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Digital Technologies and Project Management as the Basis of Competitiveness of the Distance Business Education

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ABSTRACT

The purpose of the study is to identify the features of ensuring the competitiveness of distance business education and modern trends in the development of the field of educational services and the role of digital technologies and project management in these processes. General scientific and special methods are used: historical-logical grouping (systematization of electronic learning system elements, distance education, approaches of project management etc.); generalization (understanding of modern role and evaluation of distance education and e-learning resources, digitalization processes). It has been proven that such an alternative to traditional formal education is more closely correlated with the demands of the labour market, allows to better and more quickly meet the needs of employers, and for employees to ensure their professional development throughout their life and to apply their competencies in the countries of the European Union. Approaches to project management in distance business education are described. It has been established that project management in business education has a scientific basis based on pedagogical theories and researches, which supports active, collaborative and critical learning, and also promotes the development of skills that are important in today's information society and the labour market.

KEYWORDS: Digital technologies, distance education, e-learning, business education, project management, competitiveness, higher education institutions, universities, digitalization, information society, human capital.

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Tecnologías digitales y gestión de proyectos como base de competitividad de la educación empresarial a distancia

RESUMEN

El propósito del estudio es identificar las características que garantizan la competitividad de la educación empresarial a distancia y las tendencias modernas en el desarrollo del campo de los servicios educativos y el papel de las tecnologías digitales y la gestión de proyectos en estos procesos. Se utilizan métodos científicos generales y especiales: agrupación histórico-lógica (sistematización de elementos de sistemas de aprendizaje electrónico, educación a distancia, enfoques de gestión de proyectos, etc.); generalización (comprensión del papel moderno y evaluación de la educación a distancia y los recursos de e-learning, procesos de digitalización). Se ha demostrado que una alternativa de este tipo a la educación formal tradicional está más estrechamente correlacionada con las demandas del mercado laboral, permite satisfacer mejor y más rápidamente las necesidades de los empleadores y que los empleados garanticen su desarrollo profesional a lo largo de su vida y apliquen sus competencias en los países de la Unión Europea. Se describen enfoques para la gestión de proyectos en la educación empresarial a distancia. Se ha establecido que la gestión de proyectos en la educación empresarial tiene una base científica basada en teorías e investigaciones pedagógicas, que apoya el aprendizaje activo, colaborativo y crítico, y también promueve el desarrollo de habilidades importantes en la sociedad de la información y el mercado laboral actual.

PALABRAS CLAVE: Tecnologías digitales, educación a distancia, aprendizaje electrónico, educación empresarial, gestión de proyectos, competitividad, instituciones de educación superior, universidades, digitalización, sociedad de la información, capital humano.

Introduction

Information and knowledge as the highest value of modern society not only affects all aspects of his life, but also changes the person himself, transforms the value system. The view of labor as the main source of social wealth is radically changing. Living work is increasingly evolving in the direction of saturation with its creative content, intellectual component.

The purpose of this study is to identify the features of ensuring the competitiveness of distance business education and modern trends in the development of the field of educational services and the role of digital technologies and project management in these processes. Phenomena such as project management of distance education process, acceleration of information load and internationalization and general availability of

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educational resources are considered extremely important. This became possible not only in the conditions of globalization and European integration, but also with the active penetration of digital technologies into all spheres of life.

1. Literature Review

Distance education is gaining more and more popularity. Many publications are devoted to these issues, including some aspects of project management and modern challenges of the development of digital technologies. Within the scope of the article (Yılmaz B. et al., 2013), an evaluation of the distance education program in the field of digitization, which was conducted in Turkey, was carried out. The authors evaluate distance education in terms of content and organization based on participants' opinions and determine how and to what extent the education changed participants' awareness of digitization and digital content management and their level of theoretical and practical knowledge.

Article (Rakhimberdiev K. et al., 2022) presents the stages of development of artificial intelligence and its application in the field of modern education, and also considers the potential of artificial intelligence in education. The scientists proposed algorithms of intellectual educational processes using CCN and SHAP algorithms for organizing intellectual educational processes and considered the issue of ensuring the immutability and confidentiality of student assessment results on distance education platforms.

The authors (Ma L., 2019) note that distance education is usually developed through live broadcast or video playback. The research of scientists is based on the technology of digital image processing for image correction of distance education. The research uses a multi-level processing model to decompose each color channel and then process the luminance channel of the image, which effectively reduces the computational cost and provides a fusion effect.

Article (John T. E. Richardson et al., 2015) analyzes the results of a survey conducted among distance education students, who are often older and more representative of the adult population. The survey produced a number of findings related to the network generation and digital natives hypotheses. The results of the study reveal the relationship between the age of students, their attitudes towards digital technologies and approaches to learning.

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A survey conducted (Anne Jelfs et al., 2013) to examine access to digital technology, attitudes towards digital technology and approaches to learning throughout adulthood among students studying at the UK's Open University found that almost all of these students had access to a computer and the Internet

A study (Badiru, Adedeji B. et al., 2012) analyzed that the US National Academy of Engineering used non-traditional classroom learning methods such as distance education (DE) to supplement the traditional learning environment. The authors determined that these methods led to more students entering professional careers in science and engineering, leading to scientific and technological progress. Researchers have demonstrated that proven project management tools and techniques have been effective in managing all the steps required to develop and implement a DE program and in evaluation activities to improve the curriculum and delivery, but younger students were more likely than older students to have access to other technologies, used those technologies longer, and had more positive attitudes toward digital technologies.

