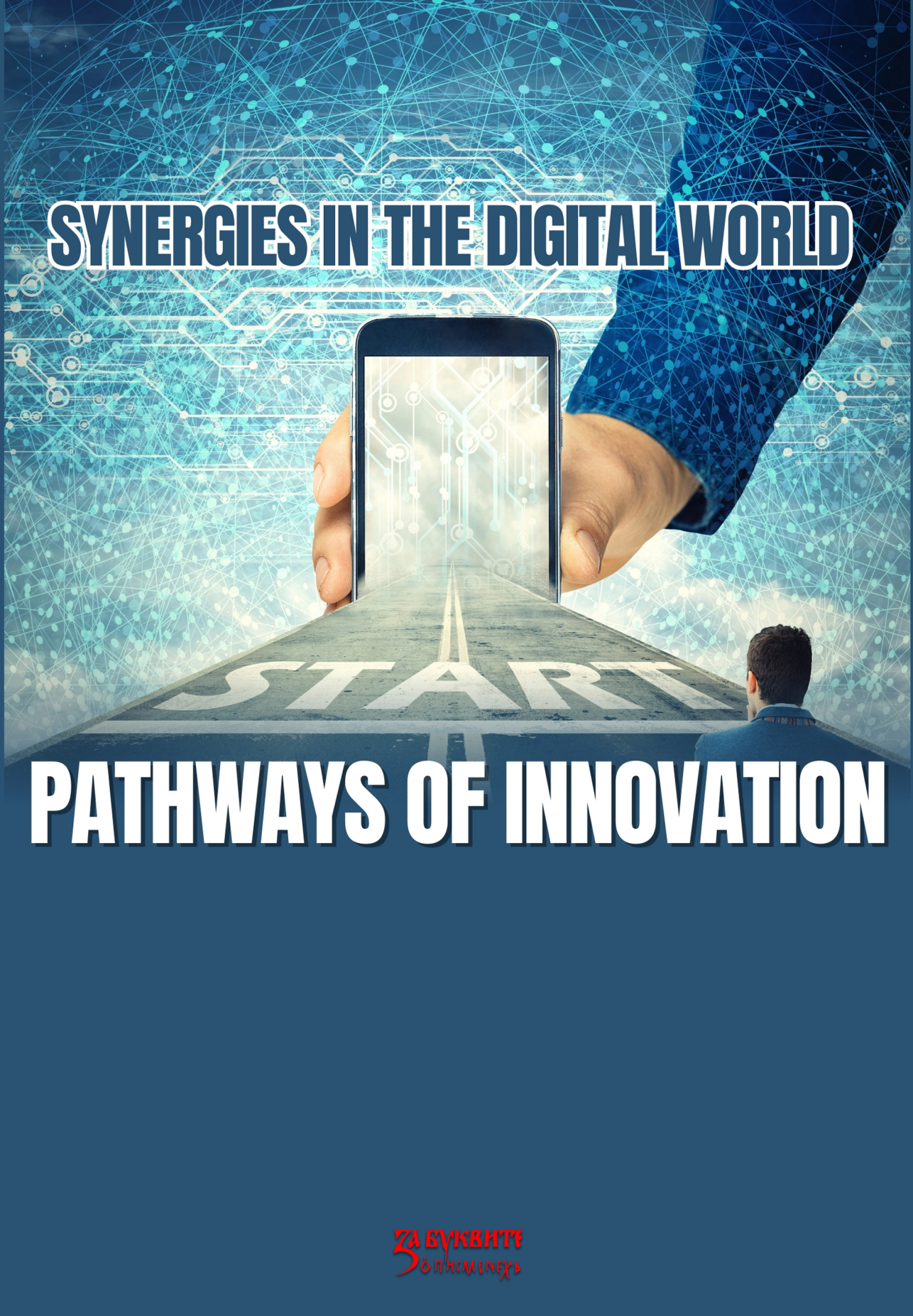




SYNERGIES IN THE DIGITAL WORLD

PATHWAYS OF INNOVATION

**ЗА БУКВЕНЕ
ОПРЕДЕЛЕНИЕ**

ROUND TABLE
“SYNERGIES IN THE DIGITAL WORLD –
PATHWAYS OF INNOVATION”

14 – 18 April 2025
Doha, Qatar

ЗА БУКВИТЕ
ДОПИСМЕНЕХЪ



The collection “Synergies in the Digital World – Pathways of Innovation”, the result of a scientific symposium (round table), includes scientific work (papers, articles, scientific communications) that present various aspects related to international business, socialization of cultural heritage, cultural tourism, innovations, new technologies, aspects of national security in the context of globalization.

The authors bear full responsibility for the content of their papers and the opinions expressed therein, and this can in no way be taken as the position of the Bulgarian Science Fund or the Ministry of Education and Science.

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CONGRATULATORY ADDRESS

To the Esteemed Organizers of “Synergies in the Digital World – Pathways of Innovation” Round Table

**Distinguished Organizers,
Dear Participants and Guests,
Esteemed Colleagues,**

It is both an honour and a privilege to extend a warm welcome to you at this significant conference, which unites leading experts, experienced researchers, and enthusiasts in the domain of digital innovation. Your presence here underscores your dedication and commitment to the advancement and pioneering spirit within our community.

The conference offers a distinctive opportunity to engage in the exchange of knowledge, ideas, and experiences, as well as to establish new partnerships and collaborations. In this context, I believe that the conference will be a valuable academic platform for targeted subject discussions, as evidenced by the recently formed partnership between leading universities in Bulgaria and Qatar such as The University of Library Studies and Information Technologies (ULSIT) and Al Rayyan International University College (ARIU) in partnership with the University of Derby.

I am confident that in the forthcoming days, we will have the chance to attend inspiring presentations, participate in engaging discussions, and expand our horizons for both our professional and personal development.

It is of paramount importance to emphasize the significance of this conference within the context of innovation in the digital world and education. In the present-day environment, technology assumes a crucial role in transforming educational processes and methodologies. This conference will serve as a valuable platform to exchange the latest trends and best practices, regarding the utilization of digital tools and resources, thereby enhancing the quality of learning and adequately preparing our students for the challenges of the future.

I would like to take this opportunity to express my sincere gratitude to all who have contributed to the organization of this event. Your diligent efforts and dedication have been instrumental in making this conference both possible and successful.

I wish all participants a productive and inspiring experience, filled with valuable ideas and memorable moments. May this conference serve as a source of inspiration and motivation for our future endeavours!

**Respectfully,
Plamen Delev**

Ambassador Extraordinary and Plenipotentiary
of the Republic of Bulgaria to the State of Qatar

PAPERS

INTERNATIONAL BUSINESS AND EDUCATION: A CONVERGING PARADIGM

Stoyan Denchev

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Abstract: *In an era of globalization, international business and education have become increasingly interconnected. The demand for a workforce proficient in cross-cultural communication, international trade regulations, and global market dynamics has led to a transformation in educational methodologies. This paper examines the relationship between international business (including international tourism) and education, exploring how business schools, universities, and corporate training programs are adapting to meet the challenges of a globalized economy. The study highlights the role of international student mobility, digital education, and interdisciplinary approaches in fostering a globally competent workforce. Additionally, it analyzes the implications of international business education on economic development and global cooperation. The paper concludes by recommending strategies to enhance the synergy between education and international business.*

Keywords: *education, business, international business, international tourism, workforce, business schools, globalized economy, higher education*

INTRODUCTION

The growing interconnectedness of economies has heightened the need for business professionals with global competencies. Education plays a crucial role in equipping individuals with the necessary skills to navigate international markets, regulatory environments, and cultural differences. This paper explores the evolution of international business education, its impact on economic globalization, and future trends shaping the field.

The Role of Higher Education in International Business

Higher education institutions have developed specialized programs in international business to address the increasing demand for globally skilled professionals. Business schools and universities offer courses that integrate economic theory, management practices, and cross-cultural studies. The emergence of dual-degree programs, exchange opportunities, and international accreditation has further enhanced the global dimension of business education.

Globalization and International Business Education (IBE)

Globalization has led to a shift in educational priorities, necessitating curricula that reflect real-world international business challenges. Institutions are incorporating case studies from multinational corporations, fostering experiential learning through internships, and embracing digital tools such as virtual simulations. Furthermore, international collaborations between universities and corporations have expanded opportunities for practical training and research.

Technology and Digital Transformation in Business Education

The advent of digital learning platforms has revolutionized business education. Online courses, massive open online courses (MOOCs), and artificial intelligence-driven learning environments enable students worldwide to access high-quality international business education. This democratization of knowledge facilitates a more inclusive approach to business education, bridging gaps between developed and developing economies.

The Intersection of International Business and Political Economy in Education

Understanding the political and economic contexts of different countries is crucial for international business practitioners. IBE programs must integrate political economy analysis into their curricula to provide students with a holistic view of global markets. This integration enables students to assess how political decisions, economic policies, and regulatory frameworks impact international business operations. Future research should focus on developing pedagogical strategies that effectively combine international business studies with political economy, ensuring that graduates are well-equipped to navigate complex global environments.

Student Learning Experiences

The effectiveness of IBE is heavily influenced by the quality of student learning experiences. Active learning methodologies, such as case studies, simulations, and international internships, have been shown to enhance student engagement and comprehension. However, challenges persist in providing equitable access to these opportunities for all students. Research indicates that experiential learning fosters critical thinking and practical skills essential for international business success. Future studies should investigate the scalability of these methodologies and their long-term impact on career outcomes.

Language and Communication Barriers

Proficiency in the lingua franca of international business, predominantly English, is often emphasized in IBE programs. However, this focus can marginalize non-native speakers and overlook the importance of multilingualism in global business. Effective communication across cultures requires more than language proficiency; it necessitates an understanding of cultural nuances and context. Future research should explore strategies to promote linguistic diversity and intercultural communication skills within IBE curricula, preparing students to operate in multilingual environments.

The Relationship between IBE and Its Broader Ecosystem

IBE does not exist in isolation; it is part of a broader educational and economic ecosystem. Collaborations between academic institutions, industry partners, and governmental organizations can enhance the relevance and applicability of IBE pro-

grams. Such partnerships can provide students with real-world insights and facilitate smoother transitions into the workforce. Future research should examine models of successful collaboration and their impact on educational outcomes, aiming to create frameworks that can be replicated across different contexts.

Development of Business School Curricula

The dynamic nature of international business necessitates continuous updates to educational curricula. Business schools must balance foundational theories with emerging trends, such as digitalization, sustainability, and ethical governance. Incorporating these topics ensures that graduates are prepared to address contemporary challenges in international business. Future research should focus on curriculum development processes that are responsive to global changes, integrating input from diverse stakeholders to maintain relevance and rigor.

Challenges in International Business Education

Despite significant advancements, international business education faces challenges, including disparities in educational standards, language barriers, and accessibility issues. Additionally, aligning academic curricula with rapidly changing industry needs remains a challenge. Governments and institutions must collaborate to ensure that educational programs remain relevant to evolving business landscapes.

Future Directions and Recommendations

To enhance the effectiveness of international business education, the following strategies are recommended:

- ▷ Strengthening partnerships between academia and industry to provide practical, hands-on experiences.
- ▷ Encouraging multilingual and cross-cultural competencies to improve global business communication.
- ▷ Expanding access to online and hybrid learning models to make international business education more inclusive.
- ▷ Integrating sustainability and ethical business practices into curricula to prepare responsible global leaders.

International Tourism as a Component of International Business

International tourism is a vital component of international business, contributing significantly to global economic growth, employment, and cultural exchange. As one of the fastest-growing industries, international tourism fosters trade, investment, and cross-border collaboration. What is examined is the role of international tourism in the global business environment, highlighting its economic impact, challenges, and future trends. Special emphasis is placed on sustainable tourism and digital transformation in the industry.

International tourism plays a crucial role in the world economy by generating revenue, creating jobs, and facilitating international trade. It is interconnected with

various sectors, including hospitality, transportation, and finance, making it a key driver of economic development. Furthermore, international tourism is explored as a fundamental aspect of international business, analyzing its economic contributions, challenges, and potential for future growth.

Economic Contributions of International Tourism

Tourism is a significant source of foreign exchange earnings for many countries. It attracts direct foreign investment and stimulates the development of infrastructure. The World Travel & Tourism Council (WTTC) reports that the travel and tourism sector contributed approximately 10% of the global GDP before the COVID-19 pandemic, highlighting its economic importance.

Challenges in International Tourism

Despite its benefits, international tourism faces challenges such as geopolitical instability, environmental concerns, and the need for sustainable practices. The COVID-19 pandemic severely impacted the sector, causing disruptions in global travel and leading to a shift towards digital and contactless solutions.

Future Trends in International Tourism

The future of international tourism lies in sustainable practices, digital innovation, and personalized travel experiences. The adoption of artificial intelligence, big data, and virtual reality is transforming how businesses interact with travelers. Additionally, the emphasis on eco-tourism and responsible travel is reshaping the industry.

CONCLUSION

International business, including international tourism and education are inherently linked, shaping the global workforce and fostering economic progress. International tourism remains a cornerstone of international business, promoting economic development and cultural understanding. While challenges exist, technological advancements and sustainable initiatives are paving the way for a more resilient and inclusive global tourism sector.

By continuously adapting to technological advancements and industry demands, educational institutions can better equip future business leaders with the skills needed for success in a rapidly evolving world. Strengthening this synergy is essential for promoting international cooperation and economic sustainability.

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ЛИТЕРАТУРА

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ONLINE COMMUNICATION AND COMMUNICATION POLICY – THEORETICAL AND METHODOLOGICAL ASPECT

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Abstract: *In the modern world, online communication plays a key role in people's daily lives. It not only facilitates personal contacts, but is also an essential tool for business, education and public interactions. In this context, communication policy takes on new importance by seeking to regulate and optimize these processes. This article examines the theoretical and methodological aspects of online communication and communication policy, analyzing their basic principles and challenges.*

Keywords: *online communication, communication policies, education, business.*

INTRODUCTION

The use of digital communications has increased significantly in recent years. The speed of data transmission in digital communication depends on its characteristics. Long-distance digital communication is possible with the help of the Internet and other technologies. It offers tools like video conferencing that help people save a lot of time, money and effort. Communication technologies that many of us feared only a few years ago are now commonplace. Take for instance the development of the smartphone that each of us carries with us. The evolution of digital communications not only affects the way we live our daily lives, but also raises significant sociological, economic and social questions. Although Samuel Morse's invention of the telegraph in 1832 marked the beginning of the revolution in digital communications, it should be understood that technological advances in the digital sphere and the increasing efficiency of transmission simply accelerate over time. There is now a new digital communication technology. As voice, video and data collide and create a new basket of digital, multimedia and interactive communication technologies, an electronic highway begins to surround the world. The media, telecommunications and information technology sectors around the world are undergoing an era of dramatic transformation that is unprecedented.

The actual physical flow of data through a point-to-point communication or point-to-multipoint communication channel is known as digital (online) communication. It is a transmission of individual messages. In today's computerized age, digital communication is essential. It is defined by the parameters of data transmission speed in digital communication. The source of the information to be communicated is also known as an input transfer. The structural factors that determine the way people communicate have changed dramatically since the widespread use of the Internet in the early 1990s, along with the emergence of new technologies, market participants, and management models.

Modern society must keep up with the ever-changing concepts, knowledge, literacy and practices associated with new media, given their growing importance, opportunities, and power.

RESEARCH METHODOLOGY

The study of online communication and communication policy requires the use of a variety of methodological approaches. The research methodology describes the systematic approach that will be used to collect, analyze, and interpret data. The main objective of the study is to analyze the theoretical and methodological aspects of online communication and communication policy, as well as to identify the key factors and challenges associated with them. Specific objectives include:

1. To explore the main theoretical models and concepts related to online communication and communication policy.
2. To identify and analyze the methodological approaches used in the study of online communication.
3. To explore the challenges and opportunities of online communication and communication policy in the contemporary context.

Through a combination of qualitative methods and careful data analysis, the research will provide valuable insights and recommendations to improve practices in this field.

RESULTS

Definition of online communication

Online communication is the process of exchanging information and interacting between people through digital platforms and networks. It includes a wide range of forms and means of communication that use the Internet and other digital technologies to transmit messages, share content, and establish links.

The development of online communication not only changes the way we interact, but also affects the tools we use. According to a Statista report published in 2023, more than 4.9 billion people around the world are already using the Internet, making it easier to become more dependent on online communication platforms. This widespread connectivity has led to the emergence of innovative tools such as Slack and Microsoft Teams that combine messaging, video conferencing, and project management features to improve collaboration in work. With the development of traditional email services, these platforms have become important in workplaces, offering integrated digital workspaces tailored to specific professional needs. In terms of specific industry performance, the latest Global Web Index data highlights a significant shift in consumer behavior. Over 90% of Internet users use instant messaging apps daily, indicating a preference for real-time communication and instant communication. Similarly, emerging trends show that video content on platforms like Zoom and Teams is preferred for professional meetings as it offers a more personal approach than voice calls. This change is particularly evident among millennials and generation Z, whose digital mastery has spurred the search for interactive and engaging communication tools.

Communication on paper has declined significantly since the evolution of online communication. It is comfortable, easy and environmentally friendly. It is also fast and allows communication anywhere in the world.

Main features of online communication

1. **Digital mediation:** Online communication is carried out through digital devices and platforms such as computers, smartphones, tablets, and specialized applications.

2. **Global scope:** Thanks to the Internet, online communication transcends geographical boundaries and allows interaction between people from different parts of the world.

3. **Interactivity:** Online communication is a two-way process that allows immediate feedback and participation of multiple participants in the conversation.

