



ROLE OF SCIENCE AND EDUCATION FOR SUSTAINABLE DEVELOPMENT

Monograph

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ROLE OF SCIENCE AND EDUCATION FOR SUSTAINABLE DEVELOPMENT

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Part 5. SOCIAL AND HUMANITARIAN DIMENSIONS OF SUSTAINABLE DEVELOPMENT

5.1. CURRENT TRENDS IN THE DEVELOPMENT OF THE SHARING ECONOMY

At the present stage of economic development, the world is watching an extremely rapid development of such a phenomenon as the sharing economy, which is based on the common use of goods, works and services, rather than on their possession. At the same time, the previously prevailing industrial model, when companies own and people consume likewise the Internet has supplanted traditional TV and the blogosphere has supplanted the media. It allows you to act as both a consumer and a producer, as well as to use the possible financial profit from the produced consumer value. Ukraine does not stand aside from this problem, so the formation and development of the sharing economy is relevant for our country.

The concept of the sharing economy was formulated by Rachel Boatsman in 2008, author of *What's Mine Is Yours: A Rise of Collaborative Consumption*, which focused on the economy of sharing and the impact of technology on social change. This issue is relevant to Juliet Scor, a professor of sociology at Boston and Harvard Universities. J. Score studies the sharing economy in all its diversity, including the impact on society. Detailed research in the sociological context of the sharing economy was conducted by Aaron Smith, Samuel Nadler, Paolo Parigi and others. They all have studied the impact of the sharing economy on human interaction, the ability to form communities, including building strong friendships, and how the sharing economy affects consumption, the labor market, the structure of society, and so on¹²⁹⁸.

Human needs are limitless and resources are limited – a global economic problem that has been facing society for centuries.

Under particular conditions a new type of economy began to develop several decades ago – the sharing economy, which comes from the English word "share" – "share".

The sharing economy is a relatively new phenomenon in many countries around the world. The idea of participatory economics was actively discussed in the late 1990s, but was finally formed only after Internet's rapid development, digital technologies and virtual communities. Over the past few years, the sharing economy has shown steady growth. The sharing economy is a socio-economic system based on the sharing and access of resources, goods and services. It includes the creation, production, distribution, trade and consumption of goods and services by various people and organizations.

The economy of shared consumption (use, participation) is an economic model of relationships when people can receive or lease assets without transferring ownership of them and at the same time receiving mutual financial benefits. This type of economic relationship is not new. Resource sharing, for example, is well known and manifested in business-to-business (B2B) model, for example in the sharing of machinery in agriculture and forestry, and in business-to-consumer (B2C) model, for example in self-service laundries. But three basic principles make the model of joint participation a necessity in today's global context, that ultimately yields results for all parties. First, customers' attitudes toward the consumption of many goods and services change from ownership to sharing. Second, social networks and virtual stores are much easier to connect those who offer a product or service and their potential consumers. And third, the development of mobile devices and electronic applications makes the sharing process more convenient and enjoyable. Undoubtedly, this model of economic relations, which has intensified with the development of social networks, most often occurs when the price of a particular asset is high, and at the same time the asset may not be fully used at a particular point in time.

¹²⁹⁸ Bodrova D. V. (2019) Instytuty sherynhovoyi ekonomiky v umovakh tsyfrovoyi transformatsiyi sotsiohospodars'kykh system [Institutes of sharing economy in terms of digital transformation of socio-economic systems]. *Intelekt XXI*. 2019. № 3. pp. 28-33.

The essence of the sharing economy is the ability to generate additional income (or reduce costs) from the temporary transfer of things that you do not currently need.

A sharing economy or an economy of shared consumption is an economy that consists in reducing costs (sometimes even making a profit) by leasing part of the property that is not used to another person. In turn, the tenant can save money or even benefit.

According to sharing economy researcher Rachel Botsman, the sharing economy originated and is evolving due to four main driving forces¹²⁹⁹:

1. Sharing social networks (i.e. based on equality of all participants) and real-time technologies that radically change the behavior of the majority of the population.

