurshid, 2020). A good example is the US hardware and software manufacturer IBM, which has extended blockchain solutions for supply chain verification to pair suppliers with governments and hospitals in the early stages of a crisis improving the ability to deliver equipment to those facilities with the greatest shortage. In March 2021, IBM also announced a partnership with Moderna, a pharmaceutical company that makes COVID-19 vaccines. The goal of the partnership was to use a tracking platform based on supply chain logic (blockchain) to distribute vaccine doses. As McGrail (2021) points out the current positive effects of using blockchain to track and monitor the distribution of medical supplies including vaccines may encourage its wider adoption in health systems in the future. The deepening use of ICT in healthcare results in work being undertaken to ensure digital security and privacy. Content analysis of international reports (Interpol, 2020; OECD, 2020b, 2020c). unequivocally leads to the conclusion that the acceptance of widespread digitization will depend on the guarantee of safety of work with the use of information and information technology, especially the resistance of systems to cyber-attacks. The referenced reports strongly emphasize that, in particular in the field of healthcare, consumer

willingness to digitize sensitive health data may continue to enable innovation in digital health services but concerns about privacy and data security may hinder this development. Thus, it is reasonable to believe that the risks identified are prompting increased implementation of cybersecurity practices in organizations and encouraging investment in the development of technologies to counter the spread of online fraud and phishing messages by ransomware-based cybercriminals. The capacity and speed of adoption of information-communications technologies (ICTs) by both individual and institutional users and the level of financial resources (especially in view of the post-pandemic economic crisis, the symptoms of which are already visible) are also important consequences of the pandemic for ICT development. These last two identified consequences of the COVID-19 pandemic have a significant impact on the emergence of constraints in access to and the ability to use *information-communications technologies (ICTs)* infrastructure as a major barrier to digital uptake in research and business.

Conclusions

The processes within healthcare provider organizations and the overall outcomes of the healthcare system are strongly dependent on information and knowledge sharing (Lenz et al., 2012; Lenz and Reichert, 2007). The environment in which these entities operate is characterized by high complexity, restrictive regulations and limited financial and human resources. The basic logic of functioning is on one hand increasing the quality of services and on the other reducing the costs of activity. Providing patient care often requires combining multiple areas of expertise and multiple interventions throughout the care cycle (Porter, 2010). The use of technology-enabled management in healthcare delivery organizations can greatly simplify services and processes, making them more efficient, while providing better quality, wider access and shorter waiting times for patients. Changes resulting from the application of *information-communications technologies (ICTs)* in the healthcare environment contribute to the emergence of a new business model (Buttigieget al., 2016). In this new business model, clinicians and managers have better access to tools to effectively shape processes in order to achieve better performance in the healthcare system. Regardless of the

improvements resulting from the introduction of modern technology – due to the purpose and nature of the business – employees are the primary resource that determines the success of healthcare delivery organizations. They are the ones who design and use technological solutions, create organizations, and actively participate in their functioning (Battaglio, 2015). Equally important are the financial resources that can be devoted to the development of *information-communications technologies (ICTs)* applications in healthcare. To meet the emerging needs in a post-pandemic world, the European Union's development goals in force for 2021–2027 (EC, 2020), within the framework of the EU4Health Programme 2021–2027 strategy, ²identified a number of directions for financing activities supporting the development of Healthcare 4.0. The most important of these are:

- To deploy, operate and maintain mature interoperable digital service infrastructures and processes that ensure high quality data for access, sharing and reuse;
- Cross-border networking, including through the use of electronic health records, medical registries and other databases;
- Digital transformation of healthcare and health systems as a consequence of using innovative tools and technologies to create benchmarking;
- Improving the digital skills of healthcare workers;
- Implementation and interoperability within and between Member States and with the institutions and bodies of the Union of digital tools and infrastructures;
- Developing, within the European Health Data Area, appropriate governance structures and sustainable interoperable EU health information systems;
- Strengthening citizens' access to and control over their health data.
- Optimal use of telemedicine/telehealth via satellite communications in remote regions;
- Supporting digital organizational innovation in health care entities and promoting digital tools;
- Supporting coordinated and personalized health care.

Summarizing the considerations carried out, we note that technological innovations, more

specifically the digital revolution on the one hand and the challenges of competitiveness on the other hand, are profoundly changing the way healthcare operates. There is no doubt that the applications of Industry 4.0 concepts in healthcare include many diverse processes not only medical, but also strategic management, organizational design, and management control (Sanal et al., 2019). From this point of view, it is not surprising that researchers and practitioners note that the digital turn and the post-digital revolution are rapidly transforming the future of healthcare and preparing it for new challenges (Noorbakhsh-Sabet et al., 2019). This can lead to smarter management of healthcare resources, thereby achieving greater efficiency in the delivery of healthcare services, better quality of services, and getting better results from the public funds spent (Abidi & Abidi, 2019). They will also contribute to redefining the ways in which professionals work with patients and medical professionals with each other.

Digital health solutions are systematically changing the way healthcare is delivered in the 21st century. They are addressing the complexity of healthcare by considering its efficiency and effectiveness of operations and sustainability (Spohrer, 2007), and supporting the long-term sustainability of healthcare (Faggini, 2019). It is very important for leaders, designers, and strategists of the digital health space to integrate sustainability goals into long-term business strategies and to take the sustainability aspect seriously by following a sustainability-healthcare-ICT triad approach (Gerlach, 2019).

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HOW SOCIAL ENTREPRENEURS LEARN NEW SKILLS? THE ROLE OF SOCIAL ECONOMY SUPPORT CENTRES IN SUPPORTING KNOW-HOW DEVELOPMENT

Abstract. The modern business model means that, regardless whether for-profit or non-profit, an organization should have both the willingness and the ability to learn and develop. Nowadays social enterprise has emerged as a key factor in efforts to address the many complex issues facing the world today. Its focus on providing a benefit to society as a whole rather than just the owners of the enterprise make it ideal for addressing the global concerns of the environment, healthcare, education, economic growth, and poverty alleviation. This article demonstrates specific examples on how Social Economy Support Centres create policy programmes for social enterprises and support their legal, financial and know-how development.