4. **Multimodality:** Online communication can include various forms of media, such as text, images, audio and video, which enriches and diversifies the ways of expression and interaction.

5. **Asynchronicity and synchronicity:** Online communication can be both synchronous (in real time, e.g. video conferences and chats) and asynchronous (messages, emails, forum posts).

Forms of online communication

1. Social media

Social media are platforms that allow users to create profiles, share content and interact with other users. These include:

- ▷ **Facebook:** The world's largest social network, which offers features for sharing photos, videos, statuses and links, as well as for organizing events and groups.
- ▷ **Instagram:** A platform focused on sharing photos and videos that is popular among young people and influencers.
- ▷ **Twitter:** A microblog platform that allows short messages (up to 280 characters) and is widely used for news and current events.
- ▷ **LinkedIn:** Professional social network, aimed at career development and business contacts.

2. Email

Email is a form of electronic mail that is used to send and receive messages, files and other information. Popular email service providers include:

- ▷ **Gmail:** A free email service from Google that offers large storage capacity and integration with other Google products.
- ▷ **Outlook:** Part of the Microsoft Office Suite, Outlook offers powerful email and calendar management features.
- ▷ **Yahoo Mail:** One of the first and most famous free email providers.

3. Instant messaging programs

This is a recently developed, more popular method of communication. It is more prevalent among young people and students, as it uses alphanumeric symbols – picture messages known as emojis.

Various small-size pictures can be placed in the chat to transmit messages to the sender. In this form, unlike others, the recipient is online or is continuously available to

receive messages. The sender sends messages and the recipient simultaneously writes and responds to messages, making it an instant messaging program. WhatsApp, Facebook Messenger, Yahoo Chat are just some of the most famous examples of instant messaging.

Almost all instant messaging programs are free. Blackberry Messenger is perhaps the first to promote the concept of chat and show the recipient an online green dot.

Later on, WhatsApp became a hit among the younger generation when it was introduced to the Android Play Store. In the past few years, Facebook has acquired WhatsApp, making it part of one of the biggest social media giants.

4. Forums and blogs

Forums and blogs are online spaces where users can post and comment on content related to certain topics or interests. Forums are also called discussion forums and are usually held online. Multiple users are present and each interacts with each other by posting messages in the same series of messages.

It is considered useful to hold debates on many topics. This is another format that has been adopted by Facebook and introduced to its social media.

Users can post a “status” that serves as a starting point for interactions. Comments under the post are collected and stored under the same post, taking the form of a forum.

Examples of such forums are:

- ▷ **Reddit:** A social news platform where users can create and participate in discussions on various topics.
- ▷ **Quora:** A platform for asking and answering questions that covers a wide range of topics.
- ▷ **WordPress:** A popular platform for creating blogs and websites that allows easy posting of content and interaction with readers.

5. Video conferencing

Video conferencing allows virtual meetings and seminars with the participation of many people. Some of the most popular video conferencing platforms include:

- ▷ **Zoom:** A platform that offers high-quality video and audio calls, as well as screen sharing and meeting recording features.
- ▷ **Microsoft Teams:** An integrated communication and collaboration platform that is part of Microsoft Office 365.
- ▷ **Google Meet:** As part of Google Workspace, Meet offers easy and reliable video calls for businesses and individual users.

6. Messengers and SMS

Messengers and SMS (Short Message Service) are forms of text communication that allow short messages to be sent between mobile devices. These include:

- ▷ **SMS:** A standard text messaging service that is integrated into mobile phones.
- ▷ **iMessage:** An Apple text messaging app that offers features like sending photos, videos, and stickers.

▷ **Cloud storage and file sharing services**

Cloud services allow storage and sharing of files online. Some of the most popular cloud services include:

- ▷ **Google Drive:** It offers file storage and sharing, as well as integration with Google Docs, Sheets and Slides.
- ▷ **Dropbox:** A file storage and sharing platform that offers synchronization and collaboration features.
- ▷ **OneDrive:** As part of Microsoft Office 365, OneDrive offers file storage and sharing, as well as integration with other Microsoft products.

8. Whiteboards

This app usually works as a physical whiteboard in which one person can be represented as a presenter, sharing the board with other viewers and drawing or writing while others can see it.

It is widespread in educational institutions and is excellent for one-way communication. Google recently released its whiteboard named Google Jamboard.

9. VoIP, or Voice over Internet Protocol

This is used to indicate any transmission between more than one user. VoIP can usually be used by multiple users. This is a viral method of communication that also captures subtle nuances of verbal communication. It is also used to hold meetings and conference calls in business. It has further evolved into video conferencing. In video conferencing, both the sender and the recipient can be seen and speak at the same time.

Cameras are needed for the video conferencing process. Many meetings are held through video conferencing.

Forms of online communication are diverse and constantly evolving, reflecting the needs and preferences of users. They provide multiple opportunities for personal development, business interaction and social engagement, while also posing a number of challenges related to data security and digital divide.

Online communication plays a key role in modern society, providing multiple opportunities for personal development, business interaction and social engagement. It facilitates access to information, promotes cultural exchange and supports global connectivity. At the same time, online communication also poses a number of challenges related to data security, disinformation and digital divide.

The digital communication revolution

With the potential to free millions of people from the marginalization caused by the lack of voice in international relations, the digital communication revolution is now transforming society as well. People now expect to be heard as a right, as people now hold the power. The media, telecommunications and information technology sectors around the world are going through a period of significant upheaval. The so-called dig-

ital revolution is triggered by a mixture of closely related trends, including the exponential growth of the Internet and the world.

Wide network, digitization, sharp declines in the cost of computing power, deregulation and market regulation. The sphere of digital communication has already surpassed all other spheres in the media and communications sector. As the name implies, digital communication refers to the use of digital approaches to technical or digital communication. Today, there are more means of communication than there were in previous generations, which was unthinkable.

Everyone uses various multimedia methods of communication, including YouTube, podcasts and news feeds. This is how the use of communication technologies benefits multimedia.

Digital communication methods and equipment have existed for a very long time. The widespread adoption of computers and the development of the Internet in 1980 marked a revolution in communication and a step forward for society. The latest phase of the information age is highlighted by the digital revolution. With the rapid communication between people in different parts of the world, the globe has become smaller. The interconnectedness and immediate nature of social networks are among the most significant achievements in recent times. Modern society relies heavily on digital communication systems, which are among the most significant inventions of the twenty-first century.

The ability to critically examine and evaluate information, to decide what information is needed, to localize, synthesize, evaluate and effectively use information are all parts of information and media literacy.

The rapid development of digital technologies has fundamentally changed the way people stay in contact with their native cultures and diaspora networks. Each stage of technical progress, especially in communication technologies, has a greater impact on cultural interactions and affects social, economic and political areas on a large scale. Almost every area of modern life is deeply influenced by the growth of digital communications and the wide access to telecommunications and cable networks. The modern state of society places great dependence on devices such as mobile phones, laptops, desktops, digital cameras, TV sets, DVD players and gaming systems. All these devices can work together and communicate with each other without any problems.

Informatization is a key factor in the development of modern society, influencing communication at various levels. It has led to the emergence of the infosphere, whose main goal is to make information accessible to different categories of users anytime and anywhere. Therefore, the dominant goals and values in modern society correspond to the need for informatization

Internet communication is characterized by the following characteristics:

- 1) Polyphony: communication unites a huge number of different types of discourse;
- 2) Hypertext and interactive capabilities of the network: they completely change or extremely change the generation and perception of the text. For example, the hyperlink capability allows the reader not only to follow the author's unfolding of the text, but also to carry out their own navigation.

3) Anonymity and distance: characterization of “anonymity” gives a sense of complete freedom and looseness, allows to reveal and share their co-blood secrets or desires, to ask for advice, and also provides protection from external control and generally accepted moral norms. The ability to change the degree of anonymity in communication has, as the practice of using the Internet shows, a significant attractive power. The real name, age and social status are often hidden.

The gender is reversed; the true facts of the biography are replaced or supplemented with fictional ones. Inadequately presented information about experience, qualifications, competence, available knowledge, skills, habits, etc. instead of real, socially approved personal qualities are described, including those approved only in a narrow society (idioculture / underground). For example: cyberpunk, music fans, computer game players, etc.)

These factors – together with the physical absence of participants in the communication process, the ability to “join” or “leave” network communication at any time, and the lack of enforcement mechanisms—on the one hand, contribute to the intensification of deviant communicative behavior (such as spam, trolling, or flooding). On the other hand, they encourage the violation of linguistic norms as a means of establishing and maintaining virtual contacts. The process of initiating and sustaining contact gives rise to communicative innovation, rendering this form of communication distinctive and original.

The creative expression of the virtual linguistic persona within the network’s communicative space is steadily expanding. Moreover, this growth extends across all linguistic levels, making network language a unique and compelling subject for linguistic research.

1) Altered nature of communication: The minimal amount of information available about a virtual interlocutor necessitates heightened attention to metatextual cues and encourages their interpretation to arrive at necessary conclusions.

2) Emotional intensity of communication: This feature serves a compensatory function in the context of an almost complete absence of non-verbal means for conveying emotions and describing emotional states. Emotional expression is achieved both through graphic-verbal strategies—such as the use of capital letters, repeated punctuation marks, and other typographic tools—and through specialized graphic instruments embedded in software interfaces, such as emoticons, which visually express specific emotional states when attached to messages or responses.

3) Voluntariness and desirability of contact: The communicative space of the internet provides a unique platform for constructing a virtual identity, enabling modes of self-presentation and creative self-realization.

4) Emancipation, non-normativity, and a degree of irresponsibility among participants: When online, individuals exhibit a greater degree of expressive freedom, sometimes extending to offensive or obscene language. This tendency is associated with the reduced psychological and social risk inherent in virtual communication.

5). An essential feature of interpersonal perception processes in the absence of non-verbal information is that mechanisms such as stereotyping and cognitive

framing begin to play a particularly significant role.

6) The desire for atypical behavior: Users often present themselves in ways that differ from how they behave under conditions of real-world social norms. They may adopt roles that are not realized in offline life and engage in scenarios of non-normative behavior.

Thus, a defining characteristic of Internet communication is the interplay between actual and virtual communicative environments. All of this constitutes a discursive space—a set of communicative units (acts of communication), both complete and incomplete, large and small, dialogic and monologic, oral and written statements.

Communication policy on the Internet

A communication policy is a set of rules, strategies and procedures – that determine how an organization or institution manages its communication activities. The communication policy aims to ensure efficiency, transparency and consistency in communication.

Communication policy conducted on the Internet is a course of action of the enterprise aimed at planning and implementing the interaction of the company with all subjects of the marketing system based on the use of a set of Internet communication tools that ensure stable and effective formation of demand and promotion of goods and services in the markets to meet the needs of buyers and to make a profit.

Marketing communications on the Internet, depending on the end goal, can be divided into two types:

- communication related to the development, creation, improvement of the product and its market behavior;
- communication related to product promotion.

Marketing communications related to the development, creation and improvement of a product are mainly aimed at ensuring the effective interaction of all subjects of the marketing system, the purpose of which is to create a sought-after product.

Along with the Internet, in order to achieve effective interaction in the development of new products, systems such as Intranet and Extranet have become widespread.

Intranet is an information environment based on web-technologies whose users are employees of the company. In general, it can be considered as a complete information infrastructure of the company, including means for organizing the workflow, corporate information system, databases, etc.

Extranet is a distributed information environment that unites all branches of the company, its partners and customers. It can be said that an Extranet is a more open system than an Intranet. The technologies and tools used to create Intranet and Extranet networks are generally similar to those used on the Internet. The main difference is in the number of participants they bring together. Intranet is the company's internal information environment. Extranet brings together the company's employees and partners. The Internet is a global information system.

Communications of the second type are primarily focused on promoting goods or services that are already available to the company. In this case, the goal is to convince

potential buyers of the need to buy goods or remind existing buyers to make secondary, regular purchases.

The promotion is carried out with the help of the mechanism for informing, influencing, persuading and stimulating buyers, including them in the process of purchase and sale. The promotion mechanism is triggered by the help of complex tools, which include: advertising, promotion of sales, formation of public opinion, branding. Promotion can be organized by using one or, more often, a set of tools.

The emergence and development of the Internet has added a number of tools whose function is to achieve the goal of promoting goods, as well as several additional tasks related to the use of the network – these include creating and promoting your own website and forming your own unique image on the Internet.

The company's website usually acts as a central element of the communication policy conducted on the Internet. Therefore, the task of promoting it is of great importance, as the effectiveness of the entire communicative policy largely depends on its successful implementation.

The presence of a well-established traditional brand can also significantly facilitate the task of developing an effective online communication strategy. However, to achieve maximum effectiveness in online communications, it may be necessary to create a new brand or to transform an existing one by making it interactive.

Website as the basis of the communication system on the Internet

The Internet provides users with a wide range of communication tools. Every user, upon connecting to the network, immediately gains access to website navigation, the ability to send and receive emails, participate in conferences and chats, and much more. In other words, the user gets the opportunity to interact with the Internet environment.

Any company can become an Internet user. As soon as it connects to the network, it can start applying new methods to carry out its commercial activity, for example by using email to interact with its partners or customers or to research data on competitors represented on the network.

After mastering the basic Internet services, each user can go further and take an active part in the application of the Internet environment, creating their own website, interactive store, or trading system.

The website provides the company with a wide range of additional features, in addition to the previously available communication services. Their main feature is that now the company can provide users with an additional service: to provide information, to provide pre- and after-sales service, to sell goods and services. If you have your own website, the effectiveness of advertising activities carried out on the network increases, since any advertising can contain a link to the company's website, where the user will receive much more information and form a more comprehensive opinion of the company and its proposal. In addition, information about the behavior of website visitors can immediately get into the company's information system and be used for better service.

Thus, the website is one of the main elements of the marketing system on the Internet and requires the most attention from the company's marketing service.

From a marketing perspective, a website is a set of information blocks and tools for interacting with one or more segments of the target audience. What information will be presented there, what tools will be included, how they will interact with each other - all this depends on the chosen business model, short and long-term tasks, as well as the type of segments of the target audience and the ability to reach it in one way or another.

Challenges and prospects

Despite the numerous benefits, online communication and communication policy face a number of challenges:

1. Disinformation and fake news: The Internet provides a platform for the rapid dissemination of false or misleading information, which can have serious consequences for society.

2. Protection of personal data: With the increasing use of online services, the issue of security and protection of personal data is becoming more and more relevant. The communication policy should include measures to protect the privacy of users.

3. Digital divide: Unequal access to the Internet and technology creates a digital divide between different social groups. Communication policy should aim to reduce these differences and ensure equal access to information.

FINDINGS

Online communication and communication policy are complex and dynamic phenomena that require an interdisciplinary approach to their understanding and management. By combining theoretical knowledge and methodological tools, we can develop effective strategies to improve the quality and reliability of online communication. It is important that we continue to explore and adapt these policies in response to the ever-changing digital environment.

CONCLUSION

Online communication and communication policy are dynamic areas that continue to evolve as technology advances. The theoretical and methodological approach to their research provides valuable tools for understanding and managing these processes. By integrating different theories and methodologies, we can achieve more effective and sustainable communication in the digital age.

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CULTURAL CONTACTS AND INTERACTIONS ON THE BASIS OF LITERARY TOURISM

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Abstract: *Literary tourism, a field in which imaginative and artistic elements are beginning to be used for the purposes of tourism service, has increasingly come to the fore in scientific developments in recent decades. Researchers highlight the wide possibilities of literary tourism both for the cultural knowledge of peoples, for the understanding of values, ways of thinking and ways of life, and for raising the level of education through the reading and reception of artistic works. The film adaptation of popular novels is also important for the development of literary tourism as a type of cultural tourism, which achieves further dimensionalization of images and their spatial relations.*

Keywords: *literary tourism, novel, Harry Potter, Dan Brown, Shakespeare*

INTRODUCTION

It is accepted that literary tourism developed as a kind of reaction to the turbulent theoretical discussions of the twentieth century, above all, the propositions of structuralism and poststructuralism about the meaning of the text, which is to be achieved only within its limits. Understanding the text, structuralists argue, cannot go beyond it, and this means rejecting the connections between signified/meaning and real objects. Consequently, the reader cannot make sense of what is written by the principle of similarities with reality (Derrida, J., 2001).

Within literary theory, another view takes shape, according to which understanding the text presupposes knowledge of those elements that lie outside it. In this view, each text reflects a specific historical epoch, unfolding in a specific historical time. The historical epoch is represented by its typological cultural emblems or symbols, the explanation of which aids the general orientation of the reader. The text reflects values and understandings that characterize not only the author's subjective consciousness but also societal attitudes and evaluations. The text thus provides an opportunity for learning about other peoples, for cultural communication and interaction.

At first, every text, in order to be a complete whole, fits into certain frameworks. Within these frameworks, the characters are developed, the actions of the characters with their relationships, ideas, problems and conflicts are presented. The finale of the text, the punctuation, signals a new stage in the text's existence – its dissemination. The text seems to take on a life and existence of its own. The writer's intention dissolves into polysemanticity – the object of the various interpretative positions resulting from the reception of what has been written. On the one hand, there are the scholars and professional critics who comment on the different textual levels and their cohesion, noting aesthetic values and achievements, and on the other, the readers for whom the characters and the development of the plot become a source

of artistic knowledge.

It turns out that literary theory, in addition to identifying issues relevant to the nature of the text, also focuses on its reception, on approaches to achieving the meaning embedded in it. From this point of view, such premises of classical thought as the meaning of catharsis are revived. The reader identifies with the character, experiences his fate as his own, and so grasps the meaning. Applied to literary tourism, this means emphasizing the process of experience: artistic images are illustrated, situated in a specific time and space (Topler, Jasna P. et al, 2024).

