СОЦІАЛЬНА ФІЛОСОФІЯ ТА ФІЛОСОФІЯ ІСТОРІЇ
SOCIAL PHILOSOPHY AND PHILOSOPHY OF HISTORY

UDC 330:004(4)
DOI https://doi.org/10.26661/hst-2022-10-87-01

CONCEPTUAL BASIS OF "THE DIGITAL ECONOMY FORSITE MODEL": EUROPEAN EXPERIENCE

VALENTYNA, VORONKOVA[1]
YYURIY, KAGANOV[2]
NATALIA, METELENKO[3]

Abstract

The article examines the conceptual foundations of the "digital economy" foresight model, in the context of which the analysis of the concepts of "foresight", "strategic foresight" and their difference from planning, forecasting. Foresight, combined with an approach to the digital economy as a comprehensive adaptive system, promotes the development of forecasting and forecasting, but differs from them. Strategic foresight is evolving in many developed economies, including the European Union, Japan, and Singapore, where government-level foresight programs are common. According to scientists, foresight is understood as the ability to see what will or could happen in the future. The purpose of the study is to conceptualize the "digital economy foresight" model, which is the basis for understanding the processes and trends of the digital society. The object of research is the digital economy foresight model as a complex social and economic phenomenon. The subject of the research is the influence of digitalization on the formation of the digital economy foresight model. The study is based on the analysis of domestic and foreign experience in studying the foresight of the digital economy, based on an understanding of the system and processes of digital knowledge management (paradigm of thinking and relationships), economic concepts of information and knowledge management. Methods of analysis are comparative analysis, content analysis, methods of deduction and modeling as scientific knowledge of socio-economic processes. The result of the study. The essence of the concepts "foresight" and "strategic foresight" is analyzed and the methods of foresight of the digital economy are determined. Theoretical and practical bases of foresight for business and the methodology of integrated foresight during a foresight session are clarified. The use of foresight methods of forced digitalization of everyday social practices is revealed and the analysis of the "foresight of the digital economy" in Europe is carried out. The practical significance of the study lies in the philosophical understanding of the analysis of the "foresight of the digital economy" in Europe. The accelerator of the digital paradigm foresight is digital space and digital creative technologies.

Keywords: model, foresight, strategic foresight, integrated foresight, digital technologies, digital economy.

Problem statement in general and its connection with important scientific or practical tasks

The relevance of the research topic is that with the help of the digital economy foresight, governments should consider the practical implications of its use for strategic and policy planning and its implementation for wide application. The digital economy foresight is an ideal strategy for addressing uncertainties. Forsyth creates "advanced understanding", ie the ability to anticipate and solve certain problems in the implementation of a particular task or the development of a particular situation. Foresight is based on assumptions that are always considered to be mobile, have their advantages as a tool for long-term planning, can participate in identifying future challenges and finding ways and opportunities to implement them. The accelerator of the digital paradigm foresight is digital space and digital creative technologies (Al-Khalili, 2018).

An analysis of recent research and publications that have led to the solution of this problem and on which the authors rely.

Scientists and practitioners in the field of digital economy foresight are engaged in the development and testing of methodologies that promote smart and far-sighted decision-making. Foresight originates

Corresponding author:
1 Engineering educational and scientific Institute named after Y.M. Potebnya of Zaporozhzhia National University (Zaporozhzhia, Ukraine)
E-mail: valentinavoronkova236@gmail.com
ORCID iD: http://orcid.org/0000-0002-0719-1546
[2] Zaporizhzhia National University (Zaporozhzhia, Ukraine)
E-mail: znuhist@gmail.com
ORCID iD: http://orcid.org/0000-0001-6889-7377
[3] Engineering Educational-Scientific Institute named after Y.M. Potebnya of Zaporizhzhia National University (Zaporozhzhia, Ukraine)
E-mail: natalia.metelenko@gmail.com
ORCID iD: http://orcid.org/0000-0002-6757-3124

from foresight on military strategies and military technology used by US military research centers. Many ideas from foresight arose in the field of management science. Much of this approach was developed and tested for the first time by Royal Dutch Shell Group companies in the late 1960s., Center for Strategic Studies, Science, Technology and Innovation Management (CGEE) (Brazil), Latin American School of Social Sciences (FLACSO) (Argentina), Foresight Canada, Institute for Science and Technology Policy (STEPI) (South Korea) and others. Foresight has been actively developing in the world for forty years. Foresight as a science has already grown to the level of complexity, skills, experience and competencies when it comes to some unification. Now it is necessary to form common quality standards, a single system that connects the centers that perform foresight research (Appelo, 2019).

Highlighting previously unsolved parts of the general problem to which this article is devoted.

Given the foresight of the digital economy as a process of information preparation and management, and drawing on foresight experience in Latin America and the Caribbean, regional and international resources and opportunities are being exploited through activities such as knowledge sharing and joint partnerships. The difference between "analysis of the future" and "foresight" is very subtle. Future development research consists of thinking about possible, probable, plausible and best options for the future; foresight is to develop a strategy for further action in a given area. Both processes involve many methods that consider or use the future as a tool for strategic planning. The study of future development is not a practice associated with its correct or incorrect understanding; they are to use the imagination, to obtain innovative solutions to different ways of doing things (Bostrom, 2020).

Purpose and formation of the goals of the article (task setting).

The purpose of the study is to conceptualize the "digital economy foresight" model, which is the basis for understanding the processes and trends of the digital society.

Objectives of the study:

– to analyze the essence of the concepts of "foresight" and "strategic foresight".