Key words: social enterprise, social entrepreneurship, entrepreneurial support

Introduction

The dynamics of public debt growth and analysis of macroeconomic indicators confirm the thesis that traditional welfare state models prove ineffective in the changing economic and demographic situation. The increasingly difficult to bear costs of social benefits borne by the state, in which recipients participate in a small way, leads decision makers to seek solutions aimed at labour market inclusion of people who are excluded or at risk of social exclusion (Frączak, Wygnański 2008, p. 16). Therefore, attention is increasingly being paid to the need to modernize the ways of achieving objectives set in the area of social policy, by strengthening its active instruments. One such instrument is financial support for the creation and

development of social enterprises. Social enterprises are a relatively new phenomenon in economic practice, so the amount of research on their functioning remains limited. The a priori focus of these organizations not on maximizing financial gain, but on achieving goals that foster social cohesion (mainly through social integration and supporting the activity of disadvantaged groups on the labour market), is in Poland received with some reserve by both citizens and researchers of economic processes. Due to the specific features of social enterprises, one of the interesting areas of research may be the search for ways of supporting their legal, financial and know-how development, for example through creating policy programmes.

The aim of this article is to synthesize previous scientific achievements concerning social enterprises. Using a critical review of the literature an attempt was made to present and systematize the concept of social enterprises paying special attention to their specific features and analyzing the ways of supporting them through the activities of Social Economy Support Centers. The structure of the paper is as follows. After an introduction, brief theoretical background is presented regarding social entrepreneurship and social enterprise. Second section raises questions about the specificity of managing these entities and the challenges involved. Research results are presented in the third section, while the last part of the paper summarises theoretical and practical contributions.

Social entrepreneurship and social enterprise concept revisited

The term social entrepreneurship was not used before 1990 in Europe, and in the US not before the early 1990's (Defourny & Nyssens, 2010), which allows the impression of newness of the field. However, social entrepreneurship can be seen as a unique concept that has its own, distinctive characteristics, which include the mission, motives and challenges (Dacin et al., 2010). Social entrepreneurship appears as an answer to the increasing disproportions between the rich and the poor and a response to the exclusion of large social groups from mainstream social life. Therefore, governments are promoting social enterprises as a mean of encouraging local economic regeneration, community engagement and improved public service delivery (Kerlin, 2006). The growing significance of research on social enterprises, in particular the impact of their performance on building the foundations of socio-economic growth in the national states, is confirmed, among others, by the recommendation issued by the European Commission to undertake extensive studies in the EU member states [EC, 2014a]. The condition of social enterprises is of crucial importance for the achievement of social policy objectives and indirectly enables – through the inclusion of social groups that are excluded or are at the risk of exclusion – building cohesion in local communities and, more generally, in the whole country.

According to Perrini and Vurro (2006), the literature on social entrepreneurship might be divided into two main streams: one positions social entrepreneurship in the non-profit theory, while the other characterizes it as a new interdisciplinary phenomenon. What connects these two points of view is that they both stress the aspect of tackling important social problems (Austin, Stevenson & Wei-Skillern, 2006). And so, on the one edge, there are authors such as Boschee and McClurg (2003) or Dart (2004), who include social entrepreneurship within the scope of research on non-profit organisations, arguing that this concept might be explained as “the latest innovation” in the functioning of social enterprises, and then justified by the interest of non-profit entities in managerial competence and in the market-based approach, taken in order to improve their operational

efficiency and productivity. In this perspective, a social enterprise and social entrepreneurship are treated as “a set of strategic answers to turbulence of environment and to situational challenges that non-profit organisations face nowadays” (Dacin, Dacin & Tracey, 2011). Therefore, social entrepreneurship is seen as the third sector's response to an altered situation which might seem dangerous at the macro level: a predicted collapse of the welfare system, increasing financial pressures on organisations working for social goals, rising costs in many areas of the social sector, and the reduction of public and private grants and subsidies. At the other extreme, one might enumerate the advocates of extended theories of social entrepreneurship, such as Thompson, Alvy and Lees (2000) or Mair and Martí (2009), who believe that the phenomenon may be regarded as a new, independent and largely interdisciplinary field of research. They highlight the quality of social entrepreneurial initiatives, treating it as the basis for the field. In this spirit, they define a social entrepreneur as an innovator, capable of making an active contribution to social change, through creativity and attitude towards innovation – that is, typical features of the classical entrepreneurial process (Perrini & Vurro, 2006, p. 76). All researchers, however, seem to agree on the fact that the key to understanding this concept lies in the field of business entrepreneurship and in J. Schumpeter's theory, which forms the basis of social entrepreneurship. What social and business entrepreneurship have in common is a strong inclination for innovation and change, as well as the ability to perceive unmet needs and the resulting opportunities for entrepreneurial activities. In other words, projects in the field of social entrepreneurship are often innovative and – like purely business-like venture – they become agents of change, as well as the driving force of social and economic progress (Leadbeater, 1998, 58).