Since literary works include a number of additional levels of information about economic, social, cultural, educational and other aspects of society, literary tourism uses these as the basis for the creation of individual itineraries. There is an immediate connection between the place described in a text and the proposed tourist destination, and in such a visit the perceptual attitude of the reader is broadened, and additional ideas about the image of the space described in the text are superimposed.

Thus, the convergence of literature and tourism turns out to be a process that has its cultural foundations. Above all, tourism takes advantage of the possibilities of literature to bring peoples together, to construct communities, to overcome differences and distances. Literary tourism combines the immanent characteristics of the text to build new relations. Through visiting the physical sites described in specific works, artistic meaning is achieved more holistically, but it is complemented, thickened with new meaning, by immediate contact to the artistic object, which, in turn, is part of the existence and development of a unique national culture. The tourist therefore also gains additional knowledge of national context and colour, and through the visual images broadens his cultural horizon.

Theoretical works on tourism also focus on the use of literary texts due to the description of places of interest contained in them (Herbert, D.T., 1996). Literary tourism makes active use of the places of action, both real and fictional, described in novels.

THE LOCATION OF THE PLOT - A FACTOR FOR THE LITERARY TOURISM

One example of the development of literary tourism is related to the novel Harry Potter by J. K. Rowling. The action of the novel is strictly localised. On the one hand, London, on the other, the fictional school Hogwarts (Hogwarts School of Witchcraft). Hogwarts, besides being a school, in the sense of the novel, represents the world of witchcraft, the alternative to the mere mortal world of Muggles. In the Harry Potter film, the location and building of Hogwarts are revealed: it is Alnwick Castle, Northumberland County, Edinburgh. Thanks to the film, the school of magic gets its material image and every year thousands of Harry Potter fans flock to the castle, eager to experience the world of secrets and wizarding skills of the characters from the novel. Also of interest is the United States' attempt to carve out a space dedicated to Harry Potter, where his admirers can experience the magical objects and reside in sites described in the original text without having to travel to Europe.

Dan Brown's novels also gave a great impetus to the development of tourism. In some journalistic publications, there is even a suspicion that the writer wrote his works to order, since after the publication and subsequent filming, huge flows of tourists headed to the places described by Brown. For example, after the publication of the novel *The Da Vinci Code*, followed by the film of the same title, the flow of tourists to Paris (the Louvre, the Church of Saint Sulpice), Scotland (the Roslin Chapel), London increased sharply. Statistics report a sharp increase in the amount of tourists visiting the places described by Dan Brown. Travel agencies began to massively offer both organized visits (they even got the name Dan Brown's Way) and independent visits of mystery lovers. For this purpose, guidebooks are published, developing itineraries based on the novels (Dan Brown phenomenon creates tourist boom).

Similarly, the subsequent novels and films based on their plots, *Angels and Demons* and *Inferno*, have had a significant impact on the increased visitor interest in Rome, the Vatican, and Florence. Readers are interested in the signs and symbols described by Dan Brown, they also seek to learn more about the great architect Bernini (Storss, 2009), they visit places of interest related to the culture of medieval Florence.

Dan Brown's other novels – *The Lost Symbol*, *Inferno*, *Origin*, set in Italy (Florence), Turkey (Istanbul), Spain (Catalonia, Bilbao, Barcelona) – have the same effect on increasing attendance. The writer provokes the imagination of the readers with the revelation of secrets, which again bring to the fore major figures of world-famous artists, writers, architects, who further intrigue the visitors.

Therefore, unlike the exploratory or critical interpretation of a literary work, the creation of a tourism product based on the use of a novel necessarily presupposes the existence of material objects. Literary tourism offers such a service, which provides extensive historical-cultural information, mastered in the process of tourist tours. In this way, the readers' imagery derived from the fictional world of novels is given concrete material expression – it is associated with a specific settlement, its architecture, a characteristic building, etc. Research on the integrity of tourism with literature shows that fictional works motivate to a very large extent tourists' intentions to visit a particular destination by focusing on the details and facts described in a work (Dark, 2016). Analyses also show that literary tourism involves more motivated visitors, mostly middle class.

BIOGRAPHY OF WRITERS AS AN ELEMENT OF LITERARY TOURISM

Another object of literary tourism is related to the development of routes related to the biography of writers. An example in this respect is the birthplace of William Shakespeare, Stratford-upon-Avon. As researchers have pointed out, from the nineteenth century interest in the figures of writers and the place of their birth and creative development became a serious cause for organised pilgrimage. Because of Shakespeare's birthplace, England became established as a tourist destination associated with pilgrimages to the birthplace of the brilliant playwright: England, Shakespeare's homeland. Stratford is becoming one of England's most visited

towns, where thousands of devotees of the great English writer each year seek out the traditions of his art. Thus, on the one hand, Stratford takes on additional meaning, becoming an emblem of theatrical art, of dramaturgy. And on the other hand, as a sustainable tourist destination it receives incentives for economic development (Virgili Viudes, 2020).

Other cities in the UK and other European countries – France, Germany, the Czech Republic, etc. – establish themselves as tourist destinations in a similar way. In Russia, too, the foundations are being laid for literary tourism associated with Pushkin, Leo Tolstoy, Fyodor Dostoyevsky, Anton P. Chekhov, Mikhail Bulgakov. But at this stage this kind of literary tourism is still in its infancy, although interest in St Petersburg or Moscow as the setting of Dostoevsky's or Bulgakov's novels is becoming increasingly attractive among their admirers worldwide.

Therefore, literary tourism develops such destinations that rely on the imagery created as a result of being introduced to a literary text. Itineraries are also developed in response to readers' interest in the life biography of a popular classic author. What characterises this type of tourist service is that they are oriented towards a specific setting, a way of life, whose original image is found in works of art. On the basis of what is known, or of the image built up in the reader's mind, the additional meaning is realized – the tourist receives cultural information that broadens his knowledge and experience.

Literary tourism performs an essential task – it plays an important role in cultural contact and interaction. Indeed, on a global scale, classic and hugely popular works that have become accessible to millions of readers have a fundamental influence. Some of them form the basis of human thinking and value orientation through the educational system and the performing arts – the dramas of Shakespeare, the novels of Dickens, Walter Scott, Balzac, Hugo, Zola or Proust, the great works of art by Goethe, Schiller or Lessing, the novels of Tolstoy, Dostoyevsky, Bulgakov or the short stories of Chekhov, etc. The other examples are the Harry Potter novels or the works of Dan Brown, which are hugely popular and reach millions of readers.

ASPECTS OF THE LITERARY TOURISM DEVELOPMENT IN BULGARIA

As far as the literary heritage of countries like Bulgaria is concerned, literary tourism can be used as a tool for cultural exploration, for expanding cultural contacts. In Bulgaria, for example, similarly to European cities, settlements associated with the birthplace and/or creative development of classical writers are becoming tourist destinations. Pilgrims visit the writers' birthplaces turned into museums, or worship at their monuments. Such settlements are Sopot (the birthplace of the patriarch of modern Bulgarian literature Ivan Vazov), Kalofer (Hristo Botev), Bansko (Nikola Vaptsarov). And also Tryavna (the birthplace of the poets - father and son, Petko and Pencho Slaveykov), Chirpan (Peyo Yavorov), Koprivshtitsa (the birthplace of the poet Dimcho Debelyanov), Zheravna (Yordan Yovkov).

Museum expositions of classic Bulgarian writers are also organized in Sofia. These

are mostly the houses where the Bulgarian writers lived and worked from the late 19th and early 20th centuries, when Sofia established itself as the European capital centre of Bulgaria. During this period thousands of Bulgarians moved to Sofia from different regions of the country. Here they established their homes and families and brought up their children. In cultural and historical terms, Sofia is an ancient city. There are many legends about its origin and development. Archaeologists have uncovered various historical eras of its existence – Thracian, Roman, Byzantine, Old Bulgarian, etc. During the period of 15-16th centuries a literary school developed in Sofia, which contributed to the development of literature.

In 1879, immediately after the Liberation of Bulgaria, Sofia was elected capital. In just two decades the city became the cultural and educational centre of Bulgaria, a centre of creative endeavour and artistic achievement. The great Bulgarian writers, artists, actors, directors, composers and musicians settled in Sofia, with works emblematic of Bulgarian thinking and values. The largest purely scientific organization was located in Sofia, the first university was opened here, the largest theatre stage, exhibition and concert halls, etc. were located here. So Sofia has the potential, along with providing extensive cultural information about the different historical epochs, to develop literary tourism that would introduce Bulgarian writers and their works to visitors.

Another Bulgarian city is rich in cultural monuments related to literary heritage – Plovdiv. The unearthed historical layers show that the city is more than eight thousand years old, with unique material objects from past eras such as an ancient theatre, a Roman forum, a Roman odeon, an episcopal basilica, etc., preserved to this day. In the 19th century Plovdiv was the centre of the newly emerging Bulgarian literature. It is no coincidence that the city has a unique architectural ensemble – the Old Plovdiv, where prominent representatives of Bulgarian literature such as Naiden Gerov, Ivan Vazov, Konstantin Velichkov lived.

Literary itineraries related to Bulgarian novels or popular classical works can still be developed, through which tourists can get to know Bulgarian literature, but also to experience the cultural synthesis between different historical epochs, the beginnings of Bulgarian hospitality, our lifestyle and character.

Therefore, literary tourism has a number of additional opportunities to establish itself as a factor of cultural contact and cultural interaction. It should be expected that the entry of literary subjects, characters, and specific spaces will give impetus to the development of regions, but also attract pilgrims. As far as Bulgarian literature is concerned, the possibilities of using it for tourism purposes are linked to two factors. Firstly, the organisation of tourist visits to the home villages of writers whose names are familiar to foreign tourists. And also providing itineraries in the footsteps of popular Bulgarian novels, available in foreign languages. Secondly, introducing the cultural atmosphere and creativity of Bulgarian writers, with an emphasis on itineraries based on their works. This second option is suitable for tourists who are not familiar with Bulgarian literature. At the same time, developing a map for visiting significant places (sacred topos) related to literary works.

CONCLUSION

The development of literary tourism will also create new opportunities for the economic growth of individual regions. There are a number of examples that prove that literary tourism is used to renovate villages and introduce a number of innovations related to the organisation of various festive forms. Last but not least, on a global scale, there are growing concerns about the erosion of humanitarian thinking, which, as is well known, is also a result of communication with literature. An approach in which tourism borrows elements from literature, transforming itself into an independent form – literary tourism – may have the potential to compensate for the collapse of humanitarian values: through travel to literary destinations, tourists fall under the spell of books and can discover the world of books. This could create additional interest in smaller countries, rich in cultural and literary heritage, such as Bulgaria, whose values and orientations – presented through literature – could help to broaden the horizons and mutual understanding of cultures otherwise far apart.

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THE ROLE OF EDUCATION FOR IMPLEMENTING THE UNESCO CONVENTION FOR THE SAFEGUARDING OF THE INTANGIBLE CULTURAL HERITAGE

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Abstract: *The aim of the paper is to present key aspects of the application of the UNESCO Convention for Safeguarding Intangible Cultural Heritage through the expansion of the space for education and training. It showcases good practices from the experience of the University of Library Studies and Information Technologies (ULSIT) in implementing innovative educational models that create a cycle of interaction between education, research by young scholars, engagement with the cultural and natural environment, conferences and seminars, exhibitions, communication, international cooperation, and exchange. The main connecting element of this interaction is the knowledge and experience gained by all participants – lecturers, students, doctoral candidates, specialists from cultural, municipal, and state institutions, representatives of the non-governmental sector, and the media.*

Keywords: *Education; Intangible Cultural Heritage; UNESCO Convention*

INTRODUCTION

The role of UNESCO for the inclusion of cultural heritage in the development strategies and policies is considerable and widely acknowledged. Here are some of the main parameters: creation of a conceptual, strategic, legal and methodological framework; promotion and enabling of partnerships and cooperation; encouragement of the nation states to develop systems for protection of their heritage; linking education and training with the contemporary social environment. The UNESCO Convention for the Safeguarding of the Intangible Cultural Heritage is a significant document as it recognizes the importance of the ICH for the protection of cultural diversity and for creating conditions for sustainable development. This sphere has huge potentials for interaction with spheres such as education, scientific studies, communication (Convention 2003: Art. 13 and 14). A good example of the importance of the 2003 Convention is the system of cultural statistics of UNESCO, updated in 2008. There ICH is highlighted as a key transversal cultural domain, which interacts with all the other domains (UNESCO framework 2009). Further, the importance of the ICH is in its strong communicative functions stemming from the practices of creation, presentation and transmission of traditions, knowledge and experience, as well as from the related cultural spaces. These characteristics of the ICH enable interaction between its specific spheres – folk art and crafts, performing arts, folk legends and oral traditions, rites and rituals, festivals and celebrations. Education and training are also identified as transversal domain, understood not only as a tool for the transfer and acquisition of knowledge, skills and competencies, but

also as a means of cultural communication and transmission of culture from generation to generation. One of the most popular and traditional ways of transmission of the ICH is through informal education and learning. Education has impact on different communities and groups and the communication between them. Another important function of education is associated with the opportunities for innovation, for applying ICT in the field of cultural heritage, tourism and management of cultural attractions. As seen in the UNESCO system of cultural statistics, education and training have an important role in all areas of culture and at all stages of the cultural cycle (UNESCO framework 2009).

The efforts of the Republic of Bulgaria for the implementation of the Convention for the Safeguarding of the Intangible Cultural Heritage have exercised significant impact on the ongoing changes and especially on the manner of management of cultural heritage in a national context. Since 2007 such changes have grown into a steady trend. The ratification of the Convention by Bulgaria in 2006 and the country's membership in the EU since 2007 have had serious impact on it as well.

The main framework of these activities in a national context includes:

- ▷ Reforms of the national legislative framework in the field of cultural heritage. Adoption of the Cultural Heritage Act (2009). Development of regulations in the field of the ICH in the context of the 2003 Convention;
- ▷ Reforms in the system of governance and institutional capacity building in the field of the ICH in the context of the 2003 Convention. Examples: the creation of the National Council for Intangible Cultural Heritage under the Ministry of Culture, the establishment of the Category 2 Regional Centre for the Safeguarding of the Intangible Cultural Heritage in South-Eastern Europe under the auspices of UNESCO;
- ▷ In the area of protection: creation and development of the national inventory of ICH and the National System Living Human Treasures – Bulgaria.
- ▷ The increase in the number of Bulgarian elements on the Representative List of the Intangible Cultural Heritage of Humanity has resulted in the expansion of the institutional capacity at local level. As an example I would point out the inauguration of the information centre On the Road to the Fire Dancers at the village of Bulgari, Malko Tarnovo Municipality, in the border region of Strandza¹;
- ▷ Expanded participation of Bulgaria in global initiatives and projects of UNESCO in the field of the ICH implemented in the region of South-Eastern Europe such as the global initiative Culture: A Bridge to Development. The implementation of this initiative in the Southeast European region can be described as a notable achievement in the area of partnership and advancement in inter-state and cross-border cooperation (Joint declaration 2012).

The role of education in the field of intangible cultural heritage

Bulgaria's cultural policy has long traditions in the identification, protection and transmission of cultural heritage. In the last 60 years this policy has been implemented in close cooperation with UNESCO (Denchev, Vasileva 2017). As a researcher

in the field of cultural and educational policies and author of books on these topics, I can responsibly say that UNESCO has always been highly appreciative of the educational system and cultural policy of Bulgaria. What is the current situation in our country? The cultural and educational sectors in Bulgaria have experienced major changes in the period between 2001 and 2015. Currently they are also undergoing a process of dynamic development. Cultural heritage has been defined as a priority in the National Strategy for Regional Development, in a number of regional and municipal development strategies, as well as in the National Strategy for Sustainable Tourism Development (NSRD 2012; NSSTD 2014). The growing economic interest towards culture and cultural heritage, however, is also associated with certain negative tendencies stemming from the accelerated reforms carried out in this field. Changes are adopted more quickly by the managerial, administrative, academic and scientific circles than by local people and communities. An important achievement of the state in relation to educational and cultural policy and the municipal and cultural institutions on the local level would be to find the specific approaches suitable for the characteristics and needs of each area, that would be able to eventually convince the local population of its significance and power as a resource for sustainable development of tourism, for economic and social integration and for the raising of the living standards of the population. A serious issue in Bulgaria is the potential of the staff in the field of cultural heritage as far as the population in the local areas do not have the necessary qualifications and practical skills.

Good practices of the University of Library Studies and Information Technologies (ULSIT) in the education and training in the field of cultural heritage

ULSIT has emerged as a leading university not only in Bulgaria but also in the region of Southeast Europe, especially in the training of specialists in cultural heritage. ULSIT delivers BA and MA courses in Cultural Heritage, Cultural Tourism and Information and Applied Communication Technologies as a Tool for Information and Communication. In addition, the University also delivers PhD programs and has established partnerships with leading international organizations, cultural institutions and municipalities. ICH is studied within several disciplines, such as in the BA program Information Databases of Cultural Heritage featuring nine subjects delivered in four years. The subjects include: Intangible Cultural Heritage, State Policy of Cultural and Historical Heritage of Bulgaria, Organization and Management of Community Centres, Information Resources of History Museums, A Calendar of Festivities, Socio-cultural Aspects of the Ethno-cultural Communities, Protection of Intellectual Property, and Museum Pedagogy. Within a considerable part of these courses, a basic document assigned for analysis to the students is the Convention for the Safeguarding of the Intangible Cultural Heritage, which recognizes the role of the ICH as a factor of cohesion, cultural exchange and communication between peoples. The participants in the courses learn about the responsibilities of the Member States of the Convention, the work of the Intergovernmental Committee for the Safeguarding of the Intangible Cultural Heritage, existing practices for international cooperation and heritage protection. The subjects Organization and Manage-

ment of Community Centres and Museum Pedagogy are in addition very suitable for training of specialists (staff potential) in the field of the ICH and, in particular ones connected with its promotion and transmission through formal and informal training.

