

# The creative employment in the context of structural transformations

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*Abstract:* - The article is devoted to the study of creative employment in the context of digital technology development. The study aims to identify the problems of creative employment and develop the prospects for stimulating the growth of creative employment in the context of digitization. The study conducted a critical literary analysis of the concept of creative employment and its components to achieve this purpose. The research concluded that creative employment includes work in the cultural sector and the whole range of innovative activities. The application of statistical analysis methods made it possible to estimate global creative employment, dynamics, and structure today. IT and media are nowadays the core sectors in the formation of creative employment, and they form the many job vacancies of the big companies. At the same time, creative employment can be realized independently. The analysis results showed that the digital sphere of creativity is the most promising today and in the future. Virtual reality, piece intelligence, and Blockchain are recognized as the future technologies as essential components of the IT sector. The combination of e-commerce together with traditional ones allows bringing the whole cultural creative potential to a new level, providing an increase in employment. At the same time, an essential aspect of getting a job is the creative potential of an individual and digital competencies. With this purpose, the suggestions on increasing employment levels by stimulating small businesses and entrepreneurship in the creative industry are developed.

*Key-Words:* - creative potential, creative employment, digital technologies, e-commerce.

Received: April 25, 2022. Revised: March 9, 2023. Accepted: April 11, 2023. Published: June 1, 2023.

## 1 Introduction

The leading developer of modern business is innovativeness. Thus, business success and its survival in a competitive environment under market uncertainty conditions directly depend on the full realization of the creative potential of the workforce. That is why business administrations are interested in attracting and developing the skills and creative potential of the team. For example, the IPA Databank conducted research and found that efficiency increased 12-fold over seven years when it encouraged creative activities. There was also an increase in net profit and sales (Yva.ai, 2021).

The correlation between creativity and increased income is recognized by the owners of all large successful businesses. They understand that no modern production process is without innovation, and innovation must be embodied in all stages of production, from logistics to production technology. That is why big business is interested in such employees, who can bring new relevant ideas, to be creative and critical to their business.

If we talk about creative employment in a general context, it includes not only the application of creative potential in large companies. Creative potential can be realized independently by creating your own micro business. A striking example of the realization of creative potential can be many companies that emerged in the '60s and '70s of the last century in the United States. At the same time, entrepreneurs do not have enough financial resources to buy ready-made ideas, have several advantages for the implementation of creativity, which includes:

- low initial investment,
- the ability to change priorities and improve the product during the initial development,
- the ability to be more responsive to changing market conditions,
- numerous state, municipal, as well as grant programs to support small businesses.

It should be noted that the development of small and microbusinesses today can be significantly accelerated by integrating them with new methods of commerce. If we talk about large companies, digitalization, particularly digital sales technology, allows an additional sales field and a global reach. Small companies can start selling their products without investing in a traditional service store. Today e-commerce allows to significantly reduces

the start-up costs for the organization of entrepreneurial activity. It also allows expanding the coverage of the target audience, which helps the creative industry to appear in the regional market and reach the scale of large companies selling their products and services to all corners of the world. The potential of the creative industry in the context of digital transformation is almost unlimited. Still, several threats could negatively affect the dynamics and structure of the global labor market.

The study aims to identify the main challenges for the implementation of creative employment in the context of digital transformation and to show the prospects for stimulating the development of creative jobs in digitalization.

## 2. Literature Review

Creative employment has been extensively researched in both academia and business literature. It is worth noting the study of Lee, K. et al. (2015), who showed the essence of creative employment and developed its classification scheme. These authors determine the relevance of the study based on the fact that creative work ensures the formation of new jobs and creates the concept of the so-called creative economy.

First of all, it should be noted that the term "creative industries" has many variations of interpretation and translation. There is a translation in which "industry" appears as "branch of industry in the literature. And such a variant has a right to exist in this context as well. Furthermore, creative industries have many other names, such as creative economy, creative and cultural industries, orange economy (Luzardo & Gasca, 2018), cultural industries (industries related to the field of culture). What these variations of names have in common, however, is that they denote the same essence regardless of their application.