Considerable discrepancies exist as to the meaning of a social enterprise, which might be said to be the result of historical circumstances of the creation of this type of phenomena in different countries, as well as its economic nature. A social enterprise is a common example of a hybrid organisation (Battilana & Lee, 2014; Michelini & Fiorentino, 2012). Battilana and Lee (2014, p. 400) define ‘hybridity’ as “the state of being composed

through the mixture of disparate parts". The other terms used are social business (Molyneaux, 2004), social-purpose business (Cooney, 2011), community enterprise (Tracey et al., 2005), or social venture (Sharir, Lerner, 2006). Definitional problems are also complicated by the fact that social enterprises take different organizational forms depending on the existing legal system, the way the state provides its welfare function, as well as the cultural and historical conditions of the development of the non-profit sector in a given country (European Commission 2014). Social enterprise is a common part of all three sectors, as it works for the public good, often in the sphere of public services, with a strong sense of social mission, but applying the principles of business thinking. It combines the third sector with the private sector, thus becoming one of the important institutional forms of linking civil society with the market economy. At the same time, it is also an important segment of the social economy covering various organizational forms and institutions (Hausner, Laurisz, 2008, p. 10). According to Leś (2004, p. 7), it combines the characteristics of a non-governmental organisation and a market entity, creating new jobs and setting additional goals of sustaining these jobs and providing services to local communities. Haugh also sees a social enterprise as a collective term defining organisations acting for social objectives. They share the commitment to finding solutions, based on commercial experiences, which will allow them to pursue social goals and reinvest profits from the operations with the benefit for the community (Haugh, 2006, p. 5). Thompson and Doherty (2006, p. 403) define them as organisations that apply business solutions to address social problems. Despite the fact that social enterprises operate in different legal forms and in different socio-economic and cultural conditions, some common features can be identified: (1) production of products or services involving economic risk and economic verification of the effects of this activity; (2) orientation of activities towards social integration on the scale of a given local community; (3) subordination of ownership relations to the interests of stakeholders; (4) management culture based on partnership and participation; (5) democratic control by stakeholders; and (6) the surplus generated and accumulated capital are not appropriated

individually, but are used to fulfil a specific social mission (Hausner, Laurisz, 2008, pp. 13–14). However, regardless of the legal form, their principal purpose is not to generate commercial profit, but above all, to create workplaces for people at risk of social exclusion and professional marginalization and engage in delivery of social services and work integration services for disadvantaged groups (such as people with disabilities) and communities (Wronka-Pośpiech & Frączkiewicz-Wronka, 2014).

In Poland, despite many years of legislative effort, social enterprise is still an umbrella concept and neither official definition of social enterprise exists, nor a legal construct has been introduced into the system (Ciepielewska-Kowalik, et al., 2014). A number of organisations with diverse institutional forms have many of the distinctive features of social enterprises and are often referred to as such in the public discourse (i.e. non-profit organisations, cooperatives, vocational enterprises for the handicapped, vocational therapy workshops, social integration centres, social integration clubs and non-profit companies). These legal and organisational forms can be grouped in the three models of social enterprise (Ciepielewska-Kowalik, et al., 2014, p. 8–9). Each of them derives from a different pillar of organisations that stay close to a set of EMES criteria. These models of social enterprise are model 1 (traditional cooperatives and social cooperatives), model 2 (entrepreneurial non-profit organisations such as foundations, associations and other voluntary organisations), and model 3 (work and social integration social enterprises such as social enterprises for the disabled or social enterprises for wider group of persons threatened by social and economic exclusion). It should however be born in mind that, in spite of corresponding to the notion of social enterprise, out of many legal and organisational forms existing in Poland only social co-operatives fulfil the criteria of a social enterprise (see: Ciepielewska-Kowalik, et al., 2014, p. 8–9; EC, 2014b for details). Polish social cooperatives are based on the models of social cooperatives in Italy (type B), referred to as work integration social cooperatives and aiming at social and economic integration of individuals who are exposed to social and economic exclusion (EC, 2014b). They can be set up by natural persons but also by legal persons,

among which can be NGOs, public authorities, and church units. However, majority of them (95 %) are natural persons' social co-operatives, when only 5 % are legal persons' co-operatives (Starnawska, 2015). They aim at social and economic integration of individuals who are exposed to social and economic exclusion (EC, 2014). Many existing social cooperatives dedicate themselves to inner-city community renewal by providing sustainable employment – including living wages, job training, and benefits – to hard-to-employ individuals. According to the most recent data, there are about 1482 social cooperatives in Poland. What can be observed is a significant growth in their number resulting from the support granted to setting up social enterprises with the investment of public money, mainly European funds. It is however estimated that around 40 % of existing social cooperatives in Poland no longer conduct business activity. They are still on the register because they don't want or cannot - due to lack of knowledge or resources– carry out the winding-up process. No matter the reason for that decision, they have failed. The increasing importance of social economy in Poland results in the need to undertake research regarding principles and practises in the area of management. It is particularly important to understand how and what kind of support social enterprise receive for their legal, financial and know-how development.

Specificity of social enterprise and the challenges involved

Professionalization and increasing competition in the non-profit sector necessitate changes in the management methods of social enterprise. The shift from administration to management means that managers, in order to meet the intensifying competition in the 21st century, had to change from passive administrators to active leaders. Therefore, they had to acquire new skills and use new cognitive tools to make rational managerial decisions, because leaders - by virtue of their knowledge and position - are expected to make decisions with significant impact on the achievements and results of the entire organization. Effective management skills are therefore manifested mainly in the way decisions are made. When choosing the direction of action, the

manager must look for rational or optimal solutions to emerging problems, ensuring the implementation of the intended objectives, developing their skills, gaining new information. The specificity of social enterprises assumes that their activities should in particular appreciate the need for development, self-fulfillment and the achievement of economic effects by the participants of these enterprises. This poses tasks for managers in these entities, including modification of the already existing and development of the future management model, which would take into account the dual aspect of operation so important in these entities. Reconciling contradictions on the continuum: market actions versus creation of public/social value is an extremely difficult task for managers, hence the need for strategic planning and building the right strategy for the organization. Social enterprises should also strive to grow in order to be more effective in achieving their goals, thus achieving success (di Domenico et al., 2010). Developing and strengthening their position allows them to increase the potential that can be – in future actions – used to solve social problems and thus contribute to the growth of the economic potential of a country.