ICH is also the subject matter in successful MA courses: Community Centre Activities, Cultural Heritage in a Contemporary Information Environment, Museums and Art Management, and Safeguarding of the Cultural Heritage of Bulgaria. For example, courses such as Cultural Policy and Cultural Heritage, International and National Organizations for Art and Culture, Intercultural Communication and Art present in detail the Convention, as well as the measures taken by Bulgaria as a Member State for its implementation, at the same time paying special attention to the place of the community centres in these policies.

The Convention is further discussed, analysed and referred to in scientific research, lecture courses and teaching materials (Velev 2013).

ULSIT expands its research and institutional structure in the field of cultural heritage. Since 2010 the following research institutions have been established under the umbrella of the University: the Institute for Cultural Heritage, the UNESCO Chair of ICT in Library Studies, Education and Cultural Heritage, the Youth Academy for Knowledge Management with its section on cultural heritage. The aim is to improve the quality of education and instruction, building on partnerships between scientific and research institutions, museums and the local authorities not only in Bulgaria, but also in the region of Southeast Europe. Systematic connections are made between theoretical and practical instruction, while at the same time long-lasting interest is instilled, promoting a spirit of initiative and positive motivation in the students and partner-institutions on the issues of organization, management and socialization of cultural heritage. This trend of courses is characteristic not only of ULSIT; it concerns the contemporary educational policy of universities in Bulgaria, which promote innovative approaches to education.

The model of ULSIT for training in the field of cultural heritage aims to create synergies between:

- ▷Lecture courses;
- ▷Practical training through summer student practicums and internships with cultural institutions;
- ▷Fieldwork research for students and teachers;
- ▷Presentation of results at scholarly events through reports, presentations and posters;
- ▷Publication of the achieved results;
- ▷Arranging exhibitions;
- ▷Creation of a communication and information environment, including collaboration and exchange.

As a good example of implementation of this model I would like to refer to the traditional ULSIT's summer student schools in the cultural space of the municipality of Malko Tarnovo, located in the region of Strandzha. The project for sum-

mer student practicums is implemented in partnership with the History Museum in Malko Turnovo and the local municipality. The main activities in the practical training of the students are connected with the compilation of a database of the cultural heritage preserved there and emerging as a potential resource for local development. An important place in the methodology of student training is given to the ICH and the application of ICT for documentation resulting in the storage of the data in digital form. All the equipment which they use allows instant digitalization and storage of documents and photos. The students record legends, tales, songs, customs, memories and personal life stories. the equipment which they use allows instant digitalization and storage of documents and photos. In addition, this kind of work in collaboration with the local community leads to increased respect for the human bearers of the cultural memory and knowledge of the past. An important objective of this practical training model focuses on raising interest in cultural heritage as to encompass the widest possible range of social actors.

The results of field studies carried out by students are presented on an annual basis at student scholarly events such as the National Student Conference of ULSIT, the student conference The Future of Cultural Heritage through the Eyes of the Young Scholars and a number of other events.

CONCLUSION

The Cultural and Educational sectors in Bulgaria have been subject to major changes and now they are developing dynamically. Strategic and program-based approaches are being introduced into the system of cultural heritage management with the aim to increase the role of the cultural heritage and enhancing its contribution to the development of society, keeping at the same time in mind the role of education or the opportunities for transfer of knowledge and practical skills to the economic sphere. Universities are committed to social responsibility and expansion of the educational process because they include possibly the widest range of social groups. The results from the implementation of the Convention 2003 have strong influence on these processes, as it was outlined in the report. In such a context, the implementation of the Convention contributes to the global trends for integration of culture in development policies. All that, together with the active international cooperation, does not reduce, but rather increase the role of national educational and cultural policies towards the socialization of the cultural heritage, and in the case of ICH – for its transformation into a means of cohesion and a tool for preservation of cultural diversity.

NOTES:

¹The area of the Strandzha Mountain is a cross-border region between Bulgaria and Turkey.

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ARTIFICIAL INTELLIGENCE IN TOUR GUIDING PRACTICES IN EDUCATIONAL TOURISM

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Abstract: *The research is in the field of possibilities for using artificial intelligence in educational tourism and modelling tourist educational practices in Bulgaria in the context of a mock-up with artificial intelligence (AI) for tour guidance in educational tourism. The task is based on basic knowledge of AI and the connection with the subject of teaching by supporting the construction of AI for tour guidance in the university laboratory and controlling the work of AI subsequently to support the work of IT specialists in the building and subsequent maintenance of AI for tour guidance. The connection of AI with the tour guide talk and the subsequent expansion of the scope of information from students in educational tourism opens up new layers of knowledge that support the learning process. Tour guide talk and communication skills for providing educational information through AI are the basis of the methodology used.*

Keywords: *artificial intelligence (AI), educational tourism, modelling;*

INTRODUCTION

Artificial intelligence (AI) is entering many different programs. In recent years, on the one hand, AI has become something of a mantra, as if it has a solution to all problems. We must pay attention to the development of artificial intelligence from the point of view of specific AI on special topics, which are trained to solve certain circles of tasks and can significantly assist specialists from all fields. In reality, AI laboratories are engaged in implementing projects that vary, such as projects in forestry and agriculture in the field of animal husbandry, which are related not only to AI but also to automation; the things we teach our students, we have projects related to how to use electrical energy, how to predict, depending on various factors, what the different consumption will be, similarly, in architecture, construction, engineering and constructive solutions, with the construction of road infrastructure, transport and defense.

At the University of Library Studies and Information Technologies, we collaborate with many people who want to be involved in new technologies. We have built an AI laboratory to experiment with different programs with a specific focus. Such laboratories already exist in several universities in Bulgaria. There are such AI laboratories in many other countries, so we believe that this study on how to construct and control an AI program in tour guiding educational tourism programs will benefit many others. Students can be trained from the perspective of internship programs to make different decisions, so we collaborate with various external organizations among the many people who want to work in this area. We hope to continue with these actions in the future. The creation of AI hides certain risks that arise from the excessive use of AI in various spheres and aspects.

Like any technology, in reality, there are both good and bad sides, despite the experience that we gain in favor of technology to allow us to minimize as much as possible and see the technology fully working for society and for people. When working with AI, there is something that differs to a certain extent from what is related to the application of using AI with standard programs that we are used to working with. While with standard programs we have programmers who have created these programs and who have tested these programs and systems, and if something happens to this computer application, it can be repaired accordingly, just like changing a part of a car or a part of a production system, or a game that you are currently playing. In this situation, when we use AI from numerous program providers, we already know who to turn to. To specialists who have worked on this topic or these problems, which is not always possible. In the university laboratory developing AI on a specific topic, such as guided tours for familiarization with cultural and natural landmarks, or specific technologies in the hotel, restaurant, tour operator and travel agency business. Or in tour guiding, something that is the subject of this research. In fact, everything is possible both in laboratory conditions and further on.

AI and the programs we make for them are not programs we are used to handling in computer systems. In reality, the AI model is a model that we are creating now. These programs can vary, i.e., we make the program distinguish particular objects, or we may want to see certain parts of these objects in a specific moment or entire objects. We can make the AI visualize the process and make it a shorter or more detailed description of individual topics, which also has an impact. It is essential to know that we control the processes, which are not automated, and that they are without their creator.

2. MATERIALS AND METHODS

The study applies a set of methods for constructing AI to meet the tasks set for the implementation of curricula and programs, as educational tourism helps to better integrate topics into the learning process by connecting theory with practice and providing a basis for IT specialists to make an accurate algorithm for the objects presented in the guided tour. An analysis of the curriculum and the possibilities for presenting the studied material through a connection with artefacts cultural and natural landmarks are necessary: (i) Determining the directions for the development of educational tourism related to curricula and programs and its connection with various institutions; (ii) Encouraging the development of educational initiatives and extracurricular activities; (iii) Applying a systematic approach to the analysis of the results.

With the rapid development of information and communication technologies and the role of the Internet in sharing information, it is necessary to provide fieldwork with photo and video documentation of basic objects of cultural heritage traditions and customs that directly correspond to the educational content of some subjects of the school education system in Bulgaria. The collected materials can be a reliable basis for the IT specialist working on constructing AI.

Facts, cultural and natural landmarks are necessary: (i) Determining the directions for the development of educational tourism related to curricula and programs and its connection with various institutions; (ii) Encouraging the development of educational initiatives and extracurricular activities; (iii) Applying a systematic approach to the analysis of the results.

With the rapid development of information and communication technologies and the role of the Internet in sharing information, it is necessary to provide field-work with photo and video documentation of basic objects of cultural heritage – traditions and customs – that directly correspond to the educational content of some subjects of the school education system in Bulgaria. The collected materials can be a reliable basis for the IT specialist working on constructing AI.

The basis of cooperation is the documentation of curricula and programs, the search for a connection between the study of the past and the acquaintance with the present, and the introduction of new technologies into the educational process. Practically, new technologies come from the East and the West and are unified mainly throughout the world. We already know that there is uniformity in the means of transport, which are well known to tourists as types of brands and amenities offered. In the same way, we have a unification of technologies in the storage and processing of food products. Culinary arts still retain an element of national cuisine, but the internationalization of nutrition is also a well-known fact.

RESULTS

The study applies a complex of research methods to respond to the tasks set for project implementation. Namely: search, research and systematization of theoretical statements related to educational tourism and its relationship with various institutions; conducting a representative study based on quantitative and qualitative research methods (interviews) to present a current and comprehensive picture of the development of educational initiatives and extracurricular activities; applying a systematic approach to the analysis of the results. By the rapid growth of information and communication technologies and the role of the Internet for sharing information, field work with photo and video documentation of basic objects of cultural heritage is envisaged – traditions and customs, which directly correspond to the educational content of some subjects of the school education system. It is essential to understand that fundamental knowledge cannot be displaced at the base of the construction of new technologies.

Practically, knowledge is the basis of the correction of digital systems, and they can change these systems by the model of tourist supply, which is entirely controlled by the will of reason. The connection between communication and culture is also revealed in how communication is carried out, as well as in the reasons, goals, and strategies for their achievement, which are part of the cultural practices of each society. Due to the different mentality of the participants in the interaction, several side factors must be taken into account here, which directly impact the content of the verbal message and activate the central question in communication: “Am I understood

correctly?”. In addition to the specific communicative actions, composed of verbal and paralinguistic components, one should not forget all the elements that determine communicative behaviour. Such elements are the culturally particular models and rituals, which find the strongest visual expression precisely in direct communication. In this sense, intercultural communication, in addition to containing all the other characteristics of the communicative process, is burdened to a greater extent with hidden obstacles that would make understanding difficult. Misunderstandings arise when this commitment is forgotten or ignored (Farkova 2019).

For the analysis of communication, which should be the basis of communication policies in the field of tourism and in particular for the guided tour, the theory of the American scientist Larry Samovar is suitable, which characterizes interaction with the elements: setting, place, occasion, time of interaction, number of participants and cultural framework, and with the axioms of the American psychologist and theorist in the field of interpersonal communication Paul Watzlawick (Paul Watzlawick, et. all 2011):

1. A person can but communicate;
2. Relationships determine the content;
3. The punctuation of communication determines the nature of the relationship between partners;
4. Interpersonal communication occurs digitally and analogically;
5. Communication processes are either symmetrical or complementary.

The German psychologist Friedemann Schulz von Thun (Friedemann Schulz von Thun, 2015), based on Vaclavik's idea of differentiating content and relationships, developed his so-called communication square, with the help of which he illustrates communication and the possible levels at which misunderstandings occur. It is used to analyze and overcome several errors in understanding. In the case of intercultural differences, the possibility of misinterpretation of messages increases significantly, and this is important to consider when developing text assignments for AI-related to cultural and historical objects. Here, ethical and legal elements of the construct must be regarded. Both coding and decoding in AI are based on our previous experience, moral norms, and cultural practices (Farkova 2019).

In co-authorship with Rahnard Tausch, Schulz von Thun applies a criterion model for text comprehensibility, providing four key elements (Karageorgiev 2015): (i) Simplicity: simple presentation of the subject content. Circumstances must be presented interestingly and, specifically, in short sentences; (ii) Plan: the connecting thread of the presentation must not be lost or interrupted. The text must be meaningful and consistent. It is necessary to separate more important information from less important information; (iii) Brevity/expressiveness: the text or statement should always contain specific details that most clearly and understandably express the main idea; (iv) Stimulation: the text should be interesting, engaging and easy to read. This can be achieved through examples, comparisons, metaphors, illustrations, etc.

For the needs of AI in the tour guide talk, we can refer to Maletske's definition:

“Intercultural is understood as all relationships in which the participants in them do not remain only within the framework of their codes, conventions, attitudes and ways of behaviour, but come into contact with other codes, conventions, attitudes and ways of everyday behaviour” (Maletske 1994). This definition directly concerns the study’s objectives, for the texts in the tour guide talk insofar as the typological similarities concern familiar objects in which unfamiliar content is embedded. In our research, we adhere to the definition that intercultural communication is communication in which culturally specific differences are relevant to the course of interaction and can influence correct understanding in AI.

The possibilities for linking the cultural heritage, tourism, and education systems are often categorized as bilateral but not tripartite cooperation. Publications by authors such as Pepka Boyadjieva and Petya Ilieva-Trichkova (2021) state that the issue is considered from an economic point of view and the dimensions for the tourism industry in the sectors involved in their direct practical application.

Introducing AI into the educational process is associated with improving students’ digital skills. Kalina Varbanova and Aneta Momcheva assume that play and the game-educational space are essential factors in the educational process, with a positive emotional and creative coefficient. The need for a diverse, dynamic and cognitive environment to create a sense of emotional and spiritual comfort for students during educational tourism focuses our attention on building spatial solutions, the capabilities of which can stimulate emotional activity in independent, creative and collaborative activities. The centre’s goals, “To play and learn with electronic games”, are indicated, where games are presented as a form of purposeful attitude to AI technologies and the environment conditions for developing the sensory culture of students to stimulate motivation to learn are guaranteed. In the presence of games with diagnostic tasks and cognitive goals, the full use of the senses is achieved through repeated actions and interactions of students (Varbanova & Momcheva, 2015). When modelling training programs for students and faculty using AI, it is essential to use collective memory. Pierre Nora defines collective memory as the memory and the set of memories, conscious or not, of an experience lived and/or mythologized by a living community for which the past is an integral part of its identity (Nora, 2006). Collective memory includes every element of culture that today represents the past in some form. It is a necessary building block of collective identity, the memory that connects the individual with the group. Valentina Sharlanova, examining the Orthodox churches in Sofia, concludes that they organize church holidays and restore traditions and rituals, which, as a collective form of remembering certain events, are also part of collective memory. They are carriers of collective memory and thus form places of memory. These places of memory have a strong symbolic meaning, carry a great emotional charge and construct and strengthen national identity (Sharlanova, 2021).

DISCUSSION / CONCLUSIONS

In tour guiding, something that is the subject of this research, in fact, everything

is possible both in laboratory conditions and further on. The programs that we offer and that we make are not programs that we are used to handling in computer systems. In reality, the AI model is a model that we are creating now. These programs can vary, i.e. we make it (AI) distinguish certain objects, we may want to see parts of these objects at a certain moment, or lower layers, when it comes to culture or whatever. We can make it (AI) read, visualize the text, we can make it make a shorter or more detailed description on individual topics at the moment, and also have an impact.

To provoke new thinking on an already given topic. In recent years, many users, especially during the last summer tourist season, could see that artificial intelligence, or the model we have, reacts one-sidedly; this can create several problems regarding the answers that this model can return. Whether it is a question of generating images or, at the moment, of some text descriptions or other elements we work with for which we can currently use AI, this is a significant problem. What we need to pay attention to in the future from the point of view of more effective use of AI is how we train the models. This cannot be one-sided.

Realistically, just as we learn from birth, respectively, until old age, and of course, until a considerable age, we apply the same thing to artificial intelligence (AI). Unfortunately, when artificial intelligence does not use enough data, for example, to interpret, errors that will later be significant can be made. And this is not about a programmer who has written some code that we can optimize or see what the other problem was. For this, we need to put the models that use artificial intelligence in different situations.

We need to validate what they give as answers, test constantly, and, of course, make even more detailed adjustments to these models so that they can be more effective and efficient. Of course, there are still questions that probably need to be resolved both from a purely legal and ethical point of view. Because if we leave the decision solely to AI or to a machine, this can, in reality, to some extent, depersonalize us as people and as individuals. It would be suitable for every decision to be still tied to the person.

Regardless of whether, at a given moment, AI will assist an engineer in making a device or help a doctor so that they can improve and develop accordingly, when we automate a large part of the processes, probably for a large number of people, there will be more free time. We hope they will direct their energy to creative enthusiasm. Maybe we will direct them to the field of art, and maybe more people will draw, create music, write books, or do something interesting. But the truth is that even there, as seen in recent years, AI is doing new things and entering very seriously; the competition will be great, and people should not stop developing. We see this every day; for example, if 15-20 years ago, a person wanted to take a picture, the cameras we used had to be adjusted to focus, set the aperture for the light, control the speed of opening the aperture, and the individual had to have specific knowledge about this, at least under what conditions to take the picture while simultaneously monitoring so many parameters. Now, it is enough to pick up the phone and point it at

the object.