2. The global crisis from which the economy and society are suffering. The most famous projects in the sharing economy started shortly after the crisis in late 2008.

3. Environmental problems.

4. Innate faith: people began to trust each other more and help others more often.

5. The economy of joint participation, being a socio-economic system, includes the joint creation, production, delivery, trade and consumption of goods and services by different people, organizations. This system takes many forms, often using information technology to empower people, corporations, nonprofits, and government, providing information that allows you to allocate, share, or reuse excess capacity in goods and services. The general premise is that when information about surplus goods is general, it expands the importance of these goods from businesses and individuals to society.

Accordingly to that the sharing economy creates value in five ways:

- giving others the opportunity to use cars, apartments and other property that is "dead capital" for the owner, ie assets that are not fully exploited, will increase their productivity;

- combining the diversity of buyers and sellers, stimulates, in turn, both in terms of supply and demand, competitiveness in the market and leads to improved industry specialization;

- reducing the cost of finding buyers, negotiating, as well as controlling, which reduces operating costs and expands trade;

- combining feedback from both consumers and manufacturers (service providers), which reduces the problem of information asymmetry. The consumer monitors his behavior, because he also wants to get a positive response;

- by proposing to "circumvent" the law that regulates the activities of real producers, allows suppliers to create value for consumers who have not received high quality goods and services for a long time due to legal barriers, and as a result goods and services become inefficient and do not meet standards due to regulatory protection.

These factors can improve consumer welfare by offering new innovations, wider choice, wider differentiation of services, better prices, and better services.

The participatory economy is not a unique system that covers the full range of goods and services. During the formation or reconstruction of an existing business model, it is necessary to take into account a number of basic characteristics of goods and services of the consumer economy listed in Table. 1.

Table 1. Characteristics of goods and services of the consumer economy

Characterization	Sharing	Potential sharing	Least likely to share
General / personal use	General	General	Personal
Price	Expensive	Cheaply	Cheaply
Term of use	Long use	Long use	Short consumption
Frequency of use	Infrequently	Infrequently	Frequently
Reasons for use	Convenient / luxury item / necessary	Convenient / luxury item / necessary	It is necessary
Location	Near	Near	Remote access

¹²⁹⁹ Evolyutsiya doviry: yak sherynhova ekonomika ruynuye svitovi kordony [The evolution of trust: how the sharing economy is breaking down world borders]. (2016) Ekonomichna pravda, 2016. URL: <http://www.epravda.com.ua/publications/2016/10/3/607318>.

It is advisable to consider the economy of shared consumption as a market where a network of people who share or exchange infrequently used assets. Including various goods and services that are shared or exchanged for tangible or intangible rewards.

Technology has become the basis for the emergence of a participatory economy, and made it cost-effective, because it reduces the cost of contracting and finding customers. However, despite the importance of this factor, a prerequisite for the development of the economy of joint participation was the synergy of social, economic and technological factors, their classification is given in Table. 2.

Table 2. Factors that led to the creation and development of a participatory economy

Social	Economic	Technological
increasing population density	monetization of passive assets	social networks
desire for sustainable development	increase financial opportunities	smartphones
desire to be involved	access to underfunded assets	platforms
altruism	investing in venture funds	payment systems

A peculiar feature of the model of joint participation economy is the combination of profit and social effect. Nevertheless, sometimes the activities of companies with business models of participatory economics are aimed only at obtaining a social effect, without even receiving material benefits.

The first signs of a participatory economy appeared in 1995, with the establishment of eBay and Craigslist, two reusable trading platforms that have become a regular part of the mainstream consumer experience. Their development was due to: a) the ability to purchase cheap imports; b) complex software and the availability of reputational information (confirmed by information about the good faith of the seller from numerous buyers); c) reduction of traditionally high transaction costs and reduction of risks.