According to the results of the authors' research (Hong Xiaoqing, 2011), distance education shows its huge difference from traditional distance education, as it develops. This difference allows modern distance education to face serious problems: extremely low effectiveness of learning management, disproportionate cost-effectiveness, serious duplication and waste of resources, lagging in teaching management and, therefore, inconsistency with the goals and requirements of education. Based on the analysis of the development and transformation of distance education, as well as the conditions necessary for the implementation of project management, scientists are trying to prove the feasibility of implementing innovative project management in distance education.

The purpose of article (Onojetah Sunday Omorohwovo, 2020) is to investigate a problem-solving strategy to improve the effectiveness of distance learning to achieve the goals of business education. The scientists recommended adequate funding, recruitment of qualified facilitators, production and distribution of educational materials for students and teachers, appointment of educational administrators and planners as directors of centers, and regular training of facilitators on the use of ICT during education.

Research paper (Lidiane Britto et al., 2020) analyzed the taxonomy of the student business model in distance education (DE) in private higher education institutions in Brazil.

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The authors identified two different and repeated business models of distance education, which were determined on the basis of a study of 43 surveyed institutions.

According to the authors (Carroll D. et al., 2013), a number of situational, dispositional, and attitudinal factors affect student retention within the framework of distance education. Scientists offer a number of strategies aimed at improving the retention of graduate business students by maximizing favorable factors and minimizing the impact of any identified barriers.

Indeed, there is a lot of research on this issue, but in our opinion, the role of digital technologies and project management in competitive distance business education requires further analysis of opportunities, identification of shortcomings and development of relevant and timely ways of development.

2. Methodology

The theoretical research base has become the fundamental situation of the modern economic theory in the sphere of knowledge economy, economic growth and economic integration. General scientific and special methods are used: historical-logical (analysis of properties, functions and principles of business-education); grouping (systematization of electronic learning system elements, distance education, approaches of project management etc.); generalization (understanding of modern role and evaluation of distance education and e-learning resources, digitalization processes).

The information base of the conducted research was made up of scientific works of domestic and foreign scientists, as well as publications of recognized experts and analysts in the field of education. The report and methodical materials of the leading technological universities of the world and Ukraine were also taken into consideration, including the study of the positive experience of corporate universities.

The majority of researchers – classics of organizational theories – share human knowledge in two types:

1) knowledge is formalized, which is expressed as a professional language, formulae, specific characteristics, etc., so that this type of knowledge can easily be transmitted to one individual by another;

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2) knowledge informally – it is personal knowledge, the result of individual experience, which includes such blurred concepts as personal convictions, thoughts and system of values that are difficult to verbalized.

Hence, two forms of interaction – between informal and formalized knowledge and individual and organization – determine the existence of four basic processes of transformation of knowledge, a set of which is the creation of knowledge: from informal to formalized, from formalized to informal.

In the research, the authors relied on a new global model of business education, which is based on the following provisions:

- independence and analytical thinking;
- active participation of students in the learning process, rather than passive perception of information;
- distance education;
- the possibility of practical application of knowledge in real conditions and constant consultations with employers;
- emphasis on the learning process, rather than memorizing information;
- offer of educational services (programs) adapted to individual needs and requests);
- transparency in the assessment of knowledge;
- incentive systems for the best teachers;
- the ability to find data, operate with it and develop analytical capabilities;
- interdisciplinary training;
- mutual learning and self-organization, teamwork.

3. Results

The conditions in which the world economy is developing today are characterized by great uncertainty and riskiness and high requirements for innovation and technology. Therefore, for successful business today, it is necessary to train highly qualified employees with a significant potential of professional knowledge and skills, who will be able to quickly respond to all changes in the business environment and effectively manage all aspects of entrepreneurial activity. Business education programs play a major role in the formation of modern knowledge of management and general management. New approaches

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to education and professional training are necessary, therefore, new global tasks are being faced by the business education system.

Romer P., Lucas R. (1986) and other supporters of "new theories of growth" consider scientific and technological progress as an internal, endogenous factor of economic growth and largely rely on the concept of human capital. There are three directions in which investments are made that ensure economic growth: investment in new knowledge, investment in human capital and intermediate costs aimed at spreading knowledge and skills.

P. Romer and his followers are developing a model of the knowledge industry that provides economic growth by producing new ideas. The main provisions of this theory are as follows:

- each new idea requires a set amount of investment in intangible assets (for example, knowledge or competence);

- this amount decreases over time, since the knowledge-producing industry can exploit an ever-increasing stock of knowledge and skills, or, what is the same, produce a greater number of ideas with constant investment;

- the knowledge industry is a bridge in relation to human capital and uses the available stock of knowledge as an input;

- the price of new ideas is determined by the volume of investments directed to the knowledge industry, as well as the intensity and efficiency of their use;

- cheaper new ideas increase macroeconomic productivity and consumer welfare due to greater choice and better quality (Romer P., 1986).

At the same time, the accumulation of human capital is considered through the education system. It ensures technological progress, because spending on education increases the stock of human potential and thus improves the economy's ability to produce new ideas and gives it comparative advantages in knowledge-intensive industries.