The issue of creative industries is also regulated at the legislative level by each country. At the same time, each country has its perception of the concept. For example, in Ukraine under the creative industries, they mean types of economic activities, the purpose of which is the creation of added value and jobs through cultural (artistic) and creative expression" (2010). Experts at UNESCO (2020) are aware that creative industries' policies vary from country to country. They note that the definitions of

creative or cultural industries, adopted at the national level, largely depend on the needs and opportunities dictated by the local policy assessment and development initiatives. For its part, the United Nations Conference on Trade and Development (UNCTAD) believes that creative industries form those activities that use intellectual capital. Such organizations as the Economic Commission for Latin America and the Caribbean (ECLAC), World Intellectual Property Organization (WIPO), Department of Culture, Media and Sports of the United Kingdom (DCMS) also agree with this opinion. So, by the example of Ukraine, we can conclude that the amount of creative employment in the country is underestimated. The situation is similar in many countries, including developed ones. Thus, in their study, Correa-Quezada R. et al. (2018) confirm the importance of creative industries for regional and economic development at the macroeconomic level, with the notion that creative industries only include creative activities, which is based on the local regulatory framework. Lazeretti L. et al. (2017) point to a significant increase in interest in cultural and creative industries from a research perspective in Italy. At the same time, given that the creative business is related, there are close intrinsic links between the different types of creative employment. Accordingly, if there is no market regulation of the creative industry, it will not significantly impact the economy. The underestimation of the creative industry in his study is confirmed by Klark D. (2015). The researcher concludes that given that the creative industries in the UK and Europe are considered economically significant, it is necessary to revise the current methodologies for their identification and introduce a more transparent procedure for calculating the results of the integration of creative industries into industrial ones. The problem of evaluating creative industries as part of the industry is also highlighted by Cunningham & Higgs (2009). In their study, the authors point out the lack of clarity of definitions and information, which significantly affects the analysis of the creative industry. In their research, Cruz & Teixeira (2014) engage in a review of existing methodological approaches to measuring creative employment in industrial composition. The study found that the size of creative employment varies significantly depending on which approach is used. The reason is that there is no strict definition of what is called creative employment and what industries and occupations should be included in the study. Two years earlier, Cruz & Teixeira (2012) provided an overview and mapped the main accounting methods for creative classes and industries by doing

an empirical study on companies in Portugal. The study concluded that more than half of the creative sector employees do not include industry statistics because they work in non-core creative industries.

In general, the author's team of this study adheres to the policy of broader use of the definition and refers to creative professions as any innovative activity in any field. However, a study by Lee K. et al. (2015) also confirms that creative potential is essential at the microeconomic level in forming productive innovation potential. At the same time, the indicators of innovative employment and the value of intangible assets correlate with each other (Scheffel & Thomas, 2011). That is, these authors consider the creative industry in the context of the production of innovative products.

The creative employment market is significantly influenced by the dynamics and structure of the creative industry. Based on Scheffel & Thomas (2011), it can be concluded that the creative industries are growing faster than other sectors of the economy. At the same time, advertising and software development were the fastest growing sectors in 2011. Therefore, ten years ago, there were a large number of marketers in the global marketplace. Today, the IT and media production industries are considered the most promising in 2021 (Deloitte, 2021). Thus, the choice of future professions will be considered with this factor. Given the total automation of many production processes, companies will value those employees who have creativity, digital competencies, and teamwork skills. Olivera & Vasconsellos (2021) made an interesting study in this area; they analyzed the relationship between self-perception of creativity, shyness, and the ability to work. They found that shyness is inversely related to self-perception of creative potential, and creativity is not guaranteed to get a well-paying job. However, the relationship between employment, creativity, and shyness has not been empirically proven.

Thus, the following conclusions can be drawn from the reviewed literature in the context of creative employment:

1. Creative industry is a debatable concept. It includes a narrow and a broad meaning. The narrow one implies that creative and cultural professions form creative employment. The overall sense of a creative job means any innovative, creative activity in all industries.

2. A creative industry is shaped by creative potential. But the creative potential is not a guarantee of employment or creation of own business. Other factors are crucial for employment, among which the most relevant today are digital literacy and the

presence of leadership qualities that contribute to the organization of activities.