Of course, this is a huge convenience for us, but unfortunately, some of the skills and knowledge are difficult to learn. So the goal that we have set for ourselves as a university and as a laboratory is to enable more and more young people, especially from business, because we have excellent contacts with business, to be able to be constructors of primary data for AI and to be able to subsequently help the IT specialists who develop the algorithm to correct the AI so that it is as accurate as possible in the information it provides. At the very least, obvious factual errors that are not even noticed by the compilers of the AI are visible to the user, and he must be able to react. The university has a vast ecosystem of cultural heritage, museums, libraries, tourism, and information technology, which currently supports business at various levels. Here, we are not just talking about large companies. Here, we are talking about small and medium-sized businesses, individual enterprises and individual companies.

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IN SEARCH OF INNOVATIVE MODELS AIMED AT PRESERVING CULTURAL IDENTITY AND DEVELOPING CAPACITY

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Abstract: *The article examines the need to develop and implement innovative models aimed at preserving cultural identity and developing capacity in the context of dynamic socio-economic changes, globalization and technological progress. The growing role of digitalization, social media and interactive platforms in the preservation and transmission of cultural heritage is emphasized. The study examines good practices from Bulgaria, highlighting how new technologies and interdisciplinary approaches can improve the effectiveness of cultural institutions. The study also identifies key factors and mechanisms for capacity building and offers practical guidelines for sustainable preservation of cultural identity. The central hypothesis suggests that the integration of innovative models, digital tools and educational initiatives will significantly contribute to the preservation of cultural identity and the strengthening of cultural institutions.*

Keywords: *cultural identity, cultural heritage preservation, innovative models, digitalization, capacity building, cultural institutions, interdisciplinary approaches, cultural policies.*

INTRODUCTION

Essence of the problem: In the context of dynamic socio-economic changes, the cultural identity of peoples and communities faces a number of challenges, provoked mainly by the processes of globalization and technological progress. They leave a serious mark and change the ways and approaches related to the preservation and transmission of the preserved cultural and historical heritage through generations. Traditional forms of cultural expression – such as language, folklore, crafts, and other practices – are gradually giving way to new models where digitalization, social media, and global communications play a crucial role. *To a large extent, these innovations are becoming the primary, and often preferred, method of transmitting accumulated knowledge.* This raises the questions: *How can tradition and innovation be combined to ensure the sustainable preservation of cultural identity? What strategies can make cultural heritage both accessible and engaging for current and future generations?* In response to these challenges, cultural institutions such as museums, libraries, and cultural centers are increasingly adopting innovative methods. These methods include virtual and interactive platforms, digital archives, and multimedia presentations. Implementing these tools not only enhances the preservation of cultural traditions but also ensures their accessibility to a broader audience. Capacity building is a key factor in this process, as cultural and educational institutions must develop the ability to adopt new technologies, foster sustainable partnerships, and cultivate the competencies necessary for effective cultural heritage management.

Relevance of the problem: In many countries, there is growing interest in studying, developing, and implementing models that integrate cultural policies with

digital technologies. The European Union has launched initiatives such as the “European Year of Cultural Heritage” and the “Creative Europe” program to emphasize the importance of innovation in the cultural sector. In Bulgaria, several institutions and organizations are exploring new methods to preserve and promote national cultural heritage. However, despite these efforts, there is no comprehensive strategy for implementing innovative models in this field. This gap underscores the urgent need for coordinated action. Cultural organizations, including both state and non-governmental institutions, play a vital role in preserving cultural identity. Among them, community centers (*chitalishta*) stand out as one of the oldest and most significant cultural organizations in Bulgaria. Nevertheless, all these institutions face the challenge of adapting to contemporary demands through digitalization, interactive learning methods, and the engagement of younger generations.

Main objective of the study: This study aims to analyze existing innovative models for preserving cultural identity and enhancing institutional capacity, focusing on cultural institutions and their intersection with educational institutions. Through a systematic review of good practices from Bulgaria and abroad, the study seeks to identify key factors that can foster the development of new cultural policies and contribute to the successful integration of digital technologies and methodologies. The study addresses the following research questions:

1. What innovative models are used in different countries to preserve cultural identity?
2. How can these models be adapted to the Bulgarian context?
3. How can digitalization and new technologies support the processes of cultural heritage preservation?
4. What capacity-building mechanisms are most effective for cultural institutions?

Hypothesis: The main hypothesis of the study is that developing and implementing innovative models based on digitalization, interdisciplinary approaches, and educational initiatives will contribute to more effective preservation of cultural identity and sustainable capacity-building in cultural institutions.

RESEARCH METHODOLOGY

This study employs a combination of qualitative research methods to test the hypothesis, including:

1. Literature analysis: A review of scholarly publications, reports, and strategic documents on cultural policies, digitalization, and innovative models for preserving cultural identity.
2. Comparative analysis: A comparison of successful practices from different countries that have implemented innovative cultural models.
3. Case studies: Examination of specific examples of museums, community centers, and digital archives that have adopted innovations in the cultural sector.
4. Synthesis of results: Systematization of conclusions and recommendations for the Bulgarian context.

RESULTS

Theoretical framework: Defining “innovative models” in a cultural context.

In the contemporary context of preserving cultural identity, “innovative models” refer to a broad range of approaches, methods, and technologies that aim to safeguard cultural heritage while adapting to digital and socio-economic realities. These models integrate digital technologies, interdisciplinary methods, and new forms of collaboration between institutions, civil society, and educational organizations.

The innovative model can be seen as a strategic approach that includes innovative techniques for documenting, preserving, disseminating and interpreting cultural heritage. Among them, digitization, virtual and augmented reality (VR/AR), artificial intelligence in archiving and cultural entrepreneurship stands out. The main goal of these models is to make cultural heritage accessible to a wider audience and integrate it into the dynamic modern world.

Of increasing importance is the issue related to the role of cultural institutions and their adaptation to modern challenges. Cultural institutions themselves – museums, libraries, archives, centers, etc., play a significant role in the process of preserving cultural identity. However, their traditional methods often prove insufficient in the conditions of globalization and digital transformation. That is why the adaptation of innovative models becomes a necessity, not an alternative. Institutions that manage to implement new technologies and methods of interaction with the audience not only increase their efficiency, but also create conditions for sustainable development of the cultural environment.

In the context of the above, it is important to point out the main concepts of development that have a key bearing on the processes related to the development and implementation of innovative models in the field of cultural identity preservation: digitalization, cultural entrepreneurship, interdisciplinarity. By their very nature, they are also related to the development of new technologies, business relations and deploy a new attitude to development:

1. Digitization – the process of converting physical cultural objects and archives into digital format for the purpose of their storage, analysis and accessibility. It includes the use of 3D scanning, digital archives, interactive platforms and blockchain technologies for the authentication of cultural artefacts. Its development requires the development of new technologies, models for their application in practice, as well as the introduction of accessibility options for the widest audience.

2. Cultural entrepreneurship – a model in which cultural institutions develop sustainable economic strategies based on the combination of culture and business. This includes the creation of digital products, organizing cultural events with commercial potential, and using crowdfunding models for financing.

3. Interdisciplinarity – combining different scientific approaches and technologies to preserve and promote cultural heritage. For example, combining history, anthropology, and artificial intelligence can lead to new methods for analysing and interpreting cultural artefacts.

This theoretical framework provides the basis for the subsequent consideration of specific innovative models and their impact on the preservation of cultural identity and the development of institutional capacity.

Digitization as a means of preserving cultural identity

In recent years, there has been increasing talk about the need to introduce digitization of various cultural values, which is done not only for the purpose of their preservation, but also for a more complete study, as well as presentation to the widest possible range of users. In this sense, digitization is one of the most effective tools for preserving and promoting cultural heritage. Thanks to modern technologies, various elements of the tangible (movable and immovable) as well as intangible cultural heritage, including mainly manuscripts, archival documents, works of art, architectural objects, recordings of traditional folklore elements, can be stored in different digital formats and made available to the global audience. This shows that digitization not only preserves cultural artefacts, but also makes them accessible to people from different parts of the world. Online platforms and increasingly widely used mobile applications that have emerged in recent years allow users to touch historical values, regardless of physical distances. It should be noted that in addition to getting acquainted with elements of different communities, this is of particular importance for the numerous national diasporas, which also maintain contact with their roots through digital resources.

The use of various elements of digitization and the gradual transition to a full digital transformation of cultural heritage can be illustrated by several frequently used and popular digital practices. Here we can point out:

- ▷ The construction of virtual museums and 3D reconstructions – many world and Bulgarian museums offer virtual walks through their exhibits. For example, the National History Museum in Bulgaria provides digital exhibits that allow for detailed viewing.
- ▷ Digital archives and digital libraries – projects like Europeana and Google Arts & Culture bring together thousands of digitized artefacts, accessible to researchers and the public.
- ▷ Using blockchain for authentication and protection of cultural heritage – this technology can ensure the authenticity of digital copies and prevent counterfeiting.

Noting all the above, we can identify some problems accompanying the digitization processes. Despite its undeniable advantages, the digitization of cultural heritage faces the following three main challenges:

1. Technical and financial constraints. The introduction of digitalization requires significant investments in equipment, software and specialized personnel. In many cases, projects in this direction rely on limited funds from EU programs or private initiatives, which makes their sustainable development difficult. Countries allocate different financial resources in their national budgets. However, it should be borne in mind that this challenge is to varying degrees in individual countries. In many

places, the common denominator is that there is not always a clearly defined long-term financial support. And last but not least, there is the need for better coordination between the various institutions working in the field of identification, preservation and promotion of cultural heritage.

2. Legal and ethical issues, including issues related to copyright and intellectual property, often slow down digitization processes. Here too, it is necessary to point out that, overall, there is insufficient development of the legislative framework and, above all, its updating, so that it adequately responds to contemporary realities and ensures a clear mechanism for the protection of cultural values in the digital environment. This includes not only copyright on digitized materials, but also access to them, with a view to educational and scientific purposes. The prospects for overcoming these challenges lie in the development of public-private partnerships, strengthening international cooperation and the introduction of new technologies such as artificial intelligence and virtual reality for more effective presentation and preservation of cultural memory.

3. Risk of loss of authenticity – despite the high quality of digital copies, physical objects remain carriers of unique characteristics that are difficult to recreate digitally.

Concrete examples of successful models

- ▷ Collaboration with technology companies – developing augmented and virtual reality applications that allow for interactive experiences of cultural artefacts, as implemented in projects such as Google Arts & Culture.
- ▷ Financial instruments for sustainability – creation of digitalization funds in which the state, the private sector and international organizations can participate, such as the European programs “Creative Europe” and “Horizon Europe”.
- ▷ Educational and youth initiatives – integrating cultural heritage into the educational system through interactive methods and practices, such as the “Living History” program.
- ▷ Development of local communities – involving artisans, historians and young professionals in cultural projects that not only preserve traditions but also create economic opportunities, like the “Masterpiece House” initiative in Bulgaria.

Inferences: Innovative models for preserving cultural identity and developing capacity offer new opportunities but require a comprehensive approach to overcome existing barriers. Through strategic investments, international cooperation and active involvement of society, cultural heritage can not only be preserved, but also dynamically developed in the future. It is important to emphasize that digitization is one of the main innovative models that can guarantee the preservation and accessibility of cultural heritage for future generations. Despite the challenges, strategic investments in digital technologies and international cooperation will continue to play a key role in this process.

Development and implementation of interdisciplinary and educational training models aimed at capacity development

Interdisciplinary and educational models that are being developed and implemented in practice play a significant role in the individual stages related to the training of specialists and programs aimed at studying, preserving and promoting cultural identity. They combine methodologies from several scientific fields and encourage the active participation of different social groups in the process of cultural inheritance.

By bringing together knowledge from several fields, new methods for studying and transmitting cultural heritage are being created. These models often integrate qualitative and quantitative research approaches, including ethnographic methods, analysis of cultural artifacts, and oral history. The application of comparative analysis and historical reconstruction allows for a deeper understanding of cultural processes and their dynamics. Additionally, the use of innovative digital technologies – such as digitization, virtual archives and interactive platforms – expands the reach and accessibility of cultural heritage. The application of a project-based approach and active learning methods stimulates practical participation and the development of specific skills. An important part of the methodology is the inclusion of participatory models, in which representatives of local communities actively participate in the process of collecting, interpreting and sharing cultural knowledge. These models not only preserve cultural identity, but also create a sustainable connection between the past and contemporary cultural practices, thus ensuring the sustainable transmission of heritage to future generations.

Conclusion: In summary, the application of interdisciplinary and educational models creates a comprehensive and dynamic approach to the preservation of cultural identity. By combining traditional and innovative methods, not only the preservation of cultural heritage is guaranteed, but also its adaptation to modern conditions. This supports the construction of a sustainable cultural environment in which the past and the future intertwine and enrich each other.

Illustration of interdisciplinary models through good practices

Research and practical examples reveal that the application of interdisciplinary and educational models leads to the creation of sustainable practices and policies for the preservation of cultural identity. The involvement of various stakeholders – scientific institutions, cultural organizations and local communities – provides a broader platform for sharing knowledge and experience, thus strengthening the connection between the past and the future. The following examples, which are from Bulgarian practice, illustrate how these models find real application and what positive results they achieve in different contexts.

An example of a successful interdisciplinary approach is the “Digital Cultural Heritage” program of the Institute of Balkan Studies with the Center for Thracology at the Bulgarian Academy of Sciences, aimed at digitizing cultural content, creating databases and virtual exhibitions.¹ Developed in collaboration between research

units from institutes, universities and museums, and involving various technology companies, the program integrates knowledge from the humanities, information technology and the arts, providing new opportunities for the digitization and presentation of cultural artefacts. In addition, the Institute of Mathematics and Informatics, also at the Bulgarian Academy of Sciences, participates in projects such as a virtual encyclopaedia of Bulgarian iconography and 3D representation of murals. Another example related to this program is the course “Digitization Cycle: Creation, Processing, Online Exhibition and Types of Access to Digital Cultural Heritage”, which covers the processes of creation, processing and online presentation of digitized cultural objects. It is part of a modular training on digitization, conducted during the period March – May 2013 by Sofia University “St. Kliment Ohridski” in cooperation with the Sofia Municipality and the Institute of Mathematics and Informatics. The aim of the course is to provide in-depth knowledge of the processes of digitization of cultural heritage, covering the stages from creation and processing of digital objects to their online exhibition and provision of different levels of access. The lectures focus on the technical, legal and administrative aspects of digitization, as well as on the management and quality control at each stage of the process.²

Another example is the Living History project, which combines historical reconstructions with interactive teaching methods. The project is an initiative of the Pencho Slaveykov Regional Library in Varna, which is part of the Lifelong Learning Programme, a Grundtvig sectoral programme of the European Commission. It brings together the efforts of representatives from eight countries: France, Slovenia, Sweden, Latvia, Turkey, Hungary, Spain and Bulgaria. Among them are authors of historical novels, anthropologists, library and museum specialists, managers and teachers. Pupils and students participate in simulations of traditional crafts, historical events and cultural practices, thus acquiring knowledge through practical experience. This project combines historical reconstructions with interactive learning methods, allowing participants to immerse themselves in the past through hands-on experience. It emphasizes the importance of cultural dialogue and knowledge exchange between different specialists in the field of culture and history, encouraging the sharing of experiences and the implementation of new practices.³

The project “The Bulgarian Medieval Costume” plays an important role in the preservation and popularization of the Bulgarian cultural heritage, by providing the audience with the opportunity to experience authentic reconstructions of medieval clothing and weapons. Within the framework of the project, authentic replicas of medieval clothing have been created, and participants have the opportunity to get acquainted with traditional crafts and manufacturing techniques. The project has an important educational role, providing an opportunity for the public and specialized audiences to become acquainted with the Bulgarian cultural heritage. Through re-enactments, exhibitions and demonstrations, it offers an interactive approach that stimulates interest in history and facilitates the understanding of medieval cultural practices. The involvement of local communities in the restoration process encourages active participation and builds a lasting connection with the cultural

heritage. In addition to the national level, the project also has international significance, as participation in various festivals and cultural events promotes Bulgarian culture and encourages intercultural dialogue. Combining scientific credibility with a creative approach, the initiative demonstrates innovative methods for the preservation and presentation of cultural heritage. Its long-term sustainability and successful implementation serve as an example of an effective model in the field of cultural restoration and recovery, proving that the past can be brought to life and made accessible to future generations.⁴

Inferences: In the contemporary context of preserving and promoting cultural identity, good practices play a key role in promoting innovative approaches and sustainable models. They demonstrate how interdisciplinary and educational strategies can be successfully implemented in practice, combining traditional methods with the new opportunities provided by technology. Through the analysis of specific examples, the importance of joint work between cultural institutions, scientific organizations and local communities in the process of preserving cultural heritage is highlighted. Various initiatives not only preserve and restore tangible and intangible culture, but also create platforms for dialogue, learning and social engagement. The presented examples illustrate how innovative solutions and partnerships can ensure both accessibility and sustainability of cultural values, combining the past with the present and the future. The implementation of new approaches leads to increased interest in cultural heritage and provides sustainable mechanisms for its preservation and promotion among future generations. In summary, the following can be stated:

1. Educational programs containing innovative approaches aimed at preserving cultural identity are:

- ▷ Interactive learning programs aimed at different target groups – provide an opportunity to implement interactive platforms and methods such as gamification to facilitate access to cultural heritage for younger generations. For example, virtual classrooms and mobile applications can present cultural values in an attractive way.
- ▷ University programs – the inclusion of disciplines related to cultural heritage in university curricula helps to train specialists in this field.
- ▷ International educational projects – cooperation between different countries in the field of education and cultural exchange contributes to enriching perspectives and strengthening global understanding of cultural heritage.