Business education is a dynamic sector of educational services, which should contribute to the development of human resources through continuous training of employees, aimed at modernization of the educational system and support of an effective concept of professional training of personnel for enterprises. Most often, business education can be imagined as the level of higher education in the field of management and administration, which is chosen by the management personnel of enterprises. These

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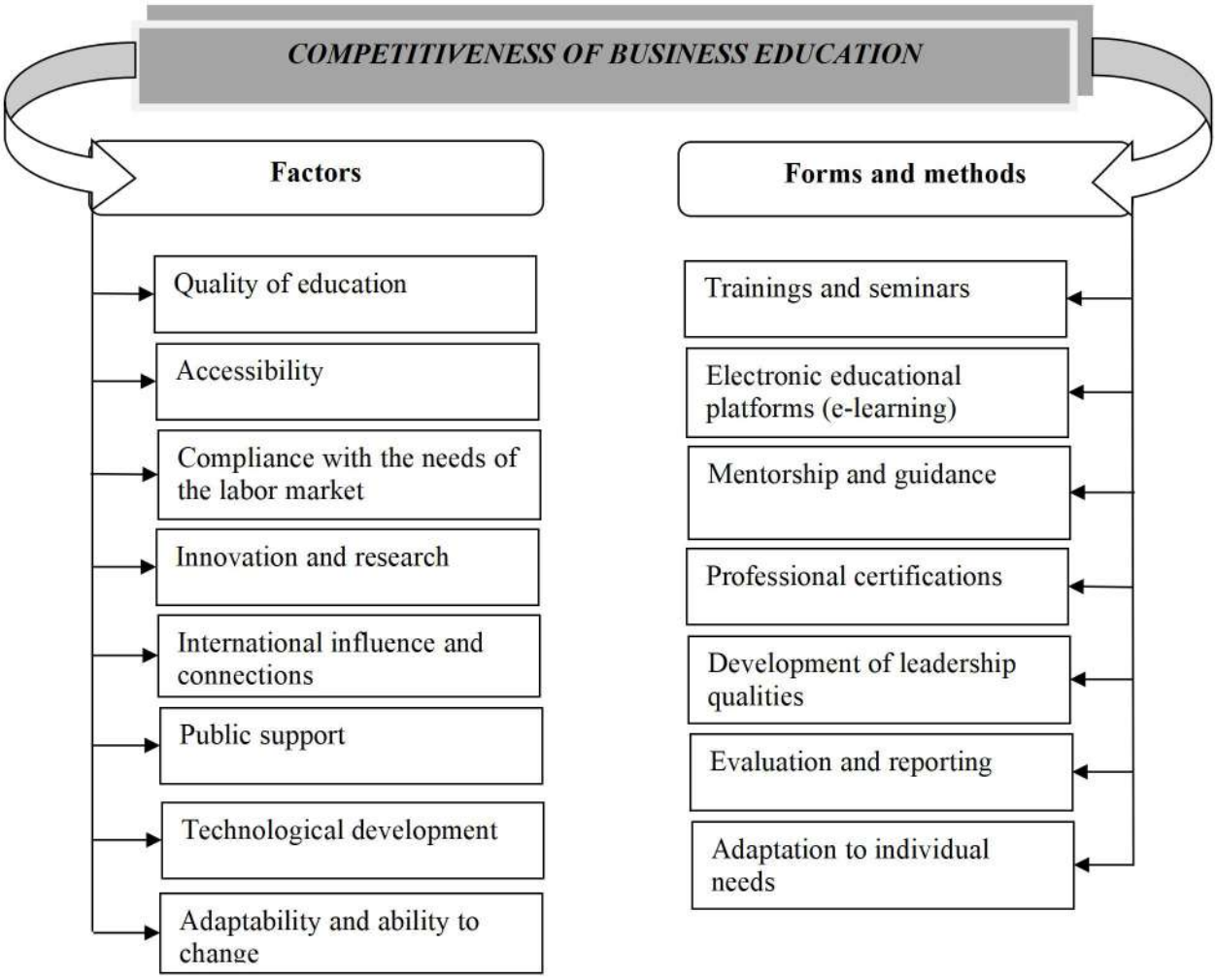
managers already have some practical management experience and education obtained from relevant educational institutions, such as business schools, corporate universities and others. During such education, participants acquire a set of skills and knowledge necessary for business management and personal professional growth.

We consider the competitiveness of education as the ability of the education system or a specific educational institution to provide a high level of education quality and to produce graduates who meet the needs of the labor market and society as a whole. This concept includes various aspects, including the quality of education, accessibility, efficiency and relevance to the needs of the labor market. In the context of the purpose of our research, we can name the main factors that affect the competitiveness of business education, and the forms and methods that ensure it (Fig. 1).

Figure 1. Ensuring the competitiveness of business education



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First of all, business education should be of high quality, which is determined by the qualifications and experience of teachers, the relevance of training programs, the availability of modern equipment and resources for training, as well as methods of evaluation and ensuring the quality of training. The next factor - the availability of education implies not only financial availability, but also physical access to educational institutions and the opportunity to receive education for various categories of the population, including people with disabilities and low-income groups.

Like any marketable product, education must respond to the needs of the labor market, providing graduates with the necessary skills and knowledge for competitive employment or for career advancement in an existing workplace. Obviously, in this context, educational institutions and educational programs must be ready to adapt to changes in society and the labor market, updating their product offerings. The availability of research programs and innovative approaches in education can improve the competitiveness of an educational institution.

Also, external factors such as international exchange of students and cooperation with foreign educational institutions, support from the government and society as a whole, and the use of modern digital technologies in education and management of an educational institution should be included in the factors of ensuring the competitiveness of business education.