The issue of manifestation of creative employment in the context of digital technology application is the object of research and its novelty.

### 3. Research Methodology

To investigate the issue of creative employment in the context of digitalization, a critical analysis of modern scientific research and normative documents of international organizations UNCTAD, UNESCO, ECLAC, WIPO, DCMS was conducted. In addition, the study of legislative papers of different countries showed different approaches to defining the essence of the definition of creative employment.

The article contains statistical research on the development and structure of creative employment. A number of documents that have an evaluation and statistical information on the global development of creative industries in the context of employment were analyzed to obtain data for the empirical study. This statistical information is based on nine countries, including Australia, France, Germany, Italy, Japan, Korea, Spain, Turkey, and the UK. Trend analysis showed a high coefficient of determination value at 0.99, which allows reliable forecasts for the following periods to obtain indicators for the year 2020. Calculations are made using Microsoft Excel. Using the methods of statistical averages, horizontal and vertical analysis, the study resulted in the indicators of the creative industry market volume in the context of employment and its structure. Furthermore, the correlation analysis showed quite close correlations between the indicators of innovativeness and digital competence of the active population, which shows the importance of digital skills in implementing creative potential. The work also applies general scientific research methods, which summarize information, highlighting research problems, unresolved issues, and policy implications of the current creative development.

For the presentation of scientific research, graphic methods are used.

### 4. Research findings

**Table 2 - Structure of the creative industry by employment**

Industry	Employment in creative economy, people	Share, %	Planned Employment, people
Crafts	106973	0,5	112780,8133
Architecture	555531	2,8	585692
Museums	974730	5,0	1027650
Design	1054547	5,4	1111801
Advertising and Marketing	1376076	7,0	1450786
Publishing	1531933	7,8	1615105

Until the end of 2019, the creative economy had the fastest growth rate in the world compared to other industries. As a result, the global creative industry employment market is estimated at 30 million people in 2020. For example, the creative economy of member countries of the Organization for Economic Development (OECD) showed 100% growth compared to the service sector. It was four times faster than the manufacturing sector and created additional jobs and opportunities for innovation (Deloitte, 2021).

Today it is customary to evaluate the creative economy not in monetary terms but in terms of the number of employed people, since the monetary expression, according to many scientists, is complicated by the close relationship between creative employment and production processes. Thus, for example, Deloitte (2021) estimates that in 2018 the number of people employed in the creative industry was 18 million; given the trends in this sector and the high coefficient of determination at  $R^2=0.99$ , we can make a reasonable prediction that in 2020 the figure will be above 20 million employed people. At the same time, this statistic considers the countries where the creative industry is developing the most dynamically (Fig. 1).



**Fig.1. Dynamics of Creative Industries in 2011-2020**

Source: author's calculations based on Deloitte, 2021

Let's consider the structure of the creative economy of the year as presented in Deloitte (2021). We can conclude that at least 5.2 million people in 2020 were employed in the IT sector of the creative industry.

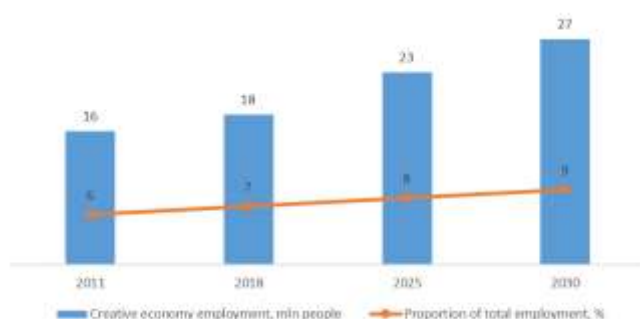
Film, TV, radio	1548216	7,9	1632272
Music	2901111	14,9	3058619
Creative occupations	4500272	23,1	4744602
IT	4973185	25,5	5243191
TOTAL	19522574	100	20582500

Source: author's calculations based on Deloitte, 2021

At the same time, the IT sector provides for the development of automation and remote operating processes for many industrial processes, which include: online sales of handicrafts, creation of online museums, creation of digital designs, online advertising, SMM, online publications on websites, blogs, online movie halls, sales of online music, online educational processes in the industry. Thus, we can conclude that digital technologies make it possible to bring almost all creative industry areas to the digital level and ensure their development in terms of digital sales and communications with clients.