2. Interdisciplinarity in research and practice

- ▷ Joint projects between historians, IT specialists and designers - the construction of digital replicas of historical sites through 3D modelling is an example of the successful combination of different scientific disciplines.
- ▷ Using artificial intelligence to analyse cultural artefacts – AI algorithms can aid in the identification and analysis of cultural objects, which provides new opportunities for their research.
- ▷ Working with local communities – integrating knowledge and traditions from

local communities into scientific research contributes to the authenticity and sustainability of cultural practices.

These approaches emphasize the importance of education and scientific innovation for the sustainable development of cultural identity.

CONCLUSIONS

In the search for innovative models for preserving cultural identity and developing capacity, the analysis showed that the integration of new technologies, educational initiatives and sustainable financial mechanisms plays a key role in the preservation and promotion of cultural heritage. Despite existing challenges, such as insufficient funding, the need to update legislation and better coordination between institutions, there are clear opportunities for development through international cooperation, public-private partnerships and the engagement of local communities.

Key findings include:

1. Technology is a catalyst for innovation: Digitalization, artificial intelligence, and virtual reality not only preserve cultural artefacts, but also make them more accessible to a global audience.

2. Education is an important tool for sustainable cultural development: By integrating cultural heritage into curricula and creating practical training initiatives, young generations can be active bearers of traditions.

3. Emphasized need for stable financial mechanisms: The long-term sustainability of projects depends on the availability of sustainable funds and support from international organizations.

4. Emphasis on the role of local communities: The active participation of artisans, historians and cultural organizations is a key factor in preserving identity at the regional and national level.

In conclusion, addressing contemporary challenges requires a holistic approach that combines tradition with innovation. By embracing interdisciplinary methods, digital technologies, and collaborative models, cultural institutions can ensure the sustainable preservation and promotion of cultural identity for future generations.

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NOTES

¹ <https://www.balkanstudies.bg/bg/digitalno-kulturno-nasledstvo.html>

² https://digicultbulgaria.files.wordpress.com/2013/04/sotirova_pdfdigitization_1ot51.pdf

³ http://www1.libvar.bg/projects/living_history/index.html

⁴ <https://badamba.info/index.html>

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APPLICATION OF ARTIFICIAL INTELLIGENCE IN CULTURAL HERITAGE RESEARCH: ADVANCED IMAGE PROCESSING TECHNIQUES FOR ANCIENT MANUSCRIPT ANALYSIS

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Abstract: *This article presents a comprehensive exploration of innovative applications of Artificial Intelligence (AI) in the field of cultural heritage preservation and analysis, with a particular focus on the processing and analysis of ancient manuscripts. The research centers on palimpsests – historical manuscripts where the original text was erased and replaced with new content, presenting unique challenges for researchers and conservators. Through detailed examination of contemporary methods of image preprocessing using AI, we demonstrate how modern technology enables the restoration and improved readability of hidden texts. The study presents specific techniques, methodologies, and algorithmic approaches applicable in both research and educational contexts, demonstrating how advanced technologies can support both the study of historical artifacts and the training of future specialists in the field. Our findings indicate significant improvements in text recovery and readability through the combination of UV imaging and AI-powered image processing techniques.*

Keywords: *Artificial Intelligence, Palimpsest, Cultural Heritage, Image Processing, Manuscript*

INTRODUCTION

1.1 Background and Context

Artificial Intelligence is fundamentally transforming the landscape of cultural heritage research and preservation. In the specialized field of ancient manuscripts, AI provides innovative tools and methodologies for analyzing and restoring texts that would otherwise remain inaccessible to scholars and researchers (A. Starynska et al., 2021). This technological revolution in cultural heritage studies represents a significant shift from traditional conservation and analysis methods to more sophisticated, data-driven approaches.

Information and Communication Technology (ICT) in cultural heritage serves as a crucial bridge, helping overcome traditional barriers in accessibility and understanding. Various studies have demonstrated how ICT functionalities can effectively present cultural and scientific resources through digital libraries and mobile applications, with some researchers extending these capabilities to include virtual reality experiences for enhanced engagement with historical artifacts.

1.2 The Nature and Significance of Palimpsests

The etymology of the word “manuscript” derives from the Latin “manu scriptum”, literally meaning “written by hand”. Throughout history, as writing systems and alphabets developed across different civilizations, various materials and surfac-

es were employed for recording information (S. Maghsudi et al., 2021). The scarcity of these writing materials, particularly parchment, led to a common practice of reuse, giving rise to what we now know as palimpsests. This is especially true for historical manuscripts from the Old Bulgarian heritage, especially those written in Glagolitic, but also in Cyrillic. (Dimitrova, Inna., 2022)

A palimpsest represents a unique type of historical document where:

- ▷The original text was deliberately erased
- ▷New text was written over the erased content
- ▷Traces of the original writing often remain partially visible
- ▷Multiple layers of text may exist within a single document

The significance of palimpsests extends beyond their immediate content, as they often provide:

▷**Insights into historical resource management and conservation**

Palimpsests serve as tangible evidence of resource scarcity and the practical approaches adopted by historical societies to address it (R. L. Easton et al., 2011, pp. 1440-1444). The practice of reusing parchment highlights the economic and material constraints faced by scribes and scriptoria, as well as the prioritization of certain texts over others. By studying palimpsests, researchers can gain a deeper understanding of how historical communities managed their limited resources and ensured the preservation of knowledge deemed most valuable.

▷**Evidence of changing priorities in medieval scriptoria**

The overwriting of earlier texts with newer content reflects shifting intellectual, cultural, and religious priorities over time. This phenomenon offers scholars a unique lens through which to examine the evolution of societal values and the dynamics of textual transmission. Palimpsests provide clues about the types of documents that were considered obsolete or expendable, as well as those that were deemed essential for preservation and dissemination.

▷**Information about lost texts and documents**

Palimpsests often contain fragments of texts that have otherwise been lost to history, making them invaluable for reconstructing the literary, scientific, and theological heritage of past civilizations. Through advanced imaging and analysis techniques, researchers can recover these hidden layers of writing, shedding light on works that might have been forgotten or destroyed. This process not only enriches our understanding of historical knowledge but also bridges gaps in the historical record.

▷**Understanding of historical writing practices and materials**

The study of palimpsests provides critical insights into the materials, tools, and techniques used by scribes in different historical periods (A. Giacometti et al., 2015). By analyzing the physical and chemical properties of the parchment and ink, researchers can trace the technological advancements in manuscript production (A. F. Blackwell, 2014). Additionally, the variations in script styles, linguistic features,

and formatting conventions offer valuable information about the evolution of writing systems and the cultural context in which these documents were created.

1.3 Current Challenges in Palimpsest Research

The investigation of palimpsests presents multiple challenges that necessitate innovative solutions. These challenges can be broadly categorized into physical, technical, and methodological aspects, each of which demands specialized approaches to address effectively.

1.3.1 Physical Challenges

The physical state of palimpsests often represents the most immediate obstacle to their study. The natural deterioration of writing materials over centuries results in fragile and brittle parchment that requires careful handling (Mehdi, S. R. et al 2022). Physical damage, such as tears, folds, and abrasions, further complicates efforts to recover the underlying text. In addition, chemical changes in the composition of inks and pigments, caused by oxidation and other long-term chemical processes, can obscure the original writing. Environmental effects, such as fluctuations in temperature, humidity, and exposure to light, accelerate the degradation of parchment, emphasizing the need for controlled storage and handling conditions to ensure preservation during analysis.

1.3.2 Technical Challenges

From a technical perspective, the layered nature of palimpsests poses significant challenges for imaging and analysis. The separation of multiple text layers, often written with different inks or at varying levels of legibility, requires advanced imaging techniques and algorithms. Variations in text visibility (P. Musa et al 2018), caused by differences in ink absorption or fading over time, necessitate the use of specialized spectral imaging methods to enhance contrast. Complex interference patterns between overlapping layers – combined with variations in writing directions, styles, and scripts – demand sophisticated computational tools capable of isolating and reconstructing each layer with precision. These challenges highlight the critical role of technological innovation in palimpsest research.

1.3.3 Methodological Challenges

Methodological challenges include finding a balance between non-invasive examination techniques and the depth of analysis required to uncover hidden texts. While modern imaging methods allow for detailed exploration without damaging the manuscript, ensuring the preservation of these fragile artifacts remains a priority (Rahman, S. et al., 2016). The documentation of multiple text layers poses another challenge, as researchers must create accurate and detailed records while maintaining the integrity of the original material. Additionally, the integration of diverse analytical approaches – combining imaging, spectroscopy, and computational techniques – requires interdisciplinary expertise and collaboration to achieve

comprehensive results. Establishing standardized methodologies for palimpsest research remains an ongoing effort within the field.

2. Research Methodology

2.1 Research Object

The research was conducted on the Dragotin Menaion from the early 12th century, preserved in the National Library in Sofia (manuscript NBCM No. 880). This unique palimpsest contains second layer text in both Cyrillic and Greek scripts, largely hidden by the newer 13th century Cyrillic inscription. (Hristova-Shomova, Iskra 2018)



Picture 1: Page from Dragotine Menaion, demonstrating the complexity of text layering and preservation state

2.2 Technological Methods and Approaches

2.2.1 Image Acquisition

UV Light Implementation

The use of ultraviolet (UV) light in capturing palimpsests has proven to be a transformative technique for analyzing these historical artifacts. UV imaging leverages the unique optical properties of ultraviolet wavelengths to reveal details that are often invisible under normal or infrared light, offering several distinct advantages for the study of palimpsests.

- ▷ **Higher Contrast Between Text Layers:** UV light enhances the visibility of erased or overwritten text by increasing the contrast between different layers of writing. This is particularly effective in cases where the original ink has penetrated the parchment fibers, leaving faint traces that UV wavelengths can accentuate. This high contrast facilitates the separation of text layers that might otherwise be indistinguishable.
- ▷ **Better Detail Resolution:** The shorter wavelengths of UV light allow for the capture of finer details in the manuscript, including subtle differences in ink

composition and parchment texture (Rasheva-Yordanova et al 2022). This improved resolution is critical for identifying minute features such as faded strokes, diacritical marks, or faint inscriptions that contribute to the overall textual reconstruction.

- ▷ **Enhanced Pigment Differentiation:** UV light interacts differently with various ink and pigment types, making it possible to distinguish between layers written with different materials. For instance, organic inks and pigments often fluoresce under UV light, while others absorb it, creating a clear contrast. This differentiation aids in identifying the composition of the inks and the sequence in which they were applied.
- ▷ **Reduced Background Interference:** UV imaging minimizes the interference caused by background noise, such as discoloration or staining of the parchment, which can obscure the text. By selectively highlighting the ink or pigment, UV light isolates the writing from the background, enabling a clearer and more focused analysis of the manuscript.

These advantages make UV imaging an indispensable tool in the acquisition of high-quality data from palimpsests. When combined with advanced image processing techniques, UV imaging provides a non-invasive and highly effective approach to uncovering and preserving the rich historical information contained within these unique artifacts.



Picture 2: Comparison of a part of the same page under ultraviolet and infrared light, showing better visibility of text in the UV range

2.2.2 Image Processing Paradigm Pipeline

The complete image processing workflow for palimpsests involves a series of advanced steps designed to maximize the recoverability of hidden texts while preserving the integrity of the manuscript. Each stage of this pipeline plays a critical role in enhancing the quality of the captured images and extracting meaningful information from them.

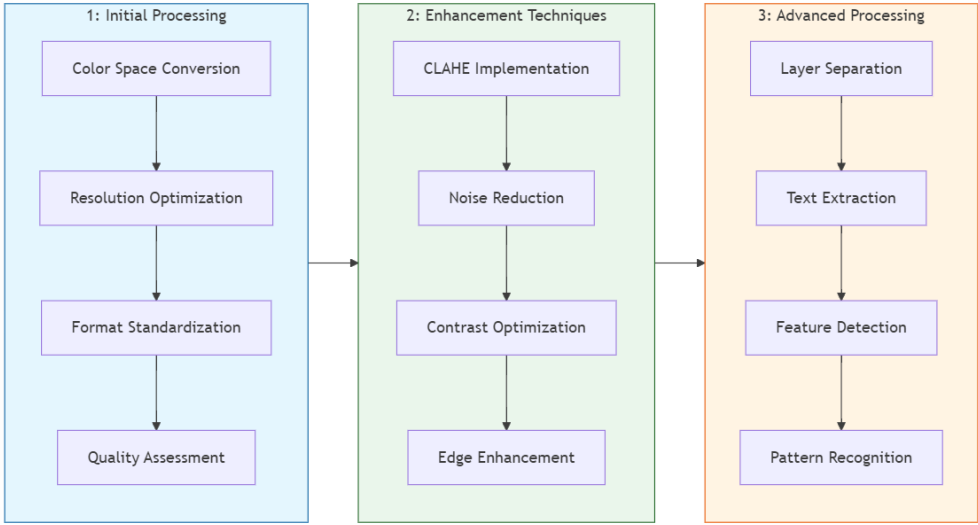


Figure 1: Image Processing Pipeline Paradigm

The image processing pipeline represents a crucial aspect of palimpsest research, combining computational rigor with historical sensitivity. By systematically enhancing and analyzing captured images, this workflow enables the recovery of invaluable historical information from even the most degraded manuscripts.

2.3 Algorithmic Approaches

2.3.1 CLAHE Implementation

Contrast Limited Adaptive Histogram Equalization (CLAHE) is a widely used image enhancement technique in palimpsest research due to its ability to improve local contrast and enhance faint text features without over-amplifying noise (A. Starynska, D. Messinger, and Y. Kong, 2021). This algorithm is particularly effective in addressing the uneven illumination and faint text visibility characteristic of degraded manuscripts.

```
def apply_clahe(image):
    clahe = cv2.
    createCLAHE(clipLimit=2.0,
    tileGridSize=(8,8))
    return clahe.apply(image)
```

The implementation of CLAHE in palimpsest research provides a non-invasive and highly effective method for enhancing text visibility. By focusing on local contrast adjustments and limiting noise amplification, this algorithm helps researchers recover faint or erased writings, making it an invaluable tool in the study of historical manuscripts.

2.3.2 Denoising Algorithm

The denoising process is a crucial step in the image processing workflow for palimpsests, as it removes unwanted noise that can obscure or distort text features while preserving essential details. Noise in palimpsest images often arises from environmental degradation, imaging artifacts, or the inherent texture of the parchment.

The denoising process utilizes advanced techniques example:

```
def denoise_image(image):  
    return cv2.fastNlMeansDenoising(  
        image,  
        None,  
        h=10,  
        templateWindowSize=7,  
        searchWindowSize=21
```

The denoising process utilizes advanced techniques example:

```
def denoise_image(image):  
    return cv2.fastNlMeansDenoising(  
        image,  
        None,  
        h=10,  
        templateWindowSize=7,  
        searchWindowSize=21
```

The combination of these denoising techniques ensures that noise is effectively minimized without compromising the legibility of the text. By enhancing the clarity of the recovered text, the denoising process serves as a critical foundation for subsequent steps such as text extraction, feature detection, and pattern recognition

2.3.3 Gamma Correction

Adaptive gamma correction is a powerful technique used in palimpsest image processing to enhance the brightness and contrast of images while preserving text details. It adjusts the intensity of pixel values in a nonlinear manner, making faint or obscured text more visible

Implementation of adaptive gamma correction example:

```
def apply_gamma(image, gamma=1.0):  
    inv_gamma = 1.0 / gamma  
    table = np.array([  
        ((i / 255.0) ** inv_gamma) * 255  
        for i in np.arange(0, 256)  
    ]).astype("uint8")  
    return cv2.LUT(image, table)
```

The implementation of adaptive gamma correction significantly improves the visibility of faint or degraded text in palimpsests. By dynamically adjusting brightness and contrast in a localized manner, this technique enhances the recoverability of hidden information while preserving the manuscript's overall appearance. It is a critical component of the image enhancement pipeline, complementing other methods such as CLAHE and denoising.

3. Results and Analysis

3.1 Results of using modern techniques for processing palimpsests

The results of the image preprocessing phase demonstrate the capabilities of AI for the recovery and analysis of historical manuscripts, especially palimpsests. By addressing challenges such as noise, low contrast, and uneven lighting, the preprocessing significantly improved the visibility and clarity of textual features. These achievements not only improve technical analysis, but also contribute to the preservation and understanding of cultural heritage.

3.2 Analysis of the use of different image processing techniques

▷Color space conversion:

Converting images to specialized color spaces, such as hyperspectral channels, allowed the isolation of previously invisible text layers. This was critical in cases where secondary overwrites obscured original texts. For example, historical palimpsests containing erased religious manuscripts were successfully separated from later annotations, revealing valuable insights into early scriptural traditions.

▷Noise Reduction:

The application of median filtering, wavelet denoising and non-local means (NLM) filtering effectively removes ambient noise, ink bleeding and parchment texture artifacts. This results in smoother backgrounds and clearer text, allowing the study of faded or damaged characters.

▷CLAHE Implementation:

Contrast-constrained adaptive histogram equalization (CLAHE) has proven to be very effective in enhancing faded or unevenly illuminated text. This technique successfully restored erased annotations on medieval legal documents, providing legal historians with new material for understanding the evolution of property laws.

▷ **Gamma Correction:**

Adaptive gamma correction dynamically brightens faded details while maintaining overall balance, making it possible to restore erased text in historical manuscripts. For example, in ancient manuscripts where the ink has faded over centuries, gamma correction reveals hidden layers of text that were previously indistinguishable to the naked eye.