These factors interact with each other and may vary depending on the specifics of the country and region. Since, as we mentioned above, business education is a form of training and development aimed at improving the skills and knowledge of employees, as well as the development of leadership and management competencies in an organizational context, it aims to increase the productivity, competitiveness and effectiveness of employees, contributing to their professional growth and development. This requires specific forms and methods (mentoring and guidance, professional certifications, etc.). Adaptation to individual needs, taking into account the level of experience and professional goals of employees who receive business education. We note that mandatory components of business education should be trainings and seminars, the availability of electronic educational platforms, as well as determining the effectiveness of training through the evaluation of results and the creation of reports on the progress of employees. Business education should be aimed at developing management skills, decision-making,

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communication and other competencies necessary for leadership in an organization. Therefore, it is an important component of the success of any organization, as it helps to maintain and develop the professional abilities of its employees and adapt them to changes in the business environment.

The formation and development of the knowledge economy is impossible without the involvement of Internet technologies. The result of the implementation of information and communication technologies is fundamentally important, such as the delocalization of production, the possibility of accumulation and storage, which causes significant limitations to the growth of the volume of services, related to the specificity - the coincidence of production and consumption in time and space, the non-transportability of the product. New technologies make it possible to transfer services over any distance and at any time, accumulate them and store them in an encoded form on physical media or in electronic form. At the same time, quality characteristics are significantly improved: consumers get access to a huge array of information and high-class services in real time, take advantage of a wider selection of services, in other words, get higher utility per unit of costs. On the basis of new technologies, direct contacts at a distance between consumers and producers of such initially territorially fixed services as education, medicine, cultural and entertainment, legal, insurance, consulting, etc. are becoming a reality. Not only new, but also traditional industries of transport and trade are undergoing intensive technological changes; fields that are very far in the past from technology are literally transformed - medicine, financial services, as well as libraries, museums, theaters, pop music, amusement parks, etc. (Kukarenko, V.M., 2007).

Distance learning. The attention of many scientists is devoted to the research of distance learning technologies. In particular, some papers consider different definitions of distance learning, the global economic and technological context of distance learning, and the global component of higher education in this context. Some definitions create a binary contrast between face-to-face learning and distance learning, but similarities with online learning, e-learning, and virtual learning create a blurring of definitions. Analyzed initiatives and ideas in educational technology, how distance learning should be adapted and applied (Traxler J., 2018). A number of recent studies have addressed the challenges posed by distance learning in the context of the COVID-19 pandemic (Lassoued Z. et al., 2020). These studies aimed to identify barriers to achieving quality distance learning during

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the COVID-19 pandemic and were based on a large sample of university professors and students in the Arab world (Algerian, Egyptian, Palestinian and Iraqi). The main objective was to explore the different ways in which students continued their studies at home during the suspension of university studies due to COVID-19. The researchers use a descriptive approach using a questionnaire with a selected sample of 400 teacher and student responses out of 600 results. According to the results, teachers and students faced personal barriers as well as pedagogical, technical, financial or organizational barriers. Suggestions for achieving the quality of distance learning can be summarized as follows (Lassoued Z. et al., 2020):

- providing better university infrastructure by providing computer labs in colleges and hiring technical staff to train faculty and students in optimal use of technology, internet and various e-learning programs.
- preparation of high-quality e-courses and placing them on university websites in open access for all interested parties.
- providing continuing education and learning opportunities for faculty in the field of distance education and its requirements, as well as the new roles that faculty and students are taking on.
- diversify distance learning activities in order to stimulate students and motivate them to self-study.
- providing Internet access to all beneficiaries, especially in rural and remote areas.

Electronic learning (e-learning). The concept of e-learning has been actively and successfully used for many years, long before the COVID-19 pandemic. E-learning volumes have grown by approximately 15.4% annually in educational institutions worldwide (Toth-Stub S., 2020). With the onset of the pandemic, e-learning has attracted additional interest from researchers. There is a perception that e-education, distance learning and online learning are different terms of e-learning (Alqahtani A.Y. et. al., 2020). The authors (Abbas Z. et. al., 2005) defined e-learning as "a broad set of applications and processes that use available electronic means and tools to provide professional education and training". Researchers (Muhammad A. et. al., 2016) state that e-learning is "the use of a variety of technological tools that are web-based, web-delivered, or web-enabled for learning." Every year the volume of e-learning is increasing because there are many advantages such as

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flexibility, accessibility through the Internet and cost-effectiveness (Naveed Q.N. et. al., 2017). These advantages make it possible to turn education into a lifelong learning process. According to research results (Hameed S. et. al., 2008), access to lectures for students at any time and as many times as needed allows students to better remember information that is necessary for a traditional education. The quality of training of personnel with higher education will actually be significantly influenced by: characteristics of the teacher, characteristics of the student, the level of IT support, technical support, the level of development of a specific technology, the quality of the created course, developed instructions for applicants, the e-learning environment, the level of cooperation (between the teacher and the student, as well as the acquirers among themselves), the quality of the organization of the learning process in general and the verification of the achievement of learning outcomes in particular.

In the conditions of rapid digitization of the national economy and educational space, the need to find modern digital learning technologies based on open educational resources and adaptive learning tools is becoming more urgent. Moreover, developments require integrated solutions for electronic management and administration of the life cycle of training and professional development. In our opinion, it is with such a comprehensive approach that it is possible to improve the organization of training of personnel with higher education for the development of high-tech industries of Ukraine.

The development of the global e-learning (electronic learning) market is quite active, which is facilitated, on the one hand, by the increase in demand for educational services, and on the other hand, by the development of information technologies and the growth of the number of Internet users.