– to determine the methods of foresight of the digital economy;

– to find out the theoretical and practical bases of foresight for business;

– to reveal the methodology of integrated foresight during the foresight session;

– to reveal the use of foresight methods of forced digitalization of everyday social practices;

– to analyze the "foresight of the digital economy" in Europe.

The object of research is the digital economy foresight model as a complex social and economic phenomenon. The subject of the research is the influence of digitalization on the formation of the digital economy foresight model.

The research methodology is based on the construction of a model of scientific knowledge, the method of deduction and analytical methods of knowledge of socio-economic processes. Trends and scenarios of development, technologies of convergent monitoring and programming of indicators and target indicators of strategies of development of regions, state and municipal programs are modeled (Brinolfsson & Makafi, 2016). On the other hand, society needs a non-standard approach, creative thinking to meet the technological challenges of the Smart Society and a quality "digital breakthrough". In the digital and creative economy, creative technologies are an environment for building human potential. A new management paradigm is being formed in the region, based on the principles of visualization, synergy, complexity, time vector, creativity and trend modeling. The study is based on the analysis of domestic and foreign experience in studying the foresight of the digital economy, based on an understanding of the system and processes of digital knowledge management (paradigm of thinking and relationships), economic concepts of information and knowledge management. Methods of analysis are comparative analysis, content analysis, methods of deduction and modeling as scientific knowledge of socio-economic processes (Braian & Tom, 2020).

Presentation of the main material of the research with substantiation of the obtained scientific results.

1. The essence of the concept of "foresight" and "strategic foresight".

Foresight is a process of anticipation that identifies opportunities and threats that may arise in the medium to long term. As a way of thinking, foresight encourages innovation, strategic evaluation and the proactive formation of a digital society. Strategic foresight focuses on resilience to external influences, early detection of problems and rapid restoration of stability (Vebb, 2020).

An effective digital economy foresight system is a process of information formation and management, and includes:

1) collection of information,

2) interpretation of data and different versions of the future;

3) development of strategic options for action.

For traditional organizations that are moving to the use of foresight, this requires not only a change in the paradigm of thinking, but also a change in culture. At the government level, this means encouraging data collection, information sharing and the use of forward thinking at every level of government. It can help governments tackle long-term planning in the face of uncertainty and rapid change. Strategic foresight is evolving in many developed economies, including the European Union, Japan, and Singapore, where government-level foresight programs are common. There is a development of foresight at the regional level, its use in various fields, including agriculture and food production, information and communication technologies and climate change.Стратегічний форсайт не можна плутати з прогнозуванням, який може створювати вузьке уявлення про майбутнє (Voronkova et al., 2017)

Long-term forecasting is causing more and more mistrust, as the forecasts turned out to be incorrect. Forsyth is rapidly developing the ability to predict an alternative future and visualize various possible outcomes and their consequences. According to scientists, foresight is understood as the ability to see what will or could happen in the future (Voronkova & Sosnin, 2015).

Foresight is relevant to anticipation processes and is part of strategic thinking designed to uncover available strategic options. Strategic foresight, or "the art of long-term vision" by definition, is a type of planning-oriented foresight that helps executives increase the effectiveness of governments by identifying opportunities and threats that may arise in the coming years and decades. Strategic foresight differs from traditional planning in that it views the probable, possible, plausible, and mostly future alike. In addition, if traditional planning seeks to create a sense of security, trying to prevent failure, the foresight encourages resilience, which consists in early detection and rapid recovery. Strategic foresight combines the ability to be efficient and ready. Related to the future in the long run, as well as the production of knowledge about alternatives to the future, foresight is designed to increase the ability to consciously expand the boundaries of their perception to solve future problems. (Voronkova & Kyvliuk, 2017).

2. Methods of foresight of the digital economy

One of its methods is information gathering or research / scanning of the environment. Almost all foresight activities begin with horizontal scanning. Scanning is the process of studying external causes, ie. trends and drivers that are currently shaping the world, including those within or outside the context. The main function is to gather information about the future, namely, current information that may affect the future or analytical information (Voronkova, 2017). Careful horizontal scanning, which is both broad and deep, produces a reserve of analytical information that forms one large base of knowledge about the future, interpretation of data and statements of versions of the future. This step, in general, consists of applying a set of methods and practices, such as identifying weak signals or strategic problems that arise, casual multilevel analysis, to identify untimely events, interactive methods, roadmap, scenario planning, Delphi method. The final and often most difficult step is to develop policy recommendations that motivate decision-makers to take action. An organization that uses foresight methods without applying or taking action based on its results and information is wasting its resources. Advanced understanding encourages management to think differently about how goals can be achieved and to analyze drastic changes that may occur over time. Understanding and anticipation of what changes may occur forces organizations to consider flexibility in their long-term plans, leading to more tailored policies. Set in the security of an alternative or hypothetical future, scenario planning can be a useful tool for understanding the processes of instability, instability, information stochasticity (Voronkova, Punchenko, & Azhazha, 2020).

Foresight can be a useful engine of innovation, entrepreneurship and social change. The movement of people from rural to urban areas, for example, causes serious problems related to land use, design decisions and even social dynamics. In this case, using foresight to anticipate future needs and solve problems can inspire innovative and entrepreneurial projects to solve these problems before they become too destructive. Of course, there are also problems and limitations in using foresight. There are methodological limitations regarding the use of foresight. Long-term analysis of the future also tends to seem hopeless or unrealistic, it needs to be adequately involved in policy making. Critics say the sublime, futuristic nature of the foresight

shapes activities similar to science fiction (Hemel, & Zanini, 2021).