However, by early 2020, the situation had already changed dramatically, as soon as the Coronavirus epidemic turned into a worldwide pandemic and the global quarantine crisis erupted. But as Nobel laureate Paul Romer prophetically observed in 2004, "A crisis is a terror not to be lost." Thus, the pandemic was a catalyst for reforming systems of governance, science, economics, consumer preferences, and, of course, the creative industries, which in many ways have remained functional thanks to digitalization. (Madarshahi, 2021)

At the same time, the current situation with the reduction of some niches due to the Covid-19 pandemic is not a long-term one. According to experts, as soon as the pandemic is over, the creative economy will regain its positions and continue to grow after returning to pre-crisis volumes, mainly due to creative employment in the IT, music, and television industries. And in the future, the connection of these three industries will only deepen (Deloitte, 2021).



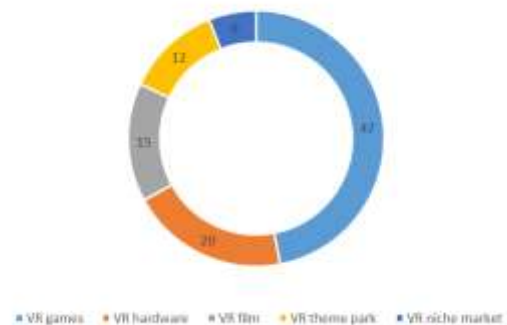
**Fig.2. Employment prospects in creative industries, million people,**

Source: Deloitte, 2021

Professor Madarshahi, M. (2021) believes that creative employment and the economy will develop in three directions in the future.

1. Artificial intelligence and the internet of things. The rapid development of artificial intelligence technology, the Internet of Things, robotics, biotechnology, nanotechnology, and quantum computing will dramatically change food, goods, and services. As a result, the position in the labor market will shift even more toward professions related to creative employment.

2. Virtual and Augmented Reality. According to Madarshahi, M. (2021), the virtual reality market is currently valued at \$30 billion. Therefore, the market for virtual reality is now estimated at \$30 billion (Fig. 2).



**Fig.3. New and promising digital creative industries related to virtual reality**

Source: Madarshahi, 2021

At the same time, the technology is mostly applied in the gaming industry. However, the prospects of these technologies are enormous, not only in the gaming industry. According to some experts, virtual reality can completely replace all computer technology in the future and be integrated into all business automation processes. It will be enough just to put on virtual reality glasses to make the workplace (VR Journal, 2017). Budding medical professionals will not have to hone their skills on live people, as their virtual actions will only lead to virtual consequences (VR Journal, 2017). Virtual reality will be necessary for education as well.

3. Blockchain. Distributed registry technology distributes information between owners, storing it on multiple computers of multiple independent users. Thus, even if various computers fail, the data will not be lost (Financial culture, 2020).



Blockchain is now used for identity management, digital assets, tokenization, international payments, copyright protection, smart contracts, the Internet of Things (IoT), electronic voting, anonymous messaging, DDoS attacks, etc. (DeCenter, 2018).

Thus, the future of the creative economy will be based on three "whales": virtual reality, artificial intelligence, blockchain. These technologies can bring all types of creative and ordinary industries to a new level, providing a rapid pace of development and solving employment issues in various creative industries.

Today, all of the technologies above require significant investments, so they are most actively used in large companies building their innovation capabilities to compete. However, if we talk about entrepreneurs and small businesses, digital technologies also motivate their businesses. For example, anyone who creates a product as a result of their creativity has the opportunity to become self-employed and even form their own sales team. E-business provides quite serious tools for these purposes.

-Online marketplaces for hand-makers. This is a souvenir store but in a virtual space. The advantage of this sales channel is that the portal is visited by people who will look for something. Moreover, creativity monetization is not tied to the location; a product from Murmansk can be sold to a buyer from Acapulco (Voinskaia, 2013). The most popular web platforms in the world for placing the products of craft makers are Etsy.com, ArtFire, DaWanda, Craft Is Art, Zibbet, CafePress.com, ShopHandmade, MadeitMyself, Rubylane.com, Coriandr.com, etc. (Markova, 2020).