In order to manage a social enterprise in a modern and comprehensive way, a manager should get to know many different factors which influence his work, and he should perceive all management issues and emerging dysfunctions and needs. It is people who create and implement strategies, who control their course, and who make appropriate corrections when necessary. The process of implementing the strategy must be based on an appropriate (flexible, adapted to the assumptions) organizational structure, i.e., a skillful arrangement of positions, hierarchy, leadership, teams, as well as an appropriate number of implementers within the framework of individual tasks. Action plans implemented as part of the strategy should be internal systems – not a collection of chaotic, ad hoc activities, but a system of interrelated activities with built-in control mechanisms. In imposing and enforcing the style of action an important role is played by leaders – leaders who take care of compliance with specific, desired procedures and minimize the risk of occurrence of behaviors

inconsistent with the accepted rules (timeliness, effectiveness of action, the dominant set of values). In order for the initiative to have a chance of success it is necessary to have human potential - people who will work for the implementation of the strategy. This concerns both managers and employees with a smaller scope of competence. In Polish context entrepreneurial actions of social cooperatives also goes beyond the need to maximize profit for shareholders and owners, as they, above all, solve social problems, create workplaces for people at risk of social exclusion and professional marginalisation and engages in delivery of social services and work integration services for disadvantaged groups (such as people with disabilities) and communities. Considering an extremely important function of social enterprises, the next section of this paper focuses on specific examples on how Social Economy Support Centres create policy programmes for social enterprises and support their legal, financial and know-how development.

The role of Social Economy Support Centres in supporting social entrepreneurs

Social Economy Support Centre (OWES) is an entity or partnership supporting the development of social entrepreneurship co-financed by the European Union under the European Social Fund. It supports individuals interested in launching ventures in the field of social entrepreneurship, social economy entities and local government units. Recipients of OWES activities are: individuals, especially those threatened by social and/or professional exclusion, initiative groups who want to establish a social economy entity or social enterprise, social economy entities (foundations and associations dealing with widely understood social and professional activation of persons threatened by marginalization and social exclusion), social enterprises, local government units and companies and institutions from social economy environment. OWES offer counselling, trainings, realize services that support development of local partnership, provide legal, accounting and marketing services for social economy entities, promote social economy and employment in social economy sector. There are currently 56 accredited OWES operating in Poland, few of them in each of

the 16 voivodships. The main task of OWES is to provide comprehensive support for the creation of social enterprises and their subsequent development. Their specific tasks include:

- providing information, training and advisory support for social economy entities from a given subregion,
- support for created social cooperatives (training, advisory and financial),
- Building partnerships for social economy,
- Promotion of social economy,
- Searching and testing long-term financing sources for OWES and social cooperatives.

In other words, the centers are to be the first-contact institutions for individuals involved in the social economy. In order to obtain data for analysis, the author asked the persons managing individual centers for consent to provide information on training organized by OWES. Such consent was expressed by the managers of two centers, while the request sent to the manager implementing the project in the northern subregion remained unanswered.

In order to demonstrate specific examples on how Social Economy Support Centres create policy programmes for social enterprises and support their legal, financial and know-how development, this part of paper presents the training and advisory offer of Social Economy Support Centers (OWES) in the Silesia Province. Primary data gathering process started in July 2021. The data for the study was collected with the use of two telephone interviews with experts working in two Social Economy Support Centers (OWES) and data analysis.

The first OWES which agreed to participate in the research covers the area of Bielsko, Cieszyn, Żywiec poviats and the City of Bielsko-Biała and is aimed at multi-level and multi-stage assistance for entities from the social economy sector, as well as for people at risk of social exclusion in the creation of social cooperatives. Detailed data on training provided by OWES of the southern subregion during its operation is presented in the table below (table 1).

The second OWES which agreed to participate in the research covers the area of 14 cities with poviat status: Bytom, Chorzów, Dąbrowa Górnicza, Gliwice, Jaworzno, Katowice, Mysłowice, Piekary Śląskie, Ruda Śląska, Siemianowice Śląskie,

Sosnowiec, Świętochłowice, Tychy, Zabrze and 8 poviats. Similarly, the project is aimed at multi-level and multi-stage assistance for entities from the social economy sector, as well as for people at risk

of social exclusion in the creation of social enterprises. Detailed data on training provided by OWES of the central subregion during its operation is presented in the table below (table 2).

Table 1.

A collective list of OWES trainings in the southern Silesian subregion in the period January 2018 – July 2021

№	Workshop title	Conducted trainings/workshops
1.	HR and payroll in social enterprises	4
2.	Accounting in non-governmental organization	8
3.	Sponsoring in social enterprises	4
4.	Coordinator's work and project management in social enterprises	4
5.	Marketing in a non-governmental organization	4
6.	Responsibility of the management board and the audit committee in social enterprises	6
7.	Improving personal skills of employees of social enterprises	4
8.	External sources of financing of social enterprises	4
9.	Project management in social enterprises	2
10.	Economic activity, paid and unpaid public benefit	2
11.	Volunteering - unlocking the potential	2
12.	Business plan and organization development strategy	2
13.	Organization of mass events by social enterprises	2

Source: own study based on data obtained from OWES

Table 2.