▷ **Edge Enhancement:**

Edge enhancement algorithms emphasize the structure and boundaries of text, improving the clarity of fine strokes and complex letter shapes. This was particularly useful when analyzing Gothic and cursive fonts, where thin strokes often blend with parchment textures.

3.3 Applications of the results for cultural heritage:

▷ **Reconstruction of erased texts:**

Advanced preprocessing techniques have enabled the recovery of erased or overwritten texts from palimpsests, revealing long-lost works of literature, philosophy, and science. For example, using these methods, researchers have successfully restored parts of Archimedes' treatises that were overwritten with Christian prayers in the Middle Ages.

▷ **Preserving Historical Manuscripts:**

By creating high-quality digital reconstructions, preprocessing techniques help preserve fragile manuscripts without subjecting them to physical manipulation. This ensures that future generations can study these cultural artifacts, even if the originals deteriorate over time.

▷ **Glimpse into Scribal Practices:**

The enhanced images have provided archaeologists and historians with details about writing techniques, such as the type of ink used, stroke patterns, and corrections made by scribes. This information is invaluable for understanding the historical context of manuscript production.

▷ **Cultural and Linguistic Studies:**

The recovery of ancient texts written in extinct or rare languages has advanced linguistic research and provided insights into the evolution of human communication. For example, preprocessing techniques have revealed bilingual texts on palimpsests, aiding the decipherment of lesser-known languages.

▷ **Public Engagement and Education:**

Digitally enhanced images of manuscripts are used in museum exhibits and educational programs, allowing the public to interact with and appreciate cultural heritage. These techniques make lost history accessible to a wider audience, promoting a deeper understanding of the preservation of human knowledge.

The use of advanced preprocessing methods not only accelerates the technical restoration of damaged manuscripts, but also unlocks new possibilities for cultural understanding. By bridging the gap between technology and the humanities, these techniques play a key role in preserving and interpreting the rich tapestry of human history.

CONCLUSION

The application of advanced image preprocessing techniques has revolutionized the study and preservation of historical manuscripts, particularly palimpsests. By leveraging methods such as CLAHE, adaptive gamma correction, and denoising algorithms, researchers have been able to recover invaluable texts that were previously lost to time. These techniques not only enhance the visibility and legibility of degraded texts but also provide new insights into historical, cultural, and linguistic practices.

Beyond their technical impact, these methods play a critical role in the preservation of cultural heritage. By creating high-quality digital reconstructions, it is possible to safeguard fragile manuscripts for future generations while making them accessible to scholars and the public alike. Furthermore, the enhanced texts contribute to a deeper understanding of human history, revealing the intellectual and cultural achievements of past civilizations.

In conclusion, the integration of advanced preprocessing techniques bridges the gap between technology and the humanities, ensuring that the rich legacy of human knowledge is preserved, studied, and celebrated. As technology continues to evolve, these methods will undoubtedly expand their reach, unlocking even more secrets hidden within the pages of history.

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THE MODERN UNIVERSITY INFORMATION ENVIRONMENT AS A BASIS FOR THE DEVELOPMENT OF TOURISM AND PRESERVATION OF CULTURAL HERITAGE

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Abstract: *This paper highlights the key role of universities as drivers of sustainable development in the fields of tourism and cultural heritage. Higher education and scientific research provide the necessary theoretical foundation and practical tools for effectively integrating sustainability principles into tourism policies and strategies. Universities not only prepare highly qualified professionals but also create innovative solutions through interdisciplinary research and international collaboration, contributing to economic development and the preservation of cultural resources.*

Keywords: *Modern, University, Information Environment, Development, Tourism, Cultural, Heritage.*

INTRODUCTION

In the context of dynamically evolving processes in the modern information environment, one of the most significant factors influencing societal progress is their sustainable development from the perspective of culture, economy, healthcare, and security.

In September 2015, the United Nations General Assembly adopted the 2030 Agenda for Sustainable Development. This comprehensive action plan is aimed at eradicating poverty, protecting the planet, and ensuring peace and prosperity for all people. At the core of this program are the 17 Sustainable Development Goals (SDGs), which encompass various aspects of social, economic, and environmental development. These goals include the eradication of hunger and poverty, access to quality education, gender equality, clean water and energy, sustainable economic growth, and combating climate change. The Agenda promotes international cooperation and calls on governments, businesses, and civil society to join efforts in achieving these ambitious objectives, setting a long-term horizon until 2030 for their realization.

In fact, upon closer examination of the structuring of these goals, it becomes clear that the Agenda for Sustainable Development aims to engage and involve all countries in the global effort to build a more just world, both for individuals and for different societies.

From a historical perspective, we have witnessed how the idea of progress in terms of socio-political and economic processes has reached its limits. This has been influenced by the emergence of key sectors in national economies that attract the most attention and resources from both governments and businesses. This conventional, we would say “development model”, often marginalizes intangible factors, where culture is playing a central role among them. Although economic and political aspects remain dominant in the development of societies, it is becoming increasingly evident

that sustainable development cannot be achieved without integrating cultural values and practices.

In the UN Agenda for Sustainable Development 2030, culture – or more precisely, cultural aspects – are not formulated as a separate goal, but they are integrated into multiple objectives related to quality education (Goal 4), sustainable cities and communities (Goal 11), and economic growth (Goal 8). In sustainable development policies, cultural aspects are primarily associated with the protection and preservation of tangible and intangible cultural heritage, as they are essential for maintaining cultural identity and historical memory. Regarding the development of cultural and creative industries, new employment opportunities and sustainable economic growth are created, based on industries that contribute to innovation and the competitiveness of national economies.

The strong connection between culture and education, embedded in the Agenda, aims to foster tolerance and social cohesion among different groups. This is reflected in various educational programs that promote critical thinking, creativity, and intercultural understanding. In this way, the social inclusion of marginalized groups is facilitated by providing them with equal access to cultural resources and equal opportunities to participate in cultural life and dialogue between different communities. In such cases, culture plays a key role in building peace and sustainable international relations, as it creates conditions for intercultural dialogue, offers a wide range of opportunities for the exchange of cultural values, and serves as a tool for policymakers. Its direct and genuine essence, which embodies the connection between humans and nature, has been deliberately utilized to implement resource management practices and achieve environmental sustainability. This, in turn, supports the fight against climate change, one of the leading topics in public discourse.

THE ROLE OF TOURISM AND CULTURAL HERITAGE IN NATIONAL DEVELOPMENT

In recent years, the significance of tourism and cultural heritage as key factors for socio-economic development has been increasingly recognized. On international scale, tourism contributes not only to economic growth by generating employment and revenue but also to social cohesion and intercultural dialogue. In this context, several international documents affirm cultural heritage and tourism as strategic sectors for sustainable development. UNESCO's Convention Concerning the Protection of the World Cultural and Natural Heritage (1972) highlights the need to preserve cultural assets, which form the foundation of the tourism industry. The Convention for the Safeguarding of Intangible Cultural Heritage (2003) further emphasizes the importance of traditions, customs, and crafts for social and economic development.

Within the European Union, the Council of Europe's the Strategy for Cultural Heritage in Europe for the 21st Century considers cultural heritage as a resource for economic growth, social inclusion, and sustainable development (2030 Agenda). Additionally, the Global Code of Ethics for Tourism, developed by the World Tourism Organization (UNWTO), promotes various tourism activities that contribute to cul-

tural heritage preservation and enhance the quality of life in communities.

This leads to the logical question: *“What is then the most sustainable approach to developing tourism and preserving cultural heritage?”* – Education! This scientific paper highlights the role of the modern university information environment as a foundation for tourism development and the achievement of sustainable economic progress.

THE ROLE OF UNIVERSITIES IN TOURISM DEVELOPMENT ACCORDING TO THE PRINCIPLES OF SUSTAINABLE DEVELOPMENT

When considering this issue, we must take into account that education and scientific research provide the general public with scientifically based solutions to key issues in societal development. Educational institutions – universities – have the crucial responsibility of preparing highly qualified professionals capable of integrating sustainable management principles into practice. Higher education provides the necessary knowledge and skills for effective planning and implementation of policies aligned with international standards and conventions, such as those of UNESCO and the United Nations World Tourism Organization (UN Tourism). By developing curricula that combine theory and practice and through interdisciplinary research, new approaches for the balanced use of cultural and natural resources are created, thereby sustainable economic development is promoted.

This entire process takes place within the framework of the modern university information environment, which consists of three interrelated components: information resources, information technologies, and the human factor, which manifests through interactions between individuals and equipment (Denchev, 2020). Based on this, it can be stated that the modern university information environment has structural and functional characteristics that create opportunities for the rapid and easy approbation and verification of successful approaches to understanding tourism and cultural heritage as leading factors in sustainable economic development. Some of these approaches encourage international cooperation by fostering intensive joint activities between universities, scientific institutions, and cultural organizations worldwide. This is most commonly achieved through the exchange of knowledge, experience, and best practices, as well as through mobility programs, knowledge transfer, participation in research projects, collaboration on common programs, and strategies for legislative regulation in the fields of tourism and cultural heritage.

In the long term, investments in education and scientific research create sustainable mechanisms for the development of tourism and the cultural sector by stimulating innovation, raising public awareness, and strengthening the connection between cultural heritage and economic opportunities.

As previously mentioned, universities have immense potential to be a leading force in the development of tourism and the preservation of cultural heritage. In this regard, the University of Library Studies and Information Technologies (ULSIT) has significant experience in conducting scientific research projects and applying the acquired knowledge in real-world contexts. It actively engages experts and specialists from

various fields, facilitates experience exchange, and collaborates with businesses and governmental institutions to develop and offer internship opportunities for gaining practical experience in relevant professional fields.

A notable example of a successful practice established and refined by ULSIT over the years is the organization and implementation of annual interdisciplinary scientific research within the framework of the International South-East Summer University. These research activities are based on the paradigm of the American philosopher, psychologist, and educator John Dewey – “Learning by doing” – and have been successfully carried out for over 15 years in the fields of cultural heritage, tourism, and security in the border regions of Strandzha and Sakar, which are part of the European area. Key partners in the research process of this rich cultural heritage include the Bulgarian municipalities Malko Tarnovo, Bolyarovo, Elhovo, Topolovgrad, Svilengrad, and Yambol. Through their commitment to strengthening cooperation and uniting efforts for various initiatives in science, culture, and tourism, these municipalities create annual opportunities for improved collaboration aimed at developing modern strategies for the advancement of education, science, culture, and tourism in Bulgaria through scientific and applied research.

This initiative represents a significant contribution to the preservation and promotion of Bulgaria’s rich tangible and intangible cultural heritage, while also fostering tourism and sustainable economic development.

RESEARCH METHODOLOGY

For the preparation of this paper, a multidisciplinary research approach was employed, aiming to analyze the role of universities in tourism development in accordance with the principles of sustainable development. The methodology includes qualitative and quantitative research methods, such as content analysis of scientific literature, international documents, and best practices, with the goal of forming a contemporary understanding of the deep connection between education, cultural heritage, tourism, and sustainable development.

RESULTS

The study discovered that cultural aspects are inextricably linked to sustainable development, even though they are not explicitly formulated as a separate goal in the United Nations’ 2030 Sustainable Development Agenda. Instead, they are integrated into several objectives, such as quality education, sustainable cities, and economic growth.

It has been demonstrated that tourism and cultural heritage play a key role in socio-economic development by creating economic opportunities and fostering intercultural dialogue. The study also confirms that universities have a leading role in preparing highly qualified specialists through the development of educational programs based on interdisciplinary research.

The analysis of the role of university information environments indicates that they contribute significantly to the rapid testing and implementation of successful strategies in tourism and cultural heritage management.

Best practices have been presented, including the International Southeastern Summer University, which has been conducting interdisciplinary research in the fields of tourism, cultural heritage, and security for over 15 years. Collaboration between ULSIT (University of Library Studies and Information Technologies), municipalities, and institutions has created sustainable mechanisms for promoting cultural heritage and stimulating economic development.

The scientific results of the study confirm that investments in education, research, and international cooperation are key mechanisms for the development of tourism and the preservation of cultural heritage in the context of sustainable development.

CONCLUSIONS/DISCUSSION

In conclusion, the analysis of best practices, including the experience of the University of Library Studies and Information Technologies (ULSIT), demonstrates the significance of educational institutions in promoting sustainable tourism models. Through conducting scientific research, establishing collaborations with the public and private sectors, and implementing new technologies in the educational process, universities play a central role in the development of sustainable tourism models.

In a world facing numerous global challenges such as climate change and social inequalities, education remains the most sustainable path to the future. Universities not only preserve knowledge – they have the full capacity to generate, develop, and pass on new knowledge and expertise to future generations. Investments in science and education today are a guarantee for future progress, ensuring that cultural heritage and tourism will not only be preserved but will also become sustainable bridges between the past and the future.

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NATION AND NATIONAL IDENTITY AS THE BASIS FOR THE FORMATION OF THE STATE AND STATEHOOD

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Abstract: *The article explores the fundamental concepts related to the building of the state and the process of constructing the nation's identity. These concepts encompass not only the history and culture of the people but also their values, beliefs, and social structures, which form the foundation of modern statehood. On the other hand, nation represents a united group of people connected by shared cultural, ethnic, historical, and social characteristics. National identity is the internal sense of belonging to a particular nation, based on shared experiences, traditions, language, symbols, and history. These are fundamental elements in the formation of modern statehood, as they provide citizens with a sense of community and purpose, which is essential for the stability and resilience of the state. To illustrate the connection between nation and national identity, ideals for developing the state and statehood, a system approach has been employed, utilizing a cyclically reversed application of analysis and synthesis methods, grounded in systematic decomposition and aggregation.*

Keywords: *nation, national identity, state, statehood*

INTRODUCTION

Today, the world consists of more than one hundred and fifty political entities that are recognized and perceived as nation-states. Therefore, the construction of the state is increasingly associated with the formation of new governing bodies and the further functional development of existing ones. Despite the fact that the structure of the state has been a subject of study since ancient times, it continues to be a focal point for contemporary scholars. Today, the public “wandering” in search of a solution to stop the process of state dissolution in failing and developing nations, and how to establish strong state institutions in these countries, occupies the minds of many statesmen and researchers. Often, the question arises of forming or restoring statehood in these countries. Therefore, it should not be considered strange or surprising that the development of the state and statehood continues to occupy a significant place in the governance of the modern state globally.

Bulgaria is no exception to the processes of state-building, especially after forty-five years of totalitarian rule and the democratic changes initiated after November 10, 1989. The changes, made over nearly thirty-five years, have mostly been marked by wandering and the search for “its national identity.” Bulgarian society desperately needs to find a way out of the endless discussions about what our homeland, the Republic of Bulgaria, should be, from the populism of local politicians who toy with the deepest values of the Bulgarian people while driving away the future and the soul of the nation.

Moreover, throughout all these years, politicians, political parties, and coalitions

have promised a bright future and prosperity, yet instead, society, and we as members of it, continue to witness the absence of common sense and unity on issues concerning the nation's unity and prosperity. For nearly thirty-five years, Bulgarian politicians have used the language of hate instead of finding ways and mechanisms to overcome the permanent crisis: political, economic, value-based, social, and so on. For all those years every action concerning the prosperity of the nation and the people, taken by political parties and their leaders, fails to align with Article 11, Paragraph 2 of the Constitution of the Republic of Bulgaria, which states: "No political party or ideology can be declared or affirmed as a state one."¹ In order to overcome this conflict and the desire for one political force to dominate another, it is essential for the leaders of the leading political parties to unite around a common goal: to overcome the growing division of the nation and end the decades-long wandering in search of "new" democratic values. Furthermore, the education and training of political and administrative elites are crucial and would lead to avoiding the use, as mentioned earlier, of terms without knowing their meaning and/or their legal regulation.

NATION AND NATIONAL STATE

The emergence of the nation is closely connected to the development of production relations, the creation of a common market, a shared culture, and language. This process develops differently and at different speeds in various places, depending on specific conditions. The very concept of "nation" emerged in Europe during the Age of Enlightenment and developed further after the French Revolution. It evolved as a "counterbalance to the clerical-aristocratic order," opposing it with the democratic unity and equality of all citizens. The concept of "nation" is solely aligned with the idea of a free society, though throughout various periods of history, it has been imbued with different meanings and definitions.

In the Middle Ages, the unifying factors that bind together diverse ethnic groups are the state, religion, and ethnic culture. Later, regional communities are formed, coinciding with specific geographical areas that have some political distinction and unique cultural values. Within these rapidly forming communities, a sense of belonging to a common group, bound by shared and specific identities, gradually emerges – what is essentially the nascent nationalism. The concept of "people" emerges, based on kinship ties, according to which a person is born as part of a particular people, tribe, or race, and this does not change. The members of a people have distinguishing external features – skin color, facial traits, height, body structure, and so on.

The formation of every nation can be seen as the structuring of a bound social community, based on shared history, language, culture, traditions, and beliefs, in which all share or have similar views on the social, cultural, and spiritual culture of the community. Typically, in its development, it forms its national ideal and national interests. Therefore, the term "nation" can be identified with a community of people who are characterized by a well-established awareness of common historical and

cultural belonging, living on the same territory, united by a common language, and usually organized into a state. Thus, from the perspective of national states, nations can be seen as their product – politico-territorial communities that states intentionally shape to unite their citizens through national legislation and state policies. In 1999, Ernest Gellner defined the nation in terms of the individual citizen: “A person belongs to a nation only when all other members of that nation recognize them as such.” (Gelner, 1983)

In the search for a correct approach to defining the nation, it is evident that in line with its semantics in the Bulgarian language, it can overlap with the word “people,” and could also form a particular theory before a national state is created. Moreover, according to historical experience, a nation could continue to exist even after losing its state. An example of the existence of a nation without a state is Bulgaria. In the 14th century, Bulgaria was conquered and lost its statehood, but it continued to exist as a nation.