Cognitive problems are evident at all stages of creating a strategic foresight, from the adequacy of the information gathered to the way information is processed and ultimately to the development of strategic options that coincide with the prevailing way of thinking at the time. The use of foresight can also be counterintuitive, as people and organizations are mostly demand-driven and expect certainty (Diamandis & Kotler, 2021). Thus, it is very important for futurists not to be tempted to predict the future, which is a particularly difficult task for people in organizations that are new to foresight. Foresight or corporate foresight originated in the last century. Since then, the process has undergone several stages of evolution. There is a lot of analytical work on foresight and its effectiveness, and perhaps one of the most important to assess the evolution of the methodology and address the controversy surrounding it over the decades is the 50 Years of Corporate and Organizational Foresight article. Journal of Technological Forecasting and Social Change (Diamandis & Kotler, 2021). At the beginning of the journey, there was constant controversy over the term: American researcher Wade Blackman (Aircraft Research Laboratories) in 1973 said that the technological considerations behind forecasting affect the company's success less than market factors. Later, during the uncertainty of the 1980s, when predictions did not come true, Forsythe was subjected to another wave of criticism. In the first decade of the 2000s, businesses began to pay attention to technological roadmaps, the development of which used the method of prediction (pioneers of the method – Motorola, Philips, Lockheed Martin used it in the 1970s). And in the last ten years, foresight has been seen as a full-fledged tool for creating strategic advantage (Dikson, 2021).

3. Theoretical and practical foundations of foresight for business.

It is easier for a business to understand the essence of a foresight in comparison with other forecasting methods, which differ significantly from each other. For example, mathematical analysis is based solely on numerical indicators and extrapolation, while futurology implies a creative approach and an emphasis on the personal views of the futurologist. In contrast to these methods, foresight (from the English Foresight – "prediction") suggests not to invent the future, but to agree on it. Its technology consists of conducting panels and sessions, where experts from different fields jointly develop the desired models of the future and determine measures for their implementation. According to the principles of foresight, the future can be created with your own hands, and it directly depends on the decisions made today (Kelli, Kevin, 2018).

The uniqueness of the method for business is that it allows you to build models based on several aspects:

1) development of digital technologies;

2) change in consumer behavior;

3) the state of the competitive environment;

4) "black swans" – unlikely but dangerous factors.

Based on their analysis, an image of the future and an understanding of how to achieve it is formed, while remaining prepared for possible changes. Top management who engages in long-term forecasting can identify key implementation technologies, relevant business models, and product transformation vectors. As a rule, the time period of assumptions covers 5–20 years. That is why the method is less popular, where forecasting is used for a maximum of 3–5 years. Some practices associate the foresight period with the type of environmental uncertainty. There are two of them – "complexity" and "dynamism". When forecasting for at least 15–20 years ahead, they developed scenarios for the future, taking into account all the driving forces of change and their interrelationships. This period of time corresponds to the payback period. Aarhus University conducted a long-term study of companies that actively use forecasting tools, and found that their market capitalization is higher than the benchmark by 200 % and profitability – by 33 % (Martin, 2021).

How to use the foresight methodology? The methodology involves foresight sessions, which usually last two to three days. Their goal is to create a map of the future of the industry (Michio, 2017). Work begins before the session begins, when participants fill in the map with trends that they believe have a significant impact on the industry. Then the process is built as follows:

1) the system and supersystems that affect it are determined (for example: museums are a system, and supersystems are culture, tourism);

2) experts identify trends in the system and supersystems with PESTEL, then cluster them to 10 for the convenience of the workflow;

3) determine the stakeholders that affect the system under consideration: from 3 to 6 and not more. Each team is responsible for its stakeholder;

4) the threats and opportunities for the development of stakeholders under the influence of trends are clarified;

5) formulates an ideal image of the future as seen by experts they want to see;

6) the worst case scenario is described, if all threats come true, there is a gap in the scenarios;

7) solutions are developed that will reduce the gap through regulations, technology development or formats of interaction in the industry.

However, this is not the only possible approach to forecasting. The full picture of the instruments is reflected in R. Popper's Forsyth Rhombus, which is divided into four areas:

1. Examination (advisory methods) – expert panels, road maps, interviews, morphological analysis, compliance trees.

2. Creativity (search methods) – game simulation, screenwriting, "forecast of genius", "wild cards".

3. Interaction (participatory methods) – brainstorming, surveys, scenario seminars, voting, cross-factor analysis.

4. Evidence (methods of interpretation) – models, extrapolation, benchmarking, indicators and more (Nesterenko, Oleksenko, 2020).

If the business is in one of the following situations, it's time to think about a foresight session:

1) the lack of a clear strategy shared by employees is one of the main reasons for applying the corporate forecasting methodology. Although foresight is the destiny of top management, it is important for senior management to understand the company's future development and its purpose to communicate it to middle and line employees;

2) search for new opportunities and development priorities, including access to related markets. The methodology allows you to assess the prospects for different scenarios. At the same time, the strategy can be adapted over time, as France Telecom did, which developed the strategy once but many, to quickly adapt existing products to different markets;

3) limited time for strategic decisions. Foresight helps you quickly assess and act on possible future scenarios. Despite the skeptical sentiments of previous years, the foresight technique has survived a period of criticism and has firmly entered the arsenal of top management of many large companies.

Its effectiveness cannot be clearly measured or directly linked to visible business results (Nikitenko et al., 2019).