-Own website. It is possible to create an image website, with a detailed description of the creative path of the author, his best works, interviews, etc., as well as (as an addition) with an interline offer of products (Voinskaia, 2013). In this case, entrepreneurs do not need to invest a lot of money in the site's development. Today, there are many platform constructors, which can organize the work of such a site for a conditional amount. The most popular website builders today are: Wix, Nethouse, Ukit, Tilda, UMI, InSales, Site123, Mozello, Fo.ru, LPmotor, uCoz, lp generator (VC, 2021)

-Social networks. The advantage is a vast audience. The main thing in this business is the right selection of the group and effective advertising, as well as frequent updating of information and regular publications (Voinskaia, 2013).

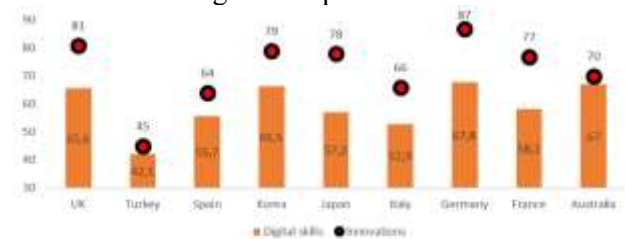
The prospects for the development of e-commerce today are enormous. Over the past decade, the market has been shifting from the Pacific to Asia.

While the U.S. e-commerce market was \$343.1 billion in 2019, China's e-commerce market is valued at \$862.6 billion. In addition, by 2024, some experts predict that China's e-commerce market will almost double (Grodnoinvest, 2021). In this case, people can realize their potential in different fields; in particular, it can be the sale of handicraft goods, creativity, creation of online museums and exhibitions, creating applications and programs, writing online texts, etc.

But even though a person may be creative, imaginative, and out-of-the-box in their thinking, this is far from saying that they can bring their share of innovation to the statistics of creative employment. As Olivera & Vasconsellos (2021) have already shown, it has not been proven that creativity is the key to a career and obtaining high-paying jobs. But digital competence is essential in the production of innovation. By examining the Global Competitiveness Report statistics by selected countries (Schwab, 2019), we can see that there is a correlation between the level of digital competence of the population and innovativeness (Fig.4).

The correlation analysis shows a high correlation (Pearson coefficient = 0.89) between digital competence and innovativeness in the context of individual countries.

Thus, assessing creative employment as an innovative activity of the economically active population, we can conclude that it directly depends on the level of digital competence.



**Fig. 4. Relationship between digital competence and innovativeness**

Source: compiled by the author based on Schwab, K. (2019).

Having obtained these results of the study, the following directions for solving the issue of employment among the creative population in the context of digitalization can be proposed. At the state level, it is important to:

- develop programs to train the population in digital competence;
- develop programs to train the population in e-commerce;
- stimulate the opening of small businesses related to innovation through subsidies, affordable lending programs, and tax reductions;

- launch business incubators that will allow talented people to realize their business ideas;
- simplify accounting and administrative work associated with the launch of small businesses related to innovation.

## 5. Discussion

To date, the question of the development of creative employment in the context of digital transformation is not today quite debatable. At the same time, most studies conducted in this area can be divided into two groups. The first group of researchers studies the positive impact of digitalization on the development of the creative industry. The second group, on the contrary, shows the threats of digitalization and the development of a new generation of workforce, which will not be able to realize their creative potential and, consequently, develop the creative industry.

Let us consider the main points of discussion to fully disclose the prospects and threats to the development of creative employment in the context of digital transformation.

Many scholars believe that digitalization and creativity can become a single-engine of economic progress in the world (Think creative, 2016). In their study, Anantrasirichai & Bull (2021) reveal the potential for the creative industry to evolve in integration with advanced technology. By bringing artificial intelligence technologies together with creativity, humanity can gain a whole new kind of interaction that can create content, analyze information, improve workflows, improve information, and compress data.