The largest number of consumers of e-learning solutions today is concentrated in the USA and Canada, and among European countries - in Great Britain, followed by Germany, Italy and France. In the US, distance learning is offered by more than 200 universities and thousands of colleges, and the number of online courses is increasing by about 30-40% annually. In the UK, a variety of distance learning programs are offered by more than 50 universities.

The number of online courses offered by commercial structures and aimed at the corporate sector is growing even more actively. For example, according to a recent British

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Telecom press release, this company alone offers more than 1,700 e-learning programs for staff training.

The growth in popularity of e-learning is quite stable. Thus, in the USA, according to the results of the latest Sloan Consortium report, the vast majority of higher education institutions confirmed the growth of the number of students choosing one or more online courses. The number of heads of educational institutions who recognize the promise of online education is also growing, although much more slowly - in the United States, it increased from 48.8 to 56% in three years, while the number of opponents remained practically unchanged.

Among American universities, 65% have already recognized distance learning as a strategy for their development. In May 2012, representatives of Harvard University and the Massachusetts Institute of Technology announced the launch of a joint online distance learning project called edX (https://www.edx.org). Each of the partners allocated about 30 million dollars for the development of edX. To date, 25 institutions from around the world have joined the project. The authors of the project plan to involve 1 billion students in education.

An analysis of these projects, sometimes called e-universities (such as Coursera, Udasity, Edx, Khan Academy (www.khanacademy.org), etc.) showed that they have a lot in common, namely: a potential student chooses a free online course that he is interested, and subscribes to it. The student's activities include: work with lectures (mainly in the recording), performance of practical tasks, work in forums for discussion of tasks and problems arising in the learning process. In addition, the student can pass the final certification in examination centers around the world to receive a certificate. Massive open online courses received the general name MOOC (Massive Open Online Courses). It is also noted that e-learning technologies and MOOCs not only provide great opportunities for obtaining theoretical foundations and practical skills in a certain subject area, but can also serve the purposes of popularizing this topic, increasing public interest in it (Borisovsky Yu.O. et. al., 2010).

In 2017, 23 million new learners signed up for their first MOOC, bringing the total number of learners to 81 million. This is similar to the 23 million students added in 2016. The world's two MOOC providers (by registered users) added a similar number of learners in 2017 as they did in 2016. MOOCs list five providers with registered users in 2017:

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Coursera - 30 million, Edx - 14 million, XuetangX - 9.3 million, Udacity - 8 million, FutureLearn - 7.1 million (Chekurin V. F. et. al., 2011).

According to the authors of this study, the following platforms are the most common in Ukraine. First of all, we should note Prometheus - the largest Ukrainian project of mass open online courses, which started working in October 2014. On the website (prometheus.org.ua), free online courses prepared by leading Ukrainian and international specialists began to be taught. Today, it is a large-scale portal with dozens of programs on various topics: from entrepreneurship to preparation for admission to higher educational institutions. The project is considered one of the leaders in the modernization of Ukrainian education.

During its development, well-known foreign analogues were taken as an example, but with adaptation to the needs of Ukrainian consumers. In addition to the function of an educational platform, which hosts adapted courses from the best universities in the world, the project is engaged in the creation of unique programs in cooperation with teachers of leading universities of Ukraine. The topics covered in the courses are developed taking into account the realities of Ukrainian life and the needs of domestic business.

Also successful projects launched in 2012 are Coursera (https://www.coursera.org/) and Udacity (https://www.udacity.com), which educate hundreds of thousands of students (the costs of these projects are: Udacity - $16 million, Coursera – $22 million).

One of the largest consolidators of online courses from the world's leading universities is Coursera (www.coursera.org), which was launched in April 2012. The first institutions of higher education that agreed to provide their scientific materials are Stanford, Princeton, Michigan and Pennsylvania universities. Today, Coursera has more than 35 million students, 150 partner universities, and 2,700 developed courses.

The next resource is EdEra (https://www.ed-era.com) - a Ukrainian educational project that creates full-fledged online courses in the MOOS format and accompanying materials of a wide profile. The project began its activities with the launch of the first online courses in Ukraine on preparation for external independent evaluation. The project team, together with the teachers, independently develops all the content and places the courses on its online platform. As of August 2023, this platform has 108 courses and is growing rapidly.

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In addition to those listed, there are many e-learning platforms that can be paid or free for information, but users of the latter may be offered paid testing or obtaining a certificate.

The use of information and telecommunications technologies fundamentally changed the course of the distance learning to process. Modern e-learning is an interactive process with constant dynamics, so it has to possess a complex of specific properties and features (Fig. 2).

The distance educational process is implemented in a specific informational and educational environment - a set of informational, technical and educational-methodical components that purposefully provide it. At the same time, such an environment is both a condition and a means of learning and upbringing, and its specificity also lies in the fact that it changes relationships in the educational process, shifting the emphasis from direct (live) communication (person-person) to mediated interaction (person -environment).

Mandatory structural components of an online learning environment should be two subsystems: assessment and training. The evaluation subsystem usually includes pre-testing of the user to reveal his actual level of knowledge. This approach is more effective, compared to the absence of the stage of fixing the initial state of knowledge. Firstly, it will allow to select information and tasks in accordance with the client's needs. Secondly, the initial assessment will serve as a control point and a basis for comparison when determining the quality of education and issuing the appropriate certificate.