By 2010, a large number of such sites were created and launched – ThredUp and Threadflip for clothing exchange, Freecycle and Yerdle for free exchange of anything, barter sites (Swapstyle.com).

The Internet sharing sector now includes dense markets for clothing, books and toys, as well as smaller markets for sports equipment, furniture and household goods.

The modern concept of the sharing economy was formed by Rachel Botsman and Roo Rogers in 2010, co-authors of the book "What's Mine Is Yours: Rise Of Collaborative Consumption". The basis of this concept is based on the following postulates: saving time and resources (no need to buy a car to go out of town once a month); benefits (for example, the provision of rental housing reduces its maintenance costs); rational consumption (optimal use of transport reduces harmful emissions); trust (the social effect of sharing contributes to increasing the overall level of trust in society; the general ideology of the sharing economy is best illustrated by the principle that both parties benefit from the interaction); use of communication technologies (availability of mobile communication and the Internet is one of the key tools of the sharing economy)¹³⁰⁰.

Thus the sharing economy for the world is a convenient and affordable way to meet your needs for a product or service, save your money and contribute to the public mission of saving limited resources. For Ukraine the concept of sharing economy is somewhat broader – it is an opportunity to meet their basic needs, regardless of income level and social status of the consumer. Availability and diversity of services have become the key to the spread of the sharing economy, because people, in addition to saving money, join the social responsibility, saving the limited resources of the planet.

In today's global economy, the interdependence of subjects at all levels is increasing. Under these conditions there is a need for mutually beneficial cooperation. With the processes of

¹³⁰⁰ Hura A. O., T. H. Hutsan, D. V. Sotnikov. (2018) *Mozhlyvosti ta perspektyvy rozvytku sherynhovoyi ekonomiky v Ukraini* [Opportunities and prospects for the development of the sharing economy in Ukraine]. *Zbirnyk naukovykh prats' Kharkivs'koho natsional'noho pedahohichnoho universytetu imeni H. S. Skovorody «Ekonomika»*, 2018, vyp. 18. pp. 24-32.

globalization of international trade, the development of logistics networks, increasing the volume and diversification of financial transactions, the development of market liberalization, and, of course, with the rapid spread of social networks and virtual technologies, national economies become more open and vulnerable to external influences. That is why there is a qualitative transformation of traditional foreign economic relations and the search for alternative models of economic cooperation between countries on the basis of sustainable development, which simultaneously solves global problems.

The main subjects of the sharing economy are sharing Internet platforms - online platforms for the exchange of various consumer values. Such platforms also form the sharing market. Currently, the list of sharing Internet platforms includes hundreds, if not thousands, of projects around the world. However, the main share of such projects is held by Europe. The largest number of European sharing platforms is in the UK, France, Spain, Germany, the Netherlands, as well as in Sweden, Poland, Italy and Belgium.

Let's consider the market situation for sharing Internet platforms to a global scale. With this purpose some foreign projects that have gained global popularity or proved themselves in seemingly unusual industries are presented (Table 3)¹³⁰¹.

It should also be noted that the market for sharing platforms is constantly growing. More and more new platforms are gaining popularity.

These days the sharing economy is changing rapidly, complemented by new features, creates new opportunities. Sharing Internet platforms are improving, becoming more sophisticated and closer to the consumer. That is to say they reach a whole new level of development. Therefore it is necessary to consider a number of global trends in the field of sharing, that are currently being formed and lay the foundation for the coming years¹³⁰².

The economy of joint participation is divided into certain types, such as cooperative economy, economy "on demand", freelance economy, etc.¹³⁰³ (Table 4).

In the course of research the directions are defined:

1. Active introduction of new technologies into existing sharing Internet platforms.

Already today we can see the introduction of various prototypes in the field of VR (augmented reality) transport sharing platforms, such as, for example, Uber. Smart home items are being tested at some Airbnb facilities. Versatile sharing Internet platforms have long simplified the relationship between customer and customer. This includes online shopping, freelance sites, and more. But today sharing platforms are beginning to emerge in completely unexpected areas – such as automated search and recruitment for business. Yes, even in the case of such specialists, who, in theory, should not be selected automatically. The People.ai platform is currently working on this issue.