A collective list of OWES trainings in the central Silesian subregion in the period January 2018 – July 2021

№	Workshop title	Conducted trainings/workshops
1.	Fundraising for social enterprises	2
2.	Financing sources for social enterprises	24
3.	Fundamentals of accounting in social enterprises	28
4.	Sponsoring for social enterprises	2
5.	What a member of the board and supervisory body of an NGO should know	2
6.	Grants as sources of financing for social enterprises	8
7.	Taxes for social enterprises	2
8.	Contact with the media	6
9.	Working with the client	2
10.	Financial statement of the for social enterprise at the end of the financial year	30
11.	Project management	4
12.	Fundraising for social enterprises from scratch	8
13.	Creation of social cooperatives by legal entities	10
14.	Personal data protection in non-governmental organizations	2
15.	Marketing strategies and building the image of social enterprises	2
16.	Using the Internet to promote the activities of social enterprises	2
17.	Grant application for social enterprises	10
18.	Deal with stress – for social enterprises boards, employees and volunteers	2
19.	Improving personal skills	2

Source: own study based on data obtained from OWES

Analysis of the offer of Social Economy Support Centers (OWES) allows for the observation that training offer is dominated by trainings in finance and accounting. There also appear topics related to contacts with the media, fundraising or legal issues, such as creating a social cooperative. Relatively few topics concern improving personal skills such as conflict resolution or management of employees and volunteers. The phenomenon of social entrepreneurship is an important part of deliberations around the social economy sector. It seems, however, that the most important thing at the current stage of social entrepreneurship formation in Poland is to get as many groups and communities as possible interested in the idea, while the development of institutional social economy is likely to take many years or even decades. Properly educating social entrepreneurs and equipping them with leadership skills is becoming an important part of their professional development. The practice of managing social enterprises is a difficult challenge primarily for the people involved. Therefore, a forum for exchange of knowledge should be set up in the near future in which, in addition to entrepreneurs, representatives of the world of science and public administration could participate. Professional and technical support, which the leader is able to reach and use, should help him e.g. in proper realization of issues connected with incomprehensible and complicated formal procedures. In addition, many action ideas developed elsewhere can be creatively adapted. However, in order for subsequent ideas to be replicated, external assistance is often needed. Although a system of mutual support and cooperation is not necessary when starting a particular initiative, it is often indispensable for the development of other initiatives. The future of social enterprises also depends on cooperation, including economic cooperation, between different sectors. It is becoming necessary to create different types of partnerships, specific clusters to meet particular needs, joint management and pooling of resources. It is worth noting that social enterprises are particularly strongly “rooted” in their local environment, where their stakeholders come from. This means that creating contacts outside the organization should not be a self-contained but a consciously managed process. The management

process itself should be oriented towards creating shared values, norms and trust. This is due to the fact that social enterprises are often a grouping of voluntarily associated people with different backgrounds, resulting from their previous professional and social situation. It seems crucial to prepare a potential leader in terms of key competencies, including human resource management with a focus on motivation. He or she should also have sufficient expertise in the market in which the entity operates and a basic knowledge of the laws of economics. It is also important to provide mentoring, coaching and supervision to existing leaders, as well as opportunities for continuous improvement in their skills and social competencies. To implement the system of care for social economy leaders it is necessary to develop new support mechanisms based on existing institutional tools, such as District Labour Office, Social Cooperative Support Centre or Social Economy Support Centre, which should also offer a system of professional support and development for social economy leaders. Here, using the concept of Corporate Social Responsibility, it is worth to take advantage of the potential of experienced entrepreneurs who have free time (e.g., are retired) to engage in assistance to their younger colleagues from the social economy sector.

Summary

In today's world, regardless of the sector in which organizations operate, the ability to learn translates into building competitive advantage. Social enterprises and other actors in the public, private and civil society sectors work in various ways to alleviate poverty, promote economic and social cohesion, reduce social exclusion and combat other problems caused by global imbalances. Given the magnitude of the problems they face, it is crucial to equip social entrepreneurs with the right competencies or skills to use tools and techniques to help them effectively achieve their goals and reach more beneficiaries with their initiatives. In the right hands, such knowledge can be an effective tool to better utilize limited resources, properly communicate with stakeholders and promote transparency in organizations' operations, thereby empowering citizens and bringing about sustainable social change.

The development of social entrepreneurship is exceptionally important from the point of view of every national economy because social economy subjects, including social enterprises, constitute a reservoir of resources inaccessible to other forms of activity. These resources can be used to the advantage of local communities, as they play an important role in the implementation and provision of public and social services, and, on a greater scale, they can also be used in the process of building a democratic and civil society. It is worthwhile to invoke here Ducker's words and vision formulated far back in the 1980's, when he pointed out that in the 21st century the condition of the organisations operating in the public and social sector would determine the condition of the economy as a whole. Therefore, nowadays it is crucial to search for the rules and routines of management which, transplanted from the private sector to the public and social sectors (especially to social enterprises), will stimulate the increase in the efficiency of the latter organisation.

Social enterprises are a unique form of entrepreneurship and business, because they meet both social and economic objectives, and in such a way that the economic results are largely channelled to help the organisation's employees and/or achieve a social mission. In the case of self-financing of these organisations, the fulfilment of these goals is possible due to their competitiveness. In some countries, for example in Poland, only scarce external funds are available to support social entrepreneurship development (apart from public funds and some additional support given to social enterprises). This leads to the situation in which social enterprises are not only grant-dependent, but also self-insufficient. To support their social value, social enterprises should pursue their activities in a thoroughly entrepreneurial way. It can be achieved through the development and application of appropriate support mechanism, which is especially important if an organisation operates in an open market.

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ACCOUNTING PROCEDURES DIGITAL TRANSFORMATION FOR BUSINESS PROCESSES IMPROVEMENT

Abstract. The article researches the impact of the digitalization and digital transformation process on the construction of functional management systems of modern enterprises. The article materials consider new information opportunities for business models building and business processes organization. Approaches to the improvement of operational processes and their optimization are substantiated. The evidence is given that the possible way to implement digitalization in certain areas may be: the concept (strategy), staff training and education, the new technologies implementation. It is defined that the implementation of the digital transformation of the business model can take place in stages at the level of its individual elements or components. It is supposed reasonable to use a system-oriented approach to management, which is based on understanding the object of management as a whole, the need for internal and external communication links, i.e., a set of related management methods and tools in the enterprise and its structural units. System-oriented management of the digitalization process in the article is considered to involve the business processes transformation. Such processes should be based on perfect digital strategy planning. Important components are the feasibility assessment of practical digital initiatives implementation, monitoring of promising areas of action, forecasting the expected effect of digitalization and comparison of innovative initiatives. The application of a systematic approach to the management of the digitalization process is justified at certain stages, which will allow in a certain sequence and order to get the maximum effect and ensure the achievement of goals and acceptable results. The main stages of system-oriented management of the business processes digitalization process are offered, as well as the main groups of factors of influence (external

and internal) on the digitalization implementation process are determined.