The learning subsystem provides information in a variety of forms and a defined content, which is determined by the user's needs, course features, technical features, etc.

One of the standards in the field of software products for e-learning is a collection of standards and specifications developed for distance learning systems, called SCORM (Sharable Content Object Reference Model) and based on the XML standard (Szabo M., 2002). This standard (first published in 2004) includes requirements for the structure of courses and packages of learning material, the interaction of content objects and the learning management system, as well as organization and navigation.

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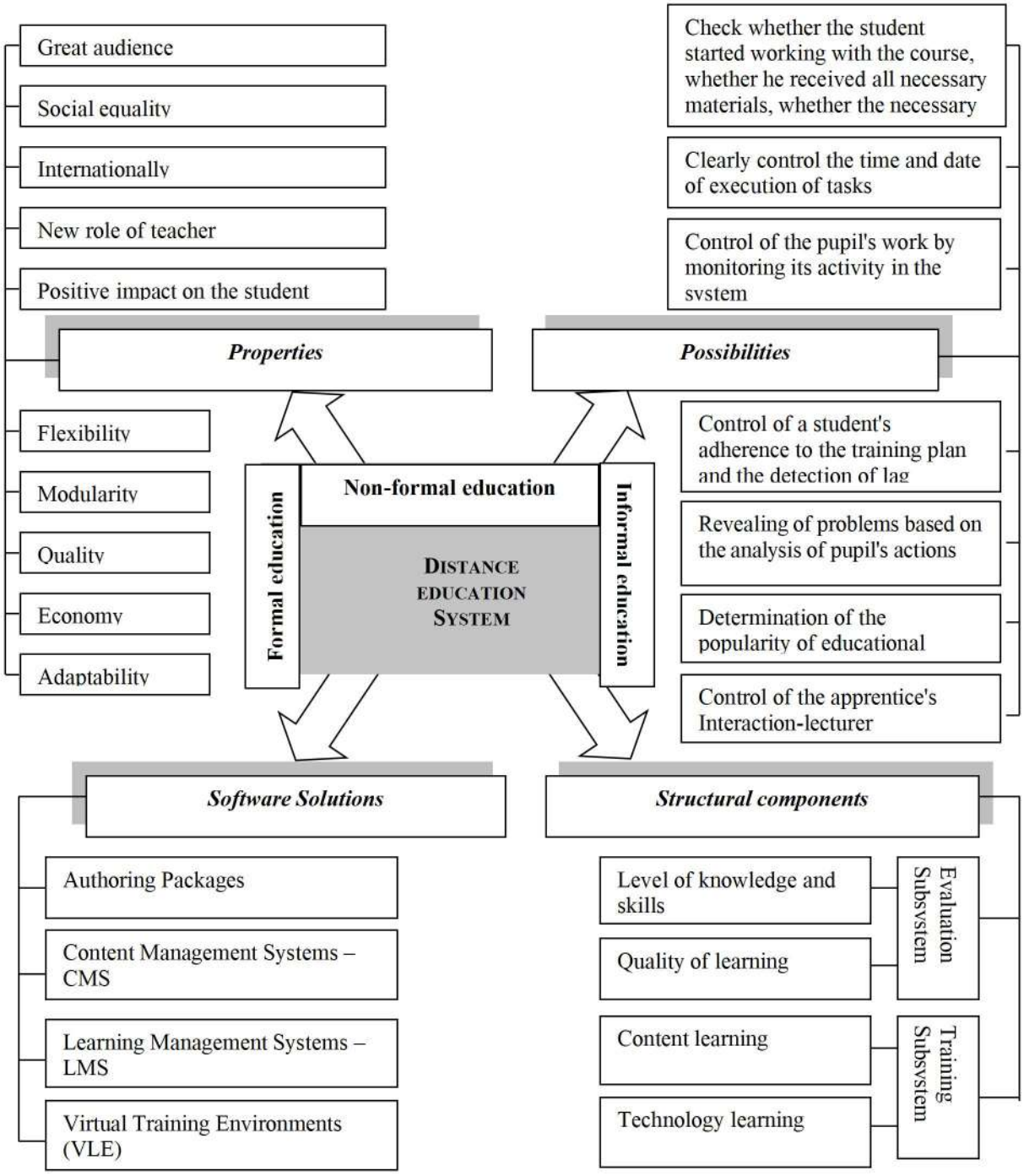
Figure 2. Structuring of distance education systems



Source: developed by the authors

The most famous electronic distance learning systems (ESDS) that support the SCORM standard are:

Sakai is free and open source software implemented in Java;

Moodle is free and open source software implemented on PHP and MySQL;

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ILIAS is free and open source software implemented in PHP and MySQL, distributed under the GNU license;

SABA is a commercial software product of Saba Software Inc.

According to the functionality of creating and managing training and educational content, software solutions in the field of e-learning can be divided into the following categories:

- authoring software products (Authoring Packages);
- content management systems (Content Management Systems - CMS) or learning content management systems (Learning Content Management Systems - LCMS);
- learning management systems (Learning Management Systems - LMS);
- virtual learning environments (VLE).

Proprietary products usually allow the teacher to independently develop educational content based on visual programming. The teacher should only care about putting the necessary information in the right place. This information in the form of a fragment of text, an illustration or a video fragment is placed on the screen in visual mode. Examples include Dreamweaver, Authorware, DazzlerMax, Lectora Publisher, Quest, ToolBook, Trainersoft, Web Course Builder. A fairly complete overview of these systems can be found in the works (Borisovsky Yu.O. et. al., 2010; Chekurin V. F. et. al., 2011).