2. Transition from charity to business.

From the start of their activities most sharing Internet platforms operate in the following way: the main thing is to attract new users, and how to monetize the activities of the platform – we will decide later. At the same time they lose sight of such an important point as the human factor. Namely, if they first accustom the user to the fact that their service is free, it will be extremely difficult to force them to pay later. It is better to focus their attention immediately on what is free and what will involve payment. That is why a new trend in the sharing economy is the transition of sharing online platforms new and old to paid models.

¹³⁰¹ Kalinichenko L., Holovko-Marchenko I., Kryvorozhenko Z. H. (2018) Sherynhova ekonomika yak perspektyvna sotsioekonomichna model' rozvytku suspil'stva [Sharing economy as a promising socio-economic model of society development]. Zbirnyk naukovykh prats' Derzhavnogo universytetu infrastruktury ta tekhnolohiy. Seriya : Ekonomika i upravlinnya. 2018. Vyp. 42 (2). pp. 66-76. URL: <http://old.duit.edu.ua/wp-content/uploads/2019/02/pdf-6-1.pdf>.

¹³⁰² Polishchuk S. V., Shyshkina V. O. (2017) Sherynhova ekonomika v Ukrayini yak sposib vyrishennya problemy obmezhenosti resursiv hromadyan [Sharing economy in Ukraine as a way to solve the problem of limited resources of citizens]. Visnyk Berdyans'koho universytetu menedzhmentu i biznesu. 2017. № 3. pp. 23-26.

¹³⁰³ Spens M. (2015) Chas dilytysya: u chomu sekret servisiv kolektivnoho spozhyvannya [Time to share: what is the secret of collective consumption services]. Zhurnal FORBES, 2015. URL: <http://forbes.net.ua/ua/magazine/forbes/1404950-chas-dilytysya-uchomu-sekret-servisiv-kolektivnogo-spozhyvannya>.