Methodology of integrated foresight during foresight session

In developing the session, the principles of innovation and technology foresight were used, which is well illustrated by the program of preparation for the foresight session, as well as its scenario, which included technologies that provide:

1) evidence (review and analytical materials, the results of other foresight studies);

2) rely on the examination of participants (a series of interviews, expert surveys, mapping trends and analysis of their consequences);

3) creative methods – projective technology of metaphorical prototyping of the future of the industry;

4) technologies based on interaction between participants (structured brainstorming in subgroups using different facilitation techniques, group discussions, comparison of the results of participants who worked online and in person in the hall) (Oleksenko, et al., 2017).

Guided by the principles of integrated foresight (Slaughter, 2008), we used not only the traditional perspectives of analysis (accounting for political, economic, socio-cultural, demographic, technological and environmental changes), but also the ratio of collective and individual, various socio-psychological changes. not individuals, interpersonal, intragroup, intergroup relations, organizations and society as a whole). Another principle that underpinned the collaborative work was the approach to discussing the future of the research field from the perspective of modern sociology and anthropology of the future (Mische, 2009; Adam, 2011; Lösch et al., 2019; Urri, 2018; Bauman, 2019; Saint Laurent, 2018; Bryant, Knight, 2019, etc.): first, we sought to consider the imaginary future as the key to understanding the social processes of today; secondly, we took into account the multiplicity of competing images of the future, as well as their inclusion in the economy of expectations, their relationship with the economic and political interests of different market participants (Oltreid, 2021).

Several main criteria were used in the selection of foresight session experts:

1. Research company: management of a federal or regional research group, agency, consulting company (or its divisions, projects), which are included in the TOP-25 "Rating of Russian research companies" ("RIC").

2. Experience of innovation in the research industry: participation in corporate projects and startups based on the use of new technologies of applied sociological research, including the use of BigData (eg, geolocation tracking, banking transaction analysis, search queries), mobile surveys app), bots-interviewers, Agile UX, design-thinking,

DIY-research, etc. Experience in analytical divisions of companies in the field of fintech, internet and telecommunications.

3. The role of the customer of applied research: management of units of Russian and foreign organizations that regularly order applied sociological research (marketing research, public opinion research).

4. Research interests: participation in foresights and conferences on this topic; availability of speeches at industry conferences with reports on the future of European society, the future of technology, research, and related fields – marketing, strategic management, consulting, applied psychology and coaching, etc.

5. Social activity: participation in the governing bodies of professional and scientific associations in the field of social sciences, experience in organizing industry conferences and other public events dedicated to the present and future of the research field.

6. Nomination: An expert must be recommended as an expert by at least two previously selected experts (O Raili, 2018).

Experts analyzed the impact of political, economic, social, demographic, cultural, technological and environmental changes on the transformation of the research market. Among the political and social trends that shape the context of industry development, the processes that have become a reaction of society to the growing uncertainty of the future were considered. Thus, the decline in trust in social institutions (including government, media, business, NGOs) has led to a decline in trust in science and experts, as well as increased distrust in the results of sociological research. The cessation of continuous economic growth in developed countries and the apparent inefficiency of the state, even in developed democracies, caused a rise in social pessimism. Fewer and fewer believe that "our children will live better than us." The formation of the economy of Internet platforms has led to an increase in the number of "precariat", ie. people who do not have permanent employment, stable earnings and social guarantees. People who change jobs, couriers, taxi drivers and freelancers are increasingly targeting research (O' Nil, 2020).

4. The use of foresight methods to analyze the forced digitization of everyday social practices

Forced digitalization of everyday social practices in a pandemic accelerates the transition to a digital city, contactless data collection methods. On the one hand, a culture of quantification of the "I" is being formed (for example, with the help of device sensors and Internet services that facilitate the analysis of one's own behavior and comparison with others: an example – Apple Watch and wellbeing applications). Thanks to "digital footprints" and social networks, a person's ability to compare himself with others is expanding, with a growing range of characteristics. The life experience of some people immediately becomes available to others, which stimulates the formation of "pre-figurative culture" (younger generations learn from each other, not older), as well as the institute of consumer feedback, the economy of sharing impressions. There is a transition to real-time learning (transition from training to micro-learning through mobile applications, video blogs, gamification, etc., setting up learning 24/7 for a task that can be solved by a person). We are witnessing an explosion of authorship, when a large number of people have received tools for self-expression, creation and delivery of content (Punchenko et al., 2021).

Thanks to social networks, a mass "culture of uniqueness" is consolidated: the priority of the individual over the mass, the search for and public advocacy of the exclusivity of places, acquaintances, products and services, life experiences, events. On the other hand, the reaction to this growing digital publicity and transparency is the reverse "privatization" of life: the refusal to self-disclose, the unwillingness to share experiences with researchers. There is a so-called "digital resocialization", when more and more users browse their social connections on networks, refuse to subscribe to groups, tired of information noise. The desire of Russians to protect their personal data will lead to an even greater monopoly of access to them (Skinner, 2020).

Data will be more difficult to obtain through direct access to Internet users, but they will accumulate in telecommunications and Internet companies. Under the supervision of capitalism, digital footprints are used for control and manipulation. Therefore, private companies and public organizations will want to "keep closer to themselves" not only big data, but also any other data about users obtained in one way or another. As part of the foresight, the experts identified several closely related socio-cultural processes that have particularly serious implications for the research industry. All of them are somehow connected with the acceleration of social processes. There is a phenomenon of "fluid identities" – solidarity that

is rapidly formed and disintegrated, based on events, tastes, attitudes to the problem. All this today requires a reduction in the time of research. The fragmentation of society into subcultures is growing. This mosaic is increasingly limiting the effectiveness of mass advertising, reducing marketing budgets and demand for the services of research holdings and polsters. After the global recession, the stratification of Russian society will change (Stainer, 2018).