Key words: system-oriented management, accounting information, digitalization, digitization, business processes, digital transformation,

Formulation of the problem

Significant changes in the present, which occur in the modern information environment, cover a wide variety of spheres of society life. Modern realities of domestic enterprises functioning increasingly motivate them to move to a new level of management and organization of business processes. With the increase of technological capacity and volume of information, it becomes clear that the main direction of transformation is digitalization, which plays an important role both in the functioning of enterprises and in the development of the economy as a whole.

The impact of the digital transformation on the activities and functioning of enterprises is significant, and today most enterprises are forced to switch to technologies that they did not plan to implement for some time, and thus change and revise their strategic priorities. In the long run, those companies will survive that will be able to use tools that will allow them to be flexible, mobile, respond quickly to change, best control, regulate, organize and optimally improve business processes. Today, digitalization has affected every branch of business to one degree or another, and this is just the beginning. The crisis caused by the pandemic has proved that not only the future of business depends

on the transition to digital technologies, but also the current is at stake, if you do not act quickly. Therefore, the implementation of digitalization will help reduce the negative impact of the crisis, and can be a driving force for improving business processes. If the activity of the enterprise is aimed at success and development, then accepting the challenges of the modern market environment, such enterprises will be able to become successful and competitive, and this will be facilitated by the digital transformation.

Relevance of the chosen topic

Traditional methods and models of doing business today need a significant transformation. Today, radical changes can be observed in the system of forecasting events, planning the conditions of service needs – business, life, work, leisure and more. Therefore, the creation of effective management systems should be focused on the optimization of business processes through the use of the latest information technology (IT), in particular, and the use of digital technologies (digital), which are designed to ensure economic feasibility and attractiveness of consumption.

Analysis of recent research and publications

The impact of the digitalization and digital transformation process on the enterprises functioning, business models building, and business processes organization has recently attracted the attention of both domestic and foreign scientists. Scientific references interpret several approaches to the essence of the “digitalization” concept. A significant contribution to the substantiation of the conceptual apparatus belongs to the following researchers: Zhosan H., Bahatska K., Heidor A., perspectives and prerequisites for the implementation of digital transformation in the accounting process are highlighted in the works of Shyshkova N. L., Vysochan O. S., Hrytseliak U. I., Nazarova K. A., Moiseienko O. M., the main factors of influence, as well as the stages of improvement of business processes and business models based on digitalization are given in the researches of Trushliakova A. B., Husieva O. Yu., Lehominova S. V., Lisova R. M., Natorina A. O., Hudz’ O. Ye., Fediunin S. A., Shcherbyna V. V., Shalmo D. Wilmson K.

In the work of Zhosan H. [1] the approaches to the interpretation of the concept of digitalization, as well as the main directions and areas of digitalization, key aspects of digital transformation are given. In addition, the author researches the level of digitalization in Ukraine by individual factors (during 2015–2019): knowledge, technological environment, openness to the future.

Domestic researchers Bahatska K., Heidor A. [2] researching scientific approaches to interpretation clarify the concepts of “digitalization” and “digital transformation” in the system of related concepts and formulate a sequence of stages of digital transformation of business.

Nazarova K. A., Moiseienko O. M. [5] investigate the main directions of digitalization of accounting procedures and identify problematic issues that arise in the implementation of digital technologies for accounting purposes at Ukrainian enterprises. They also point out the main directions of accounting procedures digitalization on the example of documenting transactions for accounting purposes.

The theoretical basis for the transformation of the accounting system in terms of digital modernization is studied by Shyshkova N. L. [3], in particular, the author identified the stages of IT modernization of accounting, measures for their implementation, proposed a management model for the digitalization of accounting.

The development of digitalization in Ukraine, in particular the factors of influence and benefits of implementation is researched by Trushliakova A. B. [6]. Exploring the essence of this concept – digitalization, the author emphasizes that it is important to apply a systematic approach to digital transformation, as well as the distribution of factors influencing the development of this process: macro-, individual factors.

Husieva O. Yu., Lehominova C. V. [7], considering digitalization as one of the tools for improving business processes, determine the three stages by which its effective implementation is performed and is possible: company analysis, goal setting and strategy development, implementation of digital technologies and analysis of the gained results. The authors also note that the in the basis for improving business processes through digitalization there is a plateau of competitive advantages of

the enterprise: a high level of competitiveness, simplification of working with an array of information, cost savings, customer loyalty, a positive attitude to the company's image.

Details of the components of enterprises digital transformation of and their impact on companies business models are covered in the works of Lisova R. M., [10] Natorina A. O [12], features of the use of digitalization as its main competitive advantage, in particular, outlining the prerequisites, opportunities, challenges and problems of digitalization, justification of tasks and activities based on modern digital technologies are outlined by a team of domestic researchers: Hudz' O. Ye., Fediunin S. A., Shcherbyna V. V. [11].

German economists D. Shallmo and K. Wilmsen [13] proposed a certain sequence of digital transformation, in particular, they identified five stages (phases):

Digital Reality – involves analyzing the company's value chain, analyzing requirements and developing a business model.

Digital Ambition – setting goals for digital transformation (in terms of finance, time, size, quality), setting priorities and sizes of the business model.

Digital Potential – analyzing the digital transformation experience, options development and business model simulation, definition of means and tools for the digital transformation implementation.

Digital Fit – evaluation of the developed / improved version of the business model in accordance with the existing one, taking into account the goals, requirements and parameters.

Digital Implementation – completion / perfection, implementation of the business model digital transformation.