Another pole of such products are software tools developed for a certain highly specialized field, for example, for the needs of one department or even a separate discipline. An example can be ELM-ART, QUIZPACK, WebEx and many others.

Usually, proprietary products have a relatively limited scope of application, and there are also possible difficulties with the reuse of developments in other educational projects.

Modern models of higher education, aimed at quality indicators of professional training and qualification improvement of personnel for high-tech industries of the country, are project-problem- and research-oriented. *Project-based learning (project-based learning - PBL)* allows to ensure a high degree of student involvement, directs their efforts to the development of real products, contributes to the formation of practical skills in the development and implementation of projects (Pengyue Guo et. al., 2020). Characteristic features of PBL are focus on educational goals, participation in educational activities,

establishment of cooperation between students, setting of guiding questions (driving questions), achievement of applied results, use of facilitation technologies to support higher education seekers by the teacher throughout the entire project activity (Krajcik J.S. et. al., 2014). In the process of training and improving the qualifications of personnel, PBL is able to bring powerful results, as they stimulate innovative thinking, develop creativity and teamwork skills while maintaining the optimal level of autonomy of students when performing project tasks (Fig. 3).

Therefore, project management in business education has a scientific basis based on pedagogical theories and research that supports active, collaborative and critical learning, and also contributes to the development of skills that are important in today's information society and the labor market.

The integration of PBL techniques into the educational process will increase the level of competitiveness of graduates of higher education institutions in the labor market due to the development of not only their professional, highly specialized (hard skills), but also the so-called "soft" skills (soft skills).

The application of PBL requires teachers to constantly improve themselves and strive to find innovative forms of pedagogical work. The teacher must be ready to review the usual forms of interaction with students, to change his role from a transmitter of knowledge and a curator to a facilitator, as well as to carefully rethink the structure and design of classes. In particular, classes based on a project-oriented approach should begin with the posing of a guiding question regarding a problem that is relevant for a specific high-tech industry in Ukraine. In the future, according to the vector of the outlined question, students will implement a joint activity of understanding the formulated problem, selecting effective tools for its solution. In today's conditions of digitization, PBL in higher education is inextricably linked with the use of digital technologies.

The training of highly qualified specialists is impossible without an effective system of electronic document management and training management systems. Such systems include various LMS systems, chatbots, database management systems and other software products that facilitate work with student data and reduce the burden on teachers during routine operations.

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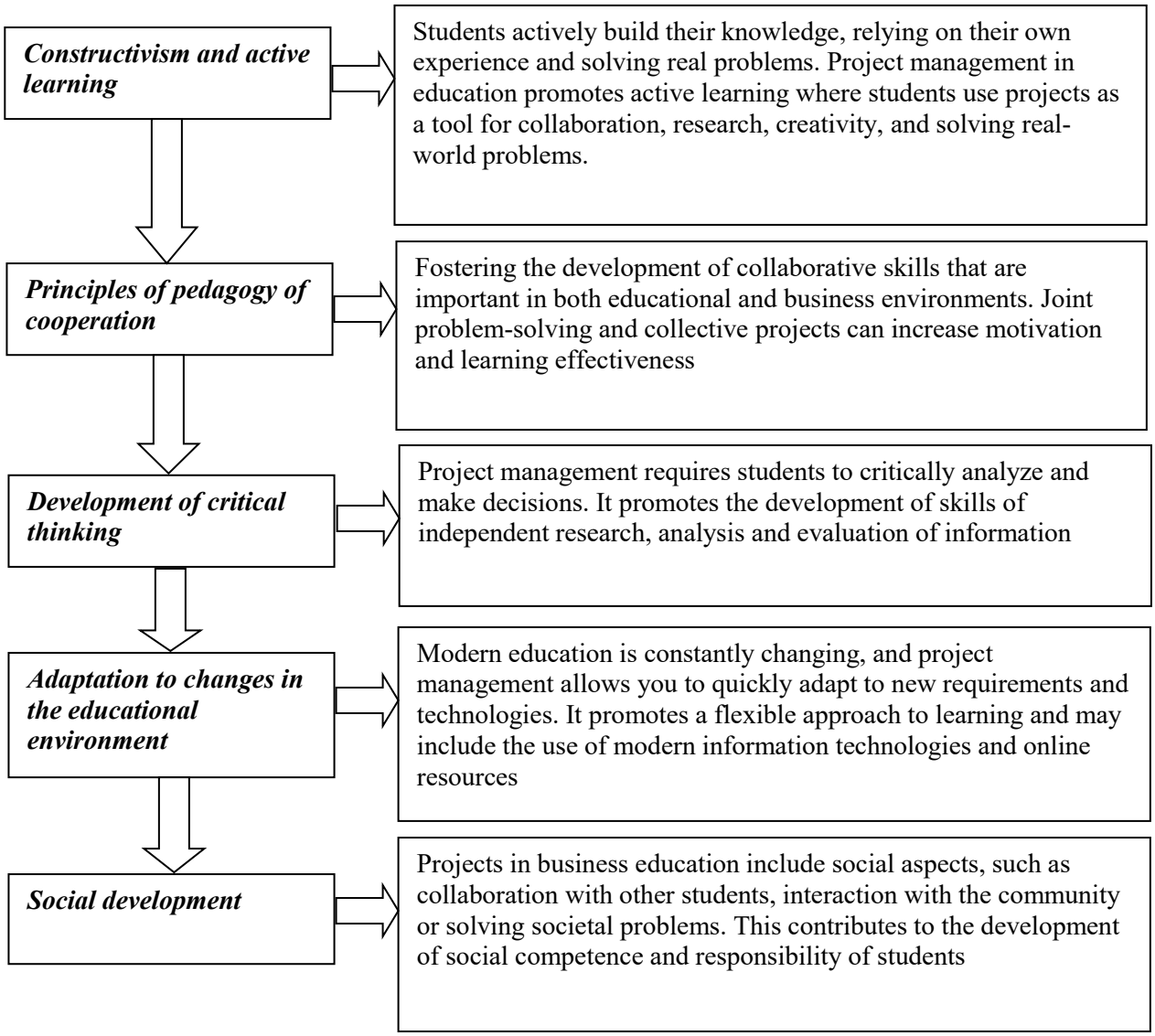
Figure 3. Project management approaches in distance business education