The proliferation of product-based business models as a service turns any business, even manufacturing, into consulting. Business is becoming more intelligent, top management seeks to make decisions based on data from their own in-house experiments, corporate and not other people's research. The development of ecosystems, the transition from ownership to accessibility, and the exchange economy formed by these trends have other implications. Already today we can see the growing interest of clients in collaboration projects, category research.

As a result, the integration of customers of research services is expected, as well as more coherent, articulated, clear requirements that customers in one industry will impose on researchers. Initially, the advent of the Internet, and now the development of Industry 4.0, has reduced the distance between industry and consumers. In other words, automation reduces the number of intermediaries.

This makes companies constantly interested in their end users, to involve them in creating their products. Due to the war, the desire of companies to include research in business processes is growing, the center of sociological data generation is shifting within companies. This increases the demand for the quality of filling data markets, increases the importance of the ability to formulate hypotheses. Small startups are emerging within big businesses that will require researchers to be as fast as they are. In other words, customers will wait for a quick test of hypotheses at low cost. Another consequence of these changes is the proliferation of DIY (do it yourself) services. Development and customization of products from specialists to "teapots", expanding the availability of technology for amateurs, reduces the credibility of traditional experts (Tovarnichenko, 2019).

Part of this trend is the development of research services that allow any subscriber to independently form a sample, recruit respondents, analyze in the "cloud" and visualize data using advanced technologies. In the next 5 years there will be a deeper automation of research processes. The introduction of the 5G communication standard will greatly expand the possibilities of data collection via the Internet of "smart things". This will allow the use of research technologies that have not yet become widespread: such as iTracking, remote diagnostics of the client's condition with psychophysiological markers, as well as augmented reality technologies. The development of artificial intelligence systems will allow to analyze and aggregate data obtained from surveys, analysis of texts, videos and various "digital traces". Digital technologies are more important than ever in our lives – from remote work, online medical consultations to video calls to family and friends (Floryda,2018).

5. Analysis of digitalization in Europe

The pandemic has also shown that Europe is lagging behind: almost a quarter of homes do not have broadband internet, and only less than 20% of small businesses use the internet to sell their products or services. The transition to a digital system is a key element of the EU's pandemic recovery plan. It is based on a 672.5 billion euro fund for recovery and sustainability, which will be spent on public investment and reforms. To gain access to this money, Member States have submitted national recovery plans, allocating 20% of funds to digitalisation initiatives. Digital technology is changing the way we live and work, but there is a gap between the "rich" and the "poor". 42% of Europeans do not have basic digital skills, and 83% of small and medium-sized enterprises do not use cloud Internet services. To ensure the overall success of the project, the EU is promoting investment in high-speed broadband, training people in digital skills, helping start-ups and small businesses to innovate and develop, and using technology to ensure climate neutrality (Ford, 2016).

Digitalisation Analysis in Europe:
The European Commission has published the Digital Economy and Society Index (DESI), which tracks Europe's overall digital performance and the EU's progress in digital competitiveness. Finland, Germany and Hungary are better prepared than others to implement 5G; 22% of households did not have a fixed broadband subscription in 2019. 4G networks cover almost the entire population of Europe, 18% of ICT professionals are women; 17 Member States are already connected to the 5G bands; only 32.5% of large companies use big data analytics; the use of video calls increased from 49% in 2018 to 60% in 2019; 42% of the EU population still do not have basic digital skills. The

Scandinavian countries and the Netherlands are leaders in the field of digitalization. But even their projects need money from the Recovery Fund to help with digital transformation. According to the UN, Denmark is a world leader in e-services, all sectors of the economy are moving to digital technology. More companies are expected to switch to digital technology in the coming months. Denmark has requested €1.6 billion in subsidies under the European Recovery Plan, and is to allocate one-fifth of that amount to the digital switchover. Sarah-Josephine Yort has developed artificial intelligence software to help educators and HR managers create online learning programs (Shvabs, 2019).

The digital economy presents automated economic regulation based on advanced digital technology, based on digital management of production systems, which requires a modern world to achieve successful economic growth. In order for the country to move to a new technological way, it is necessary to introduce digital management platforms everywhere (Shvabs, 2019).

The digital economy is an area of activity where the main factor of production is information in digital form, and its processing and application to a large extent contributes to improving quality, productivity and efficiency in various industries, equipment and technology in consumption, delivery, sales and storage of products and services.

The subject of digital economy includes laws and economic relations arising from the production, exchange, redistribution and consumption of scientific and technical data through digital information technology, and the formation of such processes is subject to the laws of economics. Industry 4.0 is a digital transformation of production, a necessity and a challenge of today.

Conclusions from the study and prospects for further exploration in this direction.

Therefore, digital technologies in the EU will be able to improve public administration, health care, competitiveness and the performance of companies. Not only the world of giants is unfolding in the EU, but also the world of startups, medium-sized companies, which play a role in this new digital world. Therefore, this dimension to increase the potential of business in digital technologies will be very important in the next five years.

The pandemic has certainly drawn attention to what digital technology has to offer, but also to those at risk of falling behind. An analysis of the foresight of the economy showed how strong the network is during this terrible crisis, how important connectivity is, and at the same time saw what problems connecting to the network create social differences.

Therefore, the foresight of the economy will help to take advantage of the opportunity to reduce and close the digital divide. Now or never. Foresight is valuable because it allows you to make more informed decisions and develop more flexible strategies that take into account many factors, which gives you a competitive advantage when faced with uncertainty.