However, numerous scientific studies on the development, implementation, directions, tools of digitalization do not fully take into account the specifics of the individual enterprise, production organization, management mechanism in general, because uniqueness is a determining factor in choosing optimal tools to achieve efficiency from the implementation of management decisions focused on digitalization.

Objective and tasks

The objective of the article is to study the impact of digitalization on building business models, to

determine areas for implementation to improve operational processes, to identify the essence of system-oriented management of digitalization and its main stages, to generalize the main groups of factors influencing the digitalization implementation.

Presentation of the main material of the research and the results obtained

The experience of domestic enterprises, which, despite the crisis, are successfully functioning, plan to increase and enlarge production in the future, shows that the main factors that were decisive and necessary to ensure the efficiency of their work were the following: efficiency to respond to new market needs, investment in modern equipment and the latest technologies (automatic control systems), ensuring high quality work on time, safety of personnel and observance of sanitary norms, maximum improvement of production business processes through automation, introduction of digital transformation – digitalization of operational processes, etc..

Digitalization (from English. Digitalization, “digitization”) is a reorganization through digital communication and automation, i.e. the transformation of information into digital form.

Digital transformation of business processes is the introduction of modern information technologies into the business processes of the enterprise. This approach involves not only the installation of modern hardware or software, but also fundamental changes in approaches to management, corporate culture, external and internal communications, etc. As a result, the productivity of employees increases, the efficiency of obtaining information is ensured, monitoring of work performed, control over their implementation, optimization of production processes, saving time, efficiency of management decisions making at different levels of management. Digital technologies used today allow you to organize, structure business processes, accumulate and interpret arrays of information, and ultimately analyze and even generate predictive indicators. The use of modern IT to implement digitalization, such as Big Data or Artificial Intelligence (AI), is aimed at processing and transmitting large flows of information, adaptation to a specific task or job.

But despite the ability of the enterprise to adapt to flexible work models, the transformation

involves continuous improvement, training, transformation, readiness for change and digitalization of operational processes. Given the specifics of the enterprise, the complexity of technical, technological and production process, special attention should be paid to operational processes for the organization of the enterprise work in general through the introduction of digital transformation.

Improving operational processes, as well as their optimization is possible through the introduction of digitalization in certain and possible to implement directions: the concept (strategy), training and education of personnel, the introduction of new technologies.

Concept development is the main and priority task for the successful implementation of operational processes digitalization. The components of this area are: strategy development, action plan and actions development, definition of goals, resources, tools, roadmap development, as well as identification of priority areas for modernization and automation. In the process of developing a concept (strategy) it is necessary to consider all business processes, identify priority areas and anticipate possible risks, obstacles that may arise on the way to successful implementation. The lack of a strategic plan and a clearly defined vision for digital transformation makes it impossible to ensure efficiency in its implementation, as a company needs to understand exactly in which direction to achieve its goals. Digital transformation is, first of all, a long-term project that requires a system-oriented approach, continuous improvement, development taking into account the latest technologies and developments, and in addition, the implementation of such a long-term project should not be “spontaneous” – the costs should not exceed revenues to obtain them. Obtaining the latest software, IT and other developments will not provide the company with the effect of the digital technologies’ implementation, if employees have not received proper training and education.

The area of staff training and education involves the use of both systematic and human-oriented approach to management. For the successful implementation of digital transformation it is necessary to train employees to implement certain changes in work processes, thereby gradually creating conditions for them to develop

certain skills, flexible conditions for decision-making, training in new technologies, gradual development of knowledge and skills, the ability to quickly make management decisions, think creatively, be ready to solve non-standard tasks. The introduction of the latest digitization technologies is only the initial stage. Most often, business leaders and those responsible for change note that the most difficult thing is to adapt employees to updated business processes. Therefore, in this case, the transformation must apply to each employee of the enterprise, so it will be necessary to take a number of measures that will allow employees to learn new processes and technologies. Such measures are trainings, workshops, conferences, educational events, advanced trainings, etc., where the staff acquires the necessary skills to work in updated conditions. In addition, it should be noted that modern technologies are becoming assistants in adaptation: for example, the development of UX design makes the program interface intuitive, and artificial intelligence helps to process data faster and make optimal decisions. In addition, it should be noted that the key to success is also the understanding of all employees of the purpose of change, awareness of the idea that digital transformation is not an option but a requirement of today.

The introduction of new technologies involves, first of all, the abandonment of outdated technologies that actually consume resources and freeze the business in a static state, and this applies to the management process as a whole and its individual components – existing schemes, technologies, tools, methods, sequences, etc. Digital transformation of business processes makes it possible to optimize the work of employees, thereby increasing performance productivity, which will eventually lead them to use time for more important and complex tasks. The introduction and use of modern technologies allow the company not only to adapt to dynamic changes in business, but also to be competitive, flexible and quickly change business processes depending on changing conditions.

It is worth noting that the component of business processes digitalization is digital transformation and automation, which serve the optimal performance of certain functions in the workflow, algorithms and their transfer into digital format. Therefore, the main task of digital

transformation is the introduction of modern technologies to increase productivity, reduce time spent on certain functions and tasks, improve the quality of work and services, etc. In today's business environment, businesses must be primarily focused on developing a digital development strategy. The implementation of the digital transformation of the business model can take place in stages at the level of its individual elements or components. And in this case, it is advisable to use a system-oriented approach to management, which is based on understanding the object of management as a whole, the formation of internal and external communication links, a set of related methods and tools of an enterprise as a whole, and of its individual units.

System-oriented management of the digitalization process involves the transformation of business processes, which should be based on: perfect planning of digital strategy, assessment of the feasibility of practical digital initiatives, identifying promising areas of action, forecasting the expected effect of digitalization, comparing innovative initiatives. It is advisable to apply a systematic approach to the digitalization process management according to certain stages, which allow in a certain sequence and order to get the maximum effect, to ensure the achievement of goals and acceptable results. The main stages of system-oriented management of the business processes digitalization process are shown in (Fig. 1).