Table 3. Foreign sharing Internet platforms

Name and website	Year of creation	Characteristics of the project
eBay www.ebay.com	1995	An online auction platform and a trading website where individuals and legal entities sell and buy a variety of goods and services. eBay Inc. also owns the international electronic payment system PayPal. The online auction was founded in San Jose, California, USA, on September 5, 1995 by Pierre Omidyar.
Craigslist www.craigslist.org	1995	An electronic advertising site that is very popular among American Internet users. Craigslist originated in San Francisco, USA in 1995. At the same time, the creators of the site discovered the market's need for a cheap, fast and easily accessible source of various types of ads. The total number of individual visitors in 2016 - 150 million people, which made the site to place 56th in the world in popularity. His ads cover more than 450 cities around the world. Total revenue for 2017 is estimated at \$ 80-120 million. 25% of the shares are owned by the eBay online auction.
Upwork www.upwork.com	2003	A company that offers a global job search platform and a range of software products for employers who want to hire and manage remote professionals. Located in Redwood City (California). Upwork was founded in 2003 by Greek entrepreneurs Odysseus Tsalatos and Stratis Karamanlakis. The company collects 20% of the payment for a job from the employer.
BlaBlaCar www.blablacar.com	2006	Global leader in ridesharing. The driver offers passengers to partially share the travel costs with him, without pursuing financial benefits. According to the plan, the driver reimburses most of the fuel costs, and passengers travel cheaper than by public transport. Today BlaBlaCar has more than 30 million users in 22 countries. In 2016 investors valued the company at \$ 1.6 billion. The idea to create the service originated in 2003 from the Frenchman Frederic Mazzella, in 2006 he has begun implementing the project.
OLX www.olx.com	2006	An international platform that provides online ad services in 105 countries in 40 languages. OLX offers a quick way to buy, sell, or share products and services in specific countries by posting ads. Every month millions of people around the world sell and buy a variety of products with OLX, including household items, furniture, consumer goods, cars, electronics, real estate and more. The company was founded by Internet entrepreneurs Fabrice Grinda and Alejandro Oxenford. OLX Internet is headquartered in New York, Buenos Aires, Moscow, Kiev, Beijing and Mumbai.
Airbnb www.airbnb.com	2008	The world's largest platform for accommodation, search and short-term rental of private housing. Offers more than 2 million options for houses, apartments, rooms in 33,000 cities in 192 countries. The project started in 2008. According to official legend the founders of the service sheltered three visitors to the design conference. And in 2015 almost 30 million people used Airbnb services. Today Airbnb has an annual turnover of \$ 1 billion and its capitalization is estimated at \$ 30 billion. According to forecasts the annual turnover of the company, which does not own any hotel, in 2020 will be 10 billion dollars. As for 2017 it employs 60 million users in 200 countries.
TaskRabbit www.taskrabbit.com	2008	A platform that allows users to delegate their home responsibilities and household chores to community performers, such as painting, ironing, mowing the lawn, or remodeling a home. Tasks are grouped by category, and a special option allows you to understand which tasks are most in demand in a particular area. In TaskRabbit the customer forms his proposal, and then communication is reduced to a dialogue with a potential employee who responded to the order. For its services the TaskRabbit platform charges the employer 20%, which is automatically added to the invoice amount.
Uber www.uber.com	2009	An American international company based in San Francisco, which has created a mobile application of the same name for finding, calling and paying for taxi drivers or private drivers. As for September 2017 the service is available through the application in more than six hundred cities around the world. Most drivers use their own cars as well as cars of taxi or partners. In many countries 80% of the payment goes to the driver and 20% is transferred to Uber. The company was founded by Travis Kalanick and Garrett Kemp. Over the years Uber has raised about \$ 11.5 billion.

Table 4. Types of joint participation economies

View	Characteristic
Actually the economy of joint participation	Focus on exchanging unused assets, monetized or not, to increase efficiency and stability
Cooperative economy	Focus on common forms of consumption, production, finance and education ("cooperative consumption" is the closest meaning for the initial definition of the economy of joint participation)
Economy "by request"	Focus on "demand" (ie, urgent and affordable) provision of goods and services
Project economics	Focus on labor force participation and income generation through individual projects or tasks for which the employee was hired
Freelance economics	Focus on the workforce and profit from freelancers (freelance commitments are often longer and / or deeper than in a project economy)
Equal economy	Focus on peer-to-peer networks (P2P) in product development, service delivery, financing, etc.
Access to the economy	Focus on "access to property" (coincides with sharing, although sharing is optional)
Crowd economy	Focus on crowd-driven economic models, including crowdsourcing and crowdfunding
Digital economy	Focus on anything using digital technology
Economics platform	Focus on anything using tech-oriented platforms

3. The importance of public transport.

Public transport is the basis of movement in all cities of the world. In 2017 many innovative technological projects were created that can improve the situation with public transport. Such projects include the startup Hyperloop from the creator of the world-famous "Tesla" and SpaceX, Elon Musk, whose aim is to create a vacuum "train" that will deliver passengers from San Francisco to Los Angeles in 30 minutes (instead of six hours). And this is just the beginning. Obviously such developments will be trendy in the coming years. And they, of course, will not go unnoticed by startups in the field of sharing.

4. Crowdfork.

A stunning phenomenon that started with GitHub and spread to many other platforms. Here you can teach the original software development, together create blocks of program code. In the nearest future, such sharing platforms will develop so much that they will create ready-made software solutions that can be taken and simply integrated into the work. And this is definitely a huge plus.

5. Fight against corruption.

If all such sharing developments are implemented correctly, the word "corruption" will disappear from our use. After all the process of transferring consumer values on sharing platforms from producer to consumer takes place without living intermediaries, only interest is charged per transaction. This is the future. Developing in this direction, deepening the transparency of services, various sharing Internet platforms are revolutionizing the economy¹³⁰⁴.