The digital shift has created new business models in production, distribution, and consumption, a symbiosis of high-quality content with technology. The most successful example of the benefits of using creativity and digital technology together is the museum business (Think creative, 2016). Many museums worldwide have managed to integrate into the digital age, successfully adopting useful technologies - from displays to interactive devices - that help maximize the value of collections and the visitor experience. The British Museum, for example, has a digital learning center that introduces children and teens to its collection. Augmented reality technology, image recognition, and 3D printing can be used. In the first five years, more than 50,000 visitors have gone through the training program.

The digital industry has become a growth driver for the creative economy, steadily increasing annual revenues. According to experts, this trend has significant growth potential in the future. This is supported by increasing the supply of mobile gadgets

year by year and their development and integration with all spheres of life (Think creative, 2016).

Thanks to the new challenges, it is clear that it will be possible to include professions that did not previously belong to them in creative employment soon. For example, a surgeon will need to be proficient in information technology to perform surgical interventions remotely. A teacher, in order to conduct distance learning, will need to use Internet technologies. An engineer can remotely print a prototype or modify part on a 3D printer (Madarshahi, 2021).

On the other hand, researchers show the problems of digital transformation in the context of workforce training. To date, it is believed that the problem of most modern people is that the boundary between the virtual and real-world is very blurred in them (Shpitsberg, 2014). This problem is particularly acute concerning the digitalization of children and adolescents with fragile psyches. Some scholars believe that excessive digitalization has a destructive effect on the mental and physical health of the current generation (Bagaeva & Myltasova, 2016). Over time, favorite computer games, apps, and cartoons become the basis of the future person's worldview.

Even though, under the influence of electronic games, a child can learn to read, count, develop memory, attention, logic, in many cases, their individual creative development is stunted (Tkhostov, 2005). According to the mark of many parents, children avoid live communication with peers, which does not allow them to develop essential communication skills for employment. Teenagers stop reading books, do not go to exhibitions, theaters, or museums, preferring to watch movies, which is detrimental to health and physical development. Thus, the new generation will not be able to physically be at work for a normalized time, which also negatively affects the possibility of future employment. That said, health is not the only negative side of digitalization. In childhood and adolescence, the formation of imaginative thinking takes place. This is why it is essential to engage all channels of perception. Unfortunately, electronic devices do not actively engage tactile, tactile, and olfactory perceptions. As a result, children undergo one-sided development, in which sensory information is entirely absent. This naturally deprives the child of being creative since they cannot go beyond the limits provided by the program options. Consequently, improper use of information technology can contribute to the deterioration of children's health and physical condition. Moreover, if we do not already practice restrictions on the influence of digitalization on the young generation,

very soon, only a few will be able to engage in creative activities.

## 6. Conclusions

Analysis of the literature, regulatory documents, and provisions of international organizations allows us to draw a number of conclusions:

-creative employment is a concept formed in different states at their discretion;

-creative employment can have a narrow meaning and express jobs in the cultural sector;

-in a broader sense, creative employment involves the creation of intellectual capital;

-there is no unified normative methodology for evaluating creative employment today;

-integration of digital technologies in all spheres of activity allows to increase significantly the level of development of economies and accordingly employment;

-at the same time, there is a problem of excessive digitalization of young people and adults, which can negatively impact the formation of imaginative, critical, and innovative thinking.

The results of the empirical study lead to several conclusions:

-The creative industry employment market value is 30 million people, with 20 million jobs forming nine countries. The Asian market is currently the most developed in the creative industry.

-The main components of the labor market in the creative industries are IT (25%) and the media sector (23%).

-Digital competencies are fundamental for the realization of the country's innovation potential. Recommendations for improving the level of employment in the creative industry are related to government programs for training in digital competencies, including e-commerce, financial incentives for the launch of innovative businesses, the formation of a business environment to develop creative and innovative entrepreneurship.

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#### **Contribution of Individual Authors to the Creation of a Scientific Article (Ghostwriting Policy)**

The authors equally contributed in the present research, at all stages from the formulation of the problem to the final findings and solution.

#### **Sources of Funding for Research Presented in a Scientific Article or Scientific Article Itself**

No funding was received for conducting this study.

#### **Conflicts of Interest**

The authors have no conflicts of interest to declare that are relevant to the content of this article.

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