Список використаних джерел

Аль-Халілі Джим. Що далі? Все, що наука знає про наше майбутнє / пер. з англ. М. Климчука. Київ : Кі Фонд Медіа, 2018. 248 с.

Аппело Юрген. Менеджмент 3.0. Agile-менеджмент. Лідерство та управління командами. Харків : Ранок: Фабула, 2019. 432 с.

Бостром Нік. Суперінтелект. Стратегії і небезпеки розвитку розумних машин / пер з англ. Антон Ящук, Антоніна Ящук. Київ : Наш форматЭ, 2020. 408 с.

Бріньолфссон Е., & Макафі Е. Друга епоха машин: робота, прогрес та процвітання в часи надзвичайних технологій. Київ : FUND, 2016. 236 с.

Браян Крістіан, & Том Гріффітс. Життя за алгоритмами. Як робити раціональний вибір. Київ : Наш формат, 2020. 376 с.

Вебб Емі (2020). Як IT-гіганти та їхні розумні машини можуть змінити людство / пер. з англ. І. Возняка. Харків : Віват. 352.

Воронкова В., Андрюкайтене Р., Кивлюк О., Романенко Т., & Рижова И. Концептуализация smart-общества и smart-технологий в контексте развития современной цивилизации Mokslas ir praktika: aktualijos ir perspektyvos Taptautinė mokslinė-praktinė konferencija. 2017. С. 11–12.

Воронкова ВА.Г., & Соснін О.В. Формування інформаційного суспільства в Україні: виклик чи потреба часу? *Гуманітарний вісник Запорізької державної інженерної академії.* 2015. Вип. 60. С. 13–74.

Valentina Voronkova, & Olga Kyvliuk. Philosophical reflection smart-society as a new model of the information society and its impact on the education of the 21st century. *Future human image.* 2017. Вип. 7. С. 154–162.

Воронкова В.Г. Становлення інформаційного суспільства як цивілізаційної парадигми розвитку сучасної України за доби глобалізації: теоретико-методологічні та праксеологічні виміри. Запоріжжя : ЗДЖІА, 2017.

Voronkova Valentyna, Punchenko Oleg, & Azhazha Marina. Globalization and global governance in the fourth industrial revolution (industry 4.0). *Humanities Studies.* 2020. Випуск 4(81). С. 182–200.

Гемел Гері, & Заніні Мікел Людинократія. Створення компаній, у яких люди – понад усе / пер. з англ. Дмитро Крожедуб. Київ : Лабораторія, 2021 336 с.

Діамандіс Пітер, & Котлер Стівенс (2021). Майбутнє ближче, ніж здається. Як технології змінюють бізнес, промисловість і наше життя / пер. з англ. Дмитро Кожедуб. Київ : Лабораторія. 320 с.

Діксон Патрік (Майбутнє (майже) всього. Як зміниться світ протягом наступних ста років / пер. з англ. І. Возняка. Харків : Віват 2021, 432 с.

Келлі Кевін. Невідвортне. 12 технологій, що формують наше майбутнє / пер. з англ. Наталія Валевська. Київ: Наш формат, 2018. 304 с. Мартін Роберт. Чистий Agile: назад до основ /пер з англ. В. Луненко. Харків : Вид-во "Ранок": Фабула, 2021. 224 с.

Мічіо Кайку. Фізика майбутнього. Як наука вплине на долю людства і змінить наше повсякденне життя у XX1 сторіччі. Львів : Літопис, 2017. 432 с.

Nesterenko Olena, & Oleksenko, Roman. Social philosophical reflection of the individual legal education philosophy as the basis for the democratic society functioning. *Humanities Studies*. 2020. Випуск 4(81). С. 165–181.

Nikitenko Vitalina, Andriukaitiene Regina, & Oleg Punchenko. Formation ofsustainable digital economical concept: challenges, threats, priorities. *Humanities Studies.* 2019. Випуск 1(78). С. 140–153.

Олексенко Р.І. Афанасьєва Л.В., Музя Є.М., & Колева К. Міжкультурний діалог в контексті єднання України. *Українознавчий альманах*. 2017. Випуск 21. С. 15–20.

Олтрейд Дагого. Від Айнштейна до штучного інтелекту: наука і технології, що змінили світ / пер. з англ. І. Возняка. Харків : Віват, 2021. 368 с.

О' Райлі Тім. Хто знає, яким буде майбутнє / Пер. з англ. Юлія Кузьменко. Київ: Наш формат 2018. 448 с.

О'Ніл Кейт. BIG DATA. Зброя математичного знищення. Як великі дані збільшують нерівність і загрожують демократії / пер. з англ. О. Калініної. Київ : Форс Україна, 2020, 336 с.

Punchenko Oleg, Voronkova Valentina, & Vodop'yanov Pavel. Health care as a global problem of humanityand its relationship with other global problems. *Humanities Studies*, 2021. 7(84). С. 39–47.

Скіннер Кріс. Людина цифрова. Четверта революція в історії людства, яка торкнеться кожного / пер. з англ. Г. Якубовська. Харків : Вид-во "Ранок": Фабула, 2020, 272 с.

Стайнер Крістофер. Тотальна автоматизація. Як комп'ютерні алгоритми змінюють життя / пер. з англ. Олександр Лотоцький. Київ: Наш формат, 2018. 280 с.

Tovarnichenko Vladimir. Pseudoscience and information security in smart – society. *Humanities Studies*. 2020. Випуск 1(78). С. 15–26.

Флорида Річард. Homo creatives. Як новий клас завойовує світ / пер. з англ. Максим Яковлєв. Київ : Наш формат, 2018. 432 с.