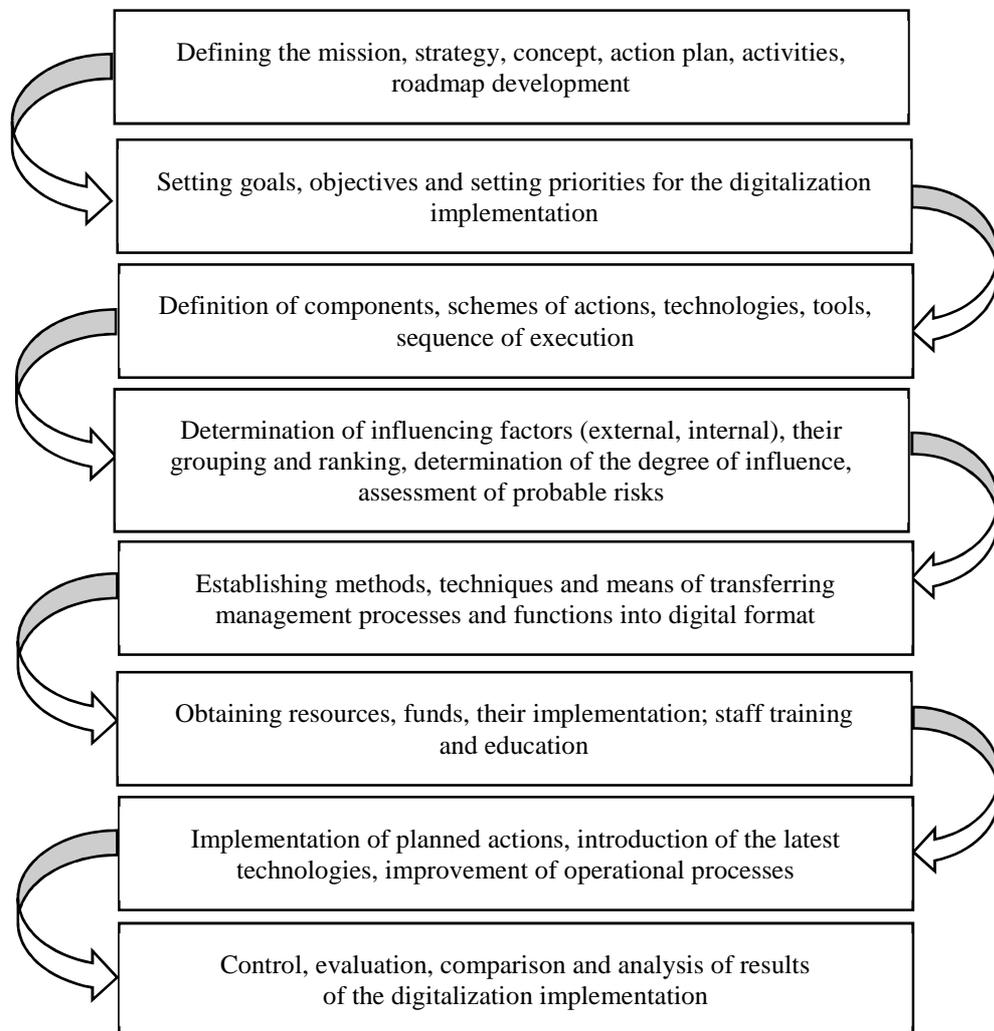


Fig.1. The main stages of system-oriented management of the business processes digitalization process

Particular attention in the system-oriented management of business processes in the

digitalization implementation should be paid to the study of factors influencing this process, the degree

of their impact and forecasting of probable risks. It is the factors of influence that allow to predict to some extent not only the possibility of digitalization implementation, but also the effect that will result from actions, in addition, they allow to identify strengths and weaknesses, opportunities and threats to the enterprise, and it is from positive or negative impact of factors on the company will depend not only the effectiveness of management but also its adaptability to change. Summarizing the probable factors influencing the activities of the enterprise as a whole, as well as their impact on the process of digitalization, it is advisable to divide them into groups: external and internal.

External factors of influence include: change in the legal framework; state policy on support and development of certain activities; appearance of new digital technologies; comprehensive development of the education system; stimulation of research, scientific and technical activities; strengthening international cooperation in education, science and innovation; structural restructuring of the economy in relation to the transition of the economy to the information society, etc..

Internal factors of influence include: improvement of business models; knowledge of a foreign language; tracking new technologies in other countries; creation of new values; planning of digital strategy, product properties; formation of new needs and demands of consumers; use of digital transformation tools, services, platforms, etc.

In addition to identifying impact factors, attention should also be paid to the choice of certain tools that will serve and be used in the process of digital transformation of the business model. Today, the IT market offers a wide range of digital tools that allow new opportunities in the operation and development of business models, to optimize their work, and further gain a significant competitive advantage.

Conclusions and prospects for further research

Digitalization in modern economic activity of enterprises plays an important role in the transformation of business processes, and thanks to digital transformations the company has the ability to quickly and flexibly adapt to change, accelerate

workflows, data integration, improve analytical processes and more. The main advantage of business digitalization is the ability to adapt and reproduce products or services to meet the demands and expectations of consumers. Enterprises are increasingly moving from the “target audience” to the personalization of production, thus providing new competitive advantages and customer loyalty, and further the stability of their business. The digitalization implementation should be considered from the standpoint of a system-oriented approach, which is based on the understanding of the object of management as a whole, the formation of internal and external communication links, a set of related management methods and tools. Management of the digitalization process is based on careful planning, analysis, evaluation in the main areas: concept (strategy), training and education of staff, implementation of new technologies. The use and choice of tools, their capabilities, advantages and disadvantages, which should be used in the process of digital transformation determine the further direction of research.

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