Conclusion. The study examines the main recent trends in the sharing economy, that in the coming years will set the direction in the development of sharing platforms around the world, this is the situation with the sharing economy on a global scale. However, it should be noted that Ukraine, for various reasons, often falls out of the global trend. And many economic innovations, once in the Ukrainian realities, face unexpected challenges and are forced to adapt to unusual conditions. Therefore, the next section of our work is devoted to the study of the sharing economy in Ukraine.

Summing up the first trend of the sharing economy, we can say that in this way a completely new niche for sharing projects appears. The ever-evolving infrastructure of the sharing economy is a huge market for technologies designed to simplify various processes and help people.

¹³⁰⁴ Sherynhova ekonomika: analiz suchasnoho stanu ta mozhlyvostey yiyi rozvytku v Ukrayini [Sharing economy: analysis of the current state and opportunities for its development in Ukraine]. URL: <https://www.pdaa.edu.ua/sites/default/files/node/4085/sheryngovaekonomika.pdf>

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4.19. Vasyl Yahupov, Iliia Bielikov. ORGANIZATIONAL COMPETENCE OF SPECIALISTS IN PHYSICAL CULTURE AND SPORTS OF THE ARMED FORCES OF UKRAINE: CONCEPT, CONTENT AND STRUCTURE

The article describes the increasing role of professional and organizational activities of specialists in physical culture and sports in the Armed Forces of Ukraine. Attention is drawn to the role and importance of specialists in physical culture and sports of the Armed Forces of Ukraine as a subject of military activity. The analysis of the main methodological approaches to understanding the concept of "organizational competence" of specialists is carried out. The author takes into account the complexity and versatility of the studied competence and proposes the definition of "organizational competence of specialists in physical culture and sports of the Armed Forces of Ukraine." Based on the analysis of scientific sources and dissertations, its structure is determined, which contains value-motivational, cognitive, managerial, managerial, control-corrective, reflexive-evaluative or subjective components.

Part 5. SOCIAL AND HUMANITARIAN DIMENSIONS OF SUSTAINABLE DEVELOPMENT

5.1. Nadiia Advokatova. CURRENT TRENDS IN THE DEVELOPMENT OF THE SHARING ECONOMY

In today's global economy, the interdependence of subjects at all levels is increasing. In these conditions, there is a need for mutually beneficial cooperation. With the processes of globalization of international trade, the development of logistics networks, increasing the volume and diversification of financial transactions, the development of market liberalization, and, of course, with the rapid spread of social networks and virtual technologies, national economies become more open and vulnerable to external influences. That is why there is a qualitative transformation of traditional foreign economic relations and the search for alternative models of economic cooperation between countries on the basis of sustainable development, which simultaneously solves global problems.

The study identified that the sharing economy is an economic model of relationships in which people can receive or lease assets without transferring ownership and at the same time obtaining mutual financial benefits. This type of economic relationship is not new, but the sharing of resources in the model of "business" (B2B), as well as in the model of "business consumer" (B2C) – these are the basic principles that make the model of joint participation new and necessary in modern global conditions, which ultimately gives results for all parties.

5.2. Julia Kharchenko. THE ROLE OF MODERN KNOWLEDGE IN THE FORMATION OF INNOVATION SPACE. VERGENCE OF "NEW" AND "OLD" (ONTOLOGICAL APPROACH)

In this study, the conceptualization of the phenomenon of modern knowledge in a changing reality is carried out in the "collision" of a multitude of "logics" and "rationalities" taking into account the inconsistency of ontological and innovation spaces. The mechanism of vergence is analyzed as a factor that ensures the synchronization of processes and phenomena in simple and complex systems, as well as points of intersection of divergent and convergent processes or the "third", middle state of the system. An ontological correlation of the "old" and "new" phenomena in the innovation space is carried out.