Форд Мартін. Пришестя роботів. Техніка і загроза майбутнього / пер. з англ. Володимир Горбатько. Київ : Наш формат, 2016. 400 с.

Швабс Клаус. Четверта промислова революція, Формуючи четверту промислову революцію. Харків : Клуб сімейного дозвілля, 2019. 416 с.

References

Al-Khalili, Dzhym (2018) Shcho dali? Vse, shcho nauka znaie pro nashe maibutnie / per. z anhl. M. Klymchuka. Kyiv: Ki Fond Media. 248.

Appelo, Yurhen (2019). Menedzhment 3.0. Agile-menedzhment. Liderstvo ta upravlinnia komandamy». Kharkiv: Ranok: Fabula. 432.

Bostrom, Nik (2020). Superintelekt. Stratehii i nebezpeky rozvytku rozumnykh mashyn / per z anhl. Anton Yashchuk, Antonina Yashchuk. Kyiv: Nash format. 408.

Brinolfsson, E., & Makafi, E. (2016). Druha epokha mashyn: robota, prohres ta protsvitannia v chasy nadzvychainykh tekhnolohii. Kyiv: FUND. 236.

Braian, Kristian & Tom, Hriffits (2020). Zhytttia za alhorytmamy. Yak robyty ratsionalnyi vybir. Kyiv Nash format. 376.

Vebb, Emi (2020). Yak IT-hihanty ta yikhni rozumni mashyny mozhut zminyty liudstvo / per. z anhl. I. Vozniaka. Kharkiv: Vivat. 352.

Voronkova, V., Andriukaitene, P., Kyvliuk, O., Romanenko, T., & Ryzhova, Y. (2017). Kontseptualyzatsyia smart-obshchestva y smart-tekhnolohyi v kontekste razvytyia sovremennoi tsyvylyzatsyy Mokslas ir praktika: aktualijos ir perspektyvos Taptautinė mokslinė-praktinė konferencija. 11–12.

Voronkova, V.H., & Sosnin, O.V. (2015). Formuvannia informatsiinoho suspilstva v Ukraini: vyklyk chy potreba chasu? Humanitarnyi visnyk Zaporizkoi derzhavnoi inzhenernoi akademii. 60, 13–74.

Voronkova, Valentina & Kyvliuk, Olga (2017). Philosophical reflection smart-society as a new model of the information society and its impact on the education of the 21st century. Future human image. 7, 154–162.

Voronkova, V.H. (2017). Stanovlennia informatsiinoho suspilstva yak tsyvilizatsiinoi paradyhmy rozvytku suchasnoi Ukrainy za doby hlobalizatsii: teoretyko-metodolohichni ta prakseolohichni vymiry. Zaporizhzhia: ZDIA.

Voronkova, Valentyna, Punchenko, Oleg, & Azhazha, Marina (2020). Globalization and global governance in the fourth industrial revolution (industry 4.0). Humanities Studies. Vypusk 4(81). 182–200.

Hemel, Heri & Zanini, Mikel (2021). Liudynokratiia. Stvorennia kompanii, u yakykh liudy – ponad use / per. z anhl. Dmytro Krozhedub. Kyiv: Laboratoriia. 336.

Diamandis, Piter & Kotler, Stivens (2021). Maibutnie blyzhche, nizh zdaietsia. Yak tekhnolohii zminiuiut biznes, promyslovist i nashe zhyttia / per. z anhl. Dmytro Kozhedub. Kyiv: Laboratoriia. 320.

Dikson, Patrik (2021). Maibutnie (maizhe) vsoho. Yak zminytsia svit protiahom nastupnykh sta rokiv / per. z anhl. I. Vozniaka. Kharkiv: Vivat. 431.

Kelli, Kevin (2018). Nevidvortne. 12 tekhnolohii, shcho formuiut nashe maibutnie / per. z anhl. Nataliia Valevska. Kyiv: Nash format. 304.

Michio, Kaiku (2017). Fizyka maibutnoho. Yak nauka vplyne na doliu liudstva i z Martin, Robert (2021). Chystyi Agile: nazad do osnov /per z anhl. V. Lunenko. Kharkiv: Vyd-vo "Ranok": Fabula. 224.

minyt nashe povsiakdenne zhyttia u KhKh1 storichchi. Lviv: Litopys 432.

Nesterenko, Olena & Oleksenko, Roman (2020). Social philosophical reflection of the individual legal education philosophy as the basis for the democratic society functioning.Humanities Studies. 4(81), 165–181.

Nikitenko, Vitalina, Andriukaitiene, Regina, Punchenko Oleg (2019). Formation ofsustainable digital economical concept: challenges, threats, priorities. Humanities Studies. 1(78), 140–153.

Oleksenko, R.I. Afanasieva, L.V., Muzia, Ye.M., & Koleva, K. (2017). Mizhkulturnyi dialoh v konteksti yednannia Ukrainy. Ukrainoznavchyi almanakh. 21, 15–20.

Oltreid, Dahoho (2021). Vid Ainshteina do shtuchnoho intelektu: nauka i tekhnolohii, shcho zminyly svit / per. z anhl. I. Vozniaka. Kharkiv: Vivat. 368.

O' Raili, Tim (2018). Khto znaie, yakym bude maibutnie / Per. z anhl. Yuliia Kuzmenko. Kyiv: Nash format. 448.

O' Nil, Keit (2020). BIG DATA. Zbroia matematychnoho znyshchennia. Yak velyki dani zbilshuiut nerivnist i zahrozhuiut demokratii / per. z anhl. O. Kalininoi. Kyiv: Fors Ukraina. 336.