Source: developed by the authors

The use of such systems makes it possible to significantly simplify work with students, reduce the number of routine operations and, as a result, free up the teacher's time for more creative work with students, individual verification of creative tasks, personal work with students. The speed of reaction and response of such systems, as well as their ability to work around the clock, allows to improve the quality of students' work on the material due to quick assessment of tasks, reminders about deadlines, reduce the stress of beginners at the beginning of studies due to answering standard questions.

Not all types of work with students are subject to automation. It is undesirable to automate answers to individual tasks that require some creative work. For example,

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development of individual projects or completion of coursework. To evaluate such activity, it is necessary to check not only the fulfillment of formal requirements, but also to check the correctness of the proposed solutions and their optimality. In this case, the teacher's competence and knowledge of modern trends in a specific field are necessary.

4. Discussion

Considering that research (Ann-Kathrin Jaekel et al., 2023) is relevant, we would like to draw attention to the conducted analysis of the relationship between teaching characteristics and ratings of teaching quality and students' learning experience. The results of the study showed that teachers' communication with colleagues, their ability to maintain good relationships with their students contributed to quality distance education.

We support the study (Yildiz Merve et al., 2023), which analyzed the decisions made during the pandemic, outlined the reasons for making such decisions, indicated the changes made, the problems that arose, and outlined the solutions developed to solve the main problems.

In our opinion, research (Pakhomova T. et al., 2022) is relevant, where we want to pay attention to the functional-system methodical approach used by the authors. Both theoretical and practical aspects of the research were obtained, in particular, the proposed mechanisms of distance learning in higher educational institutions of Ukraine.

Sharing the opinion of scientists (Grytsenko I. et al., 2022), we would like to note that really new technologies have a significant impact on increasing the range of distance learning methods and techniques. Scientists assessed the educational potential of high-tech means of communication and applications, revealed their impact on modern communication opportunities during distance learning in higher education institutions, which is extremely relevant.

We also consider relevant studies (Cosmulese C.G. et al., 2019; Kholiavko N. et al., 2021, 2022; Popelo O. et al., 2023; Arefiev S. et al., 2022; Marhasova V. et al., 2023) that examine the development of higher education in the context of digitalization and within the framework of the concept of sustainable development.

Taking into account the above, it can be stated that the conducted research is distinguished by the author's approach and scientific novelty, is relevant and timely in the current conditions of the distance business education development.

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Conclusion

Since the globalized world will also be dominated by information and communication technologies based on the exchange of knowledge - both everyday, which will require constant identification and self-determination of each nation, and special, which will determine progress and success in the ethno-cultural environment and identity. At the same time, the higher the level of intellectualization of the society of each country, the easier it will be to preserve the national identity and develop the corresponding spiritual culture. Thus, technologies for increasing intellectualized development are socially significant and belong to innovations, primarily social.

The conducted analysis of the distance learning system allows us to assert that the formation of the knowledge economy as a paradigm of the development of modern society, together with the spread of Internet technologies, formed an incentive for the development of informal and informal education. Such an alternative to traditional formal education is more closely related to the demands of the labor market, allows to meet the needs of employers better and more quickly, and for employees to ensure their professional development during their life and to apply their competencies in the countries of the European Union.

Therefore, in accordance with the "Council Recommendations on the Recognition of Non-Formal and Informal Education" adopted by the Commission of the European Union (Commission of the European Union, 2012), it is recommended that all member countries provide opportunities for their citizens to recognize their skills and abilities acquired outside formal education and training systems, and to use such recognition in work and further education across Europe. The specified document sets out instructions to create national systems of recognition of non-formal and informal learning, which allow all citizens to gain recognition of their knowledge, abilities and skills and competencies, regardless of the conditions in which learning took place.

Therefore, national recognition systems for non-formal and informal learning should focus on the following four aspects of recognition: defining learning outcomes, documenting them, evaluating them against agreed standards and certifying them.

The main prerequisites and factors for adapting the outlined model of distance education to the requirements of the labor market include: the need to develop a university innovative culture; renewal of innovative and digital infrastructure; increasing the

motivation of researchers to generate and transfer innovations to the real sector of the national economy; improvement of the current legislation in terms of expanding the possibilities of implementing commercial activities of higher education institutions; improving the qualifications of scientific and pedagogical workers not only in the scientific and educational spheres, but also at enterprises of high-tech industries; creation of conditions for attracting foreign professors; intensification of teaching practice by specialists-practitioners in domestic universities; modernization of approaches to strategizing and state regulation of the development of the business education system.

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