Punchenko, Oleg, Voronkova Valentina, Vodopyanov Pavel (2021). Health care as a global problem of humanityand its relationship with other global problems. Humanities Studies. 7(84), 39–47.

Skinner, Kris (2020). Liudyna tsyfrova. Chetverta revoliutsiia v istorii liudstva, yaka torknetsia kozhnoho / per. z anhl. H. Yakubovska. Kharkiv: Vyd-vo "Ranok": Fabula. 272.

Stainer, Kristofer (2018). Totalna avtomatyzatsiia. Yak kompiuterni alhorytmy zminiuiut zhyttia / per. z anhl. Oleksandr Lototskyi. Kyiv: Nash format. 280.

Tovarnichenko, Vladimir (2019). Pseudoscience and information security in smart – society. Humanities Studies. 1(78), 15–26.

Floryda, Richard (2018). Homo creatives. Yak novyi klas zavoiovuie svit / per. z anhl. Maksym Yakovliev. Kyiv: Nash format. 432.

Ford, Martin (2016). Pryshestia robotiv. Tekhnika i zahroza maibutnoho / per. z anhl. Volodymyr Horbatko. Kyiv: Nash format. 400.

Shvabs, Klaus (2019). Chetverta promyslova revoliutsiia, Formuiuchy chetvertu promyslovu revoliutsiiu. Kharkiv: Klub simeinoho dozvillia.416.

ВОРОНКОВА, В.Г. – доктор філософських наук, професор,
Академік академії наук вищої освіти України, завідувач кафедри менеджменту
організацій та управління проектами, Інженерний навчально-науковий інститут
ім. Ю.М. Потебні Запорізького національного університету (Запоріжжя, Україна)
E-mail: valentinavoronkova236@gmail.com
ORCID iD: http://orcid.org/0000-0002-0719-1546

КАГАНОВ, Ю.О. – доктор історичних наук,
професор, проректор з науково-педагогічної роботи (Запоріжжя, Україна)
E-mail: znuhist@gmail.com
ORCID iD: http://orcid.org/0000-0001-6889-7377

МЕТЕЛЕНКО, Н.Г. – доктор економічних наук, професор,
академік АЕНУ, Інженерний навчально-науковий інститут
ім. Ю.М. Потебні Запорізького національного університету (Запоріжжя, Україна)
E-mail: natalia.metelenko@gmail.com
ORCID ID: 0000–0002–6757–3124

КОНЦЕПТУАЛЬНІ ОСНОВИ МОДЕЛІ "ФОРСАЙТ ЦИФРОВОЇ ЕКОНОМІКИ": ЄВРОПЕЙСЬКИЙ ДОСВІД

Анотація

У статті досліджено концептуальні основи моделі "форсайт цифрової економіки", в контексті якої дається аналіз понять "форсайт", "стратегічний форсайт" та їхня відмінність від планування, прогнозування. Форсайт, у поєднанні з підходом з цифрової економіки як комплексної адаптивної системи, сприяє розвитку передбачення та прогнозування, але від них відрізняється. Стратегічний форсайт розвивається у багатьох країнах із розвиненою економікою, що включають країни Європейського союзу, Японії та Сінгапуру, де поширені програми форсайту на урядовому рівні. Згідно з визначеннями вчених, форсайт розуміється як здатність бачити те, що буде чи може статися у майбутньому. Мета дослідження – концептуалізація моделі "форсайт цифрової економіки", що лежить в основі розуміння процесів та тенденцій цифрового суспільства. Об'єкт дослідження – модель "форсайт цифрової економіки" як складний соціальний та економічний феномен. Предмет дослідження – вплив цифровізації формування моделі "форсайту цифрової економіки". Дослідження спирається на аналіз вітчизняного та зарубіжного досвіду вивчення форсайту цифрової економіки, в основі якого лежить розуміння системи та процесів управління цифровими знаннями (парадигма цифрового мислення та відносин), концепції управління інформацією та знаннями. Методи аналізу – порівняльний аналіз, контент-аналіз, методи дедукції та моделювання як наукового пізнання соціально-економічних процесів. Результат дослідження. Проаналізовано сутність понять "форсайт" та "стратегічний форсайт" та визначено методи проведення форсайту цифрової економіки. З'ясовано теоретичні та практичні основи форсайту для бізнесу та методологія інтегрального форсайту під час проведення форсайт-сесії. Розкрито використання форсайт-методів форсованої цифровізації повсякденних соціальних практик та аналіз "форсайту цифрової економіки" у Європі. Практичне значення дослідження полягає у філософському осмисленні аналізу "форсайту цифрової економіки" у Європі. Акселератором форсайту цифрової парадигми є цифровий простір та цифрові креативні технології.

Ключові слова: модель, форсайт, стратегічний форсайт, інтегральний форсайт, цифрові технології, цифрова економіка.

Стаття виконана згідно НДР «Цифрова людина і суспільство у контексті глобальних викликів» Наказу МОН України від 21.01.2022р. № 50 та технічного завдання ЗНУ № 2/22, № 0122U001432

Received date 15.01.2022
Accepted date 01.02.2022
Published date 15.02.2022

How to cite: Voronkova Valentyna, Kaganov, Yuriy, Metelenko, Natalia. Conceptual basis of "the digital economy forsite model": European experience. Humanities studies: Collection of Scientific Papers / Ed.V. Voronkova. Zaporozhzhia: Publishing house "Helvetica", 2022. 10 (87). P. 9–19.
doi: https://doi.org/10.26661/hst-2022-10-87-01