From a historical perspective, the ethnic group precedes the formation of the nation and is a “collective term for designating any racial, tribal, linguistic, and ethnocultural community and represents the tribal (kinship) substratum of the nation. Ethnic self-awareness is self-determined by origin.”

The ethnicity is another predecessor of the nation. It is an intermediate state that distinguishes the tribe from the nation. Ethnicity can be viewed as an initial and unrefined consolidation of a group of people (communities) with an aware origin and recognized cultural attitudes and national-level needs. When analyzing the concept of “ethnicity”, it is important to note that “it was introduced by Soviet ethnography to fix this intermediate state.”

Other characteristics of the nation include: belonging to a common religion (not obligatory), the degree of self-awareness of the community, shared or common ideals, interests, national causes, etc., due to which each nation possesses its distinctive, specific, and unique spirit, escalating into nationalism.

The characteristic features of the nation are identified with its national identity and are unified around a common territory, language, traditions, and customs. Therefore, the criteria for national identity can be derived from the origin, language, religion, cultural traditions, and other parameters of a given social community. Anthony Smith defines national identity as the foundation for the existence of any nation, consisting of the cultivation of its unique cultural values, and ethnic distinctions – as conditions without which it is impossible to define national identity: shared myths, common history, unique cultural markers, and a sense of distinctness from others.

Therefore, the nation can be considered as a historical product of the influence of political, economic, and cultural factors, with the national state being seen as a form of political organization of the nation. Consequently, the modern state is national, regardless of whether it is a product of modernization or constituted as national with its own institutions, universal legal norms, and relationships between citizens. These are accepted as common principles for the structure of every national state,

regardless of the uniqueness of cultural traditions. At the same time, in the modern national state, a multicultural society is formed, where national language, education, and upbringing make cultural traditions and products widely accessible.

The right to self-determination of each nation is a fundamental principle of contemporary international law, as contained in the UN Charter², and mutual recognition and respect for borders and political equality between nations is a key condition for cooperation. Sovereignty—the main characteristic of a national democratic state – could also be accepted as the sovereignty of its nation or people. Under these conditions, an acceptable model for the participation of the modern national state in international cooperation would be one that does not require the sacrifice of state sovereignty and provides equal conditions for all participating free and independent nations/sovereign national states.

There are also a number of “objective” components that play a crucial role in the formation of the nation. Among the most important of these are territorial and economic connections, as well as the presence of a common language, culture, and religion. It is clear that the first requirement for the existence of a nation is the presence of a geographical foundation, its own territory. However, this does not necessarily mean that attachment to the homeland’s land explains national unity. Social psychology suggests that an individual may remain attached to a much more specific and limited place, such as the place of birth or the rural area where they grew up.

Another key element in the formation of nations is nationality. Analyzing it, it can be defined as the people’s sense of collective destiny through a shared past and a vision for a common future. In a very real sense, the “personality” of a nation is its common past, or history, which shapes its collective identity.

Empirically, a nation can be viewed simply as a group of people inhabiting a specific geographical space – territory. In the broadest sense, nationality can be defined as the feeling of collective destiny shared by people through a common past and a vision for a shared future. In reality, the “essence” of a nation is rooted in its common past or history. Essentially, a nation is a group of people occupying the same geographical space. However, nations exist for a much longer period in time than in space. The shared history of these groups of people, shaped by collective triumphs and sufferings, victories and losses, creates strong bonds of solidarity and feelings of empathy. The phenomenon of the nation and the legal institution of sovereignty are foundational to the concept of a nation. It is important to note that nations certainly exist for much longer in the temporal continuum than in the geographical one. Therefore, ethnicity and the ethnic groups based on it form the foundation for the creation of nations. As mentioned earlier, nations can be seen as formed based on a single ethnicity or several ethnicities, with one being dominant.

The vision of a common future is another essential element in the formation of national identity. Here too, the aspirations of individuals as human beings are often projected onto the larger political and international stage. The unconscious awareness that a person’s personal future might be bleak and lacking greater significance is often unbearable. Thus, as Erich Fromm brilliantly demonstrates in his book *Escape*

from Freedom, “a person may seek compensation for the lack of a personal future in the reflected glory of the collective future of the nation.” (Erich Fromm, 1941)

According to Professor Myumyun Tahirov, “Nations should not be equated with societies. Historically, societies are organically developed forms of social organization, and the concept of a common culture applies more to societies than to nations. However, many nations form historically developed wholes, even if they consist of clearly distinct groups and include unintegrated minorities.” (Tahirov, 2016) An example of such a configuration is Bulgaria, where the nation is formed by several ethnic groups, and there exists one that contains an unintegrated minority. Therefore, it is necessary to return to the definition of ethnicity given in the Bulgarian National Doctrine, Part One: Foundation of the Bulgarian National Doctrine, which states that ethnicity is a collective term used to denote any racial, tribal, linguistic, and ethnocultural community and represents the tribal (lineage) substrate of the nation. (Velev et. all, 1997)

When attempting to establish definitions for nation and ethnicity, the term *narodnost* (nationality) cannot be overlooked because in order to create models for national strategy and doctrine, it is necessary to clarify almost all (as far as possible) relevant concepts. ***“Narodnost” is a Slavic term that translates into “nationality” or “ethnicity” in English, depending on the context. In Bulgarian, this word generally refers to the concept of ethnic or national identity, denoting the cultural, historical, and social characteristics that distinguish one group of people from another and can be considered an “intermediate state” that distinguishes a tribe (clan) from a nation. It represents a community of people who have a conscious sense of common origin and cultural identity but have not yet reached the stage of full “national consolidation.” The term “narodnost” was introduced in Soviet ethnography (Velev et. all, 1997) to describe this transitional state, while in the Western world, such terminology does not exist, and therefore the term narodnost is not used. (Velev et. all, 1997)***

The concept of the nation emerged during the Enlightenment period in Europe and continued to develop in the years following the French Revolution. It emerged as a counterpoint to the clerical-aristocratic order (Velev et. all, 1997), representing democratic unity, civic engagement, and social equality for all citizens of the state. The nation is a collective term that precisely describes our idea of a free society.

The nation is a collective concept, precisely describing our shared idea of a free society.

NATIONAL IDENTITY AND NATION

Another key feature (characteristic) of the state is national identity, which is fundamental to the formation of the nation and the state. Moreover, national identity could be associated with the phenomenon of nationalism, which is a key component in the formation of nations. It is used as a collective concept reflecting the feeling of collective fate among citizens, provoked by a shared past and a vision for a common future. The “personality” of a nation is deeply connected to its history, which binds

its members. Empirically, a nation may seem like just a group of people inhabiting a geographic space, but in reality, nations exist much more in time than in space.

Shared experiences of victories and hardships play a significant role in uniting and strengthening the nation, as common difficulties often create stronger bonds than the victories achieved. For example, the American Civil War, despite being one of the most tragic periods in U.S. history, is seen by both the North and the South as a defining moment of shared glory. A similar example can be given with Israel, where the population of the country cannot be called ethnically or culturally homogeneous, and their religious beliefs vary from strict orthodoxy to outright agnosticism. Still, what unites Israel as a nation is the shared historical memory of the suffering experienced by Jews throughout the centuries of the Diaspora.

This phenomenon is universal in the formation of a nation, as the shared vision of a common past plays a crucial role. It allows citizens to connect with the collective sense of greatness and merge their personal, often uncertain, identities with the broader identity of the nation. This idea is summarized in the famous definition of the nation by Ernest Renan, formulated in 1882 at the Sorbonne: "What constitutes a nation is not the speaking of the same language or belonging to the same ethnic group, but doing great deeds together in the past and desiring to do them together in the future." (Renan, 1882)

The vision of a common future is the second essential element in the formation of national identity and the nation. It enables individuals to project their personal aspirations onto the larger stage of politics and international relations. Often, the unconscious awareness of a bleak or insignificant personal future causes people to find meaning in the collective fate of the nation (Erich Fromm, 2006). As Erich Fromm examines in *Escape from Freedom*, this desire can manifest in socially constructive ways or take a destructive form, as it did with nationalism in Nazi Germany. The process of forming the national identity of the nation often develops in the "illogical, irrational, and fantastic world of the unconscious." Therefore, insights from social psychology and psychoanalysis are essential for understanding how nationalism influences both individuals and international relations" (Louis). Therefore, insights from social psychology and psychoanalysis are essential for understanding how nationalism influences both individuals and international relations.

When discussing issues of the nation and national identity, the formation of the Bulgarian nation cannot be overlooked, as it emerged during the Ottoman rule, with the basis being the "Bulgarian ethnicity." (Velev et. al, 1997) On this basis, the "Bulgarian national consciousness" (Velev et. al, 1997) began to emerge and develop, which manifested in the ambition of the Bulgarian people to create an independent Orthodox Church and state. These aspirations of the Bulgarians can be considered the first national ideals of the Bulgarian nation. Furthermore, for the first time, uniting the ethnic and religious factors became a serious statement and laid the foundation for the formation of the Bulgarian nation.

All attempts to define the term "nation" after the liberation from Ottoman rule are unified around and include: "ancestral root," "Bulgarian blood," "Orthodox Chris-

tian faith,” and “Bulgarian faith,” (Velev et. all, 1997) regardless of the fact that, at the time, more than twelve ethnic communities lived within the borders of the state, such as: Bulgarians, Turks, Tatars, Gagauz, Vlachs, Jews, Greeks, Armenians, Gypsies, Karakachans, and others. According to Vasil Levski, the issue of ethnic groups is of great importance for the future of the Bulgarian state formed by all these ethnic groups, as he wrote in his letter to the wealthy merchant Ganko Milyov: “Whatever they may be, it will be the same for all” (Velev et. all, 1997)

After the liberation of Bulgaria from Ottoman rule and the establishment of the Third Bulgarian Kingdom, during the years of governance by the Bulgarian Communist Party (BCP), and lastly, but not least, Bulgaria has never become a stage for interethnic tensions and conflicts. Moreover, during the time of the Unification and the subsequent Serbian-Bulgarian War, the Balkan Wars, and World War I, representatives of all ethnic groups fought side by side, united by the resolution of the Bulgarian national question, which meant the unification of all Bulgarian lands into one state. This is a testimony to the awareness of the mentioned ethnic groups of their belonging to the Bulgarian nation. A testament to the awareness of belonging to the Bulgarian nation among Turks of Bulgarian descent is also the fact that, despite the created tension and challenges for disrupting the ethnic peace at the dawn of the democratic changes in Bulgaria.

Despite all the challenges that the Bulgarian nation faces today, it can be viewed as a “historically established, stable, self-developing community, emerging and functioning on a territory that represents a unified political, economic, social, and spiritual space.” (Velev et. all, 1997) This space encompasses both material and spiritual values, which are the result of the unique collective identity of its members, regardless of their ethnic, religious, racial, or other origins. It continuously develops, transitioning into new qualitative states.

From everything discussed so far regarding the Bulgarian nation, the conclusion can be drawn that it (the nation) consists of all its citizens:

- ▷Regardless of their ethnic and racial origin;
- ▷Regardless of their class or social status;
- ▷Regardless of their political views;
- ▷Regardless of their religious beliefs;
- ▷Who preserve and pass on to future generations the spirit of Bulgaria’s historical karma;
- ▷Who consider Bulgaria their homeland;
- ▷Who possess the necessary knowledge of the Bulgarian language to participate equally in the political and social life of the country;
- ▷Who do not seek a foreign national identity. (Velev et. all, 1997)

All of the above testifies to the ***mono-national essence of the Bulgarian nation*** on the one hand, and on the other hand, to the formation of a stable system of values: cultural, material, intellectual, and emotional, which contribute to the formation of national identity.

Today, along with the changes resulting from the globalization of society and the

processes that govern it, a shift in the subject of national identity is observed. In our contemporary era, the focus has shifted from class, religion, and party affiliation to that part of the nation which, regardless of its historical development stage, possesses the ability to unite around a certain set of basic ideas, principles, interests, and ideals, whose sum forms the national identity and helps in its practical realization.

NATIONAL UNITY

We cannot discuss the nation and national identity without addressing a very complex and multifaceted issue, namely the issue of national unity. In contemporary times, this issue is regarded more as a political one, and various political methods are employed to resolve it. An example of such a model is:

The unification process, which is voluntary, allowing two or more ethnicities and cultures to merge, resulting in the formation of a new ethnicity. It is important to emphasize that unification is a voluntary process, not a forced one. An example of such unification is the Bulgarian ethnicity, formed as a result of the merging of Thracians, Slavs, and Proto-Bulgarians. On the other hand, ***unification is also a process that integrates different ethnic groups while preserving their ethnic and cultural identity***. The goal of unification as a process is to:

- ▷ Eliminate all conditions that could lead to the division of the nation based on ethnic reasons;
- ▷ Guarantee equal rights and provide equal opportunities for all citizens, regardless of their differences in race, ethnicity, religion, culture, or any other characteristic.

Integrating different ethnic, social, religious, and other groups provides an opportunity to build the nation as a socio-cultural community. Therefore, this approach gives all members of society the chance to perceive themselves as compatriots, representing a significant part of the nation, possessing common interests, and self-identifying as members of the same group.

On the other hand, the integration of the nation confirms that the existing ethnic, religious, and other groups within a given state did not emerge through conquest and annexation of other countries, but through the settlement of various groups on the territory of that state. An example in this regard is Bulgaria, where, in addition to the initial three ethnic groups that formed the Bulgarian state, the Turkish, Armenian, Roma, and other groups joined, later becoming an integral part of the Bulgarian state and gaining equal rights as citizens of the country.

Another fundamental principle in the formation of national unity is ***assimilation***[4], which manifests itself in the dominance of one of the ethnic groups (usually the dominant one, especially in cultural terms). The primary aim of this group is to achieve homogeneity within the state, regardless of the methods employed, whether voluntarily or forcibly. The goal of the dominant ethnic group is to force the others to abandon their ethnic affiliation and culture in favor of their own. Examples of this include:

- ▷ The assimilation of the Bulgarian population in North Macedonia, Aegean

Thrace, Eastern Thrace, and Western Thrace.

▷ The Palestinian people in the Gaza Strip.

▷ The Azerbaijani people in Nagorno-Karabakh, etc.

Segregation is another principle that influences the formation of national identity, which is fundamentally based on the use of “the superiority of the dominant ethnic group and culture over smaller groups.” (Velev et. all, 1997)

LANGUAGE, RELIGION, NATIONAL CHARACTER, AND CULTURE

When discussing the features that characterize a nation and are fundamental in the formation of the state, the role of a shared language cannot be overlooked. Its role is difficult to summarize in the process of nation-building. In many countries, such as Bulgaria, the United States, Russia, and others, a common language is an important integrative factor. However, in other countries, the fact that the same language is spoken in different variants can have a divisive impact on the nation. Therefore, the role of language in the existence of nations can clearly be viewed in two ways: as a unifying or a dividing factor.

Certainly, one of the most confusing concepts is that of ***national character***. Few social scientists would deny that certain cultural patterns are more common and valued higher in one nation compared to another. But it is almost impossible to reach an agreement on what exactly these common patterns are. In other words, we face the paradox that “***national character***” seems to be an indisputable factor, but no one really knows what it actually is.

This ambiguity likely arises from the fact that cultural patterns continue to exist in the form of stereotypes. For example, the stereotypes of the “impulsive Frenchman” and the “materialistic American” are strictly tied to specific historical periods. Just a century ago, almost opposite images were popular. Furthermore, these patterns can vary from region to region within the same country. And it is never difficult to find exceptions to the prevailing stereotypes.

Thus, it can generally be argued that although the patterns of national character are a reality, their uniqueness and importance for maintaining national unity vary from nation to nation.

Overall, it seems that although patterns of national character do exist, their uniqueness and significance for maintaining national unity vary greatly from one nation to another.

The Role of Religion

The role of religion is also twofold. In the United States, for example, religion neither significantly contributed to nor hindered national unity. In other countries, such as Israel, religion has proven to be a significant factor in achieving national unity. At the same time, in some other cases, religion has played a key role in preventing national unification.

In summary, what characterizes the nation-state in our time can be defined as follows: First and foremost, it is a sovereign political unit. Second, it represents a population that shares, to a greater or lesser extent, a sense of nationalism through

a common vision of the past and future. And finally, it is a population that inhabits a defined territory, recognizes a common government, and typically – though not always – demonstrates shared linguistic and cultural patterns.

Ethnocentrism and Nationalism

In conclusion to this analysis of the structure of the nation-state, it is appropriate to examine ethnocentrism, a phenomenon that, with its far-reaching consequences for intergroup relations, can significantly affect both the strength of national sentiment in a given state and the character and tone of relations between nations. Ethnocentrism is defined as “a viewpoint where one’s own group is the center of everything, and all others are evaluated and classified according to it.” (W. G. Sumner, 1906) Therefore, when used with the meaning of a sense of group belonging and superiority, the term is associated with the synonym “cultural narrow-mindedness.”

In some nations where the entire population adheres to a common culture, ethnocentrism can be used as a powerful force for strengthening and developing nationalism. A vivid example of this is Japan in the 1930s. In contrast, in states with diverse groups with conflicting interests, ethnocentrism hinders the formation of broad-based nationalism in all its forms. For example, the antagonistic ethnic groups in Yugoslavia impeded the emergence of widespread nationalism in the country. Furthermore, strong ethnocentric tendencies could seriously complicate the establishment of an effective system of governance in a state and create significant difficulties in developing national policies and programs.

In the field of foreign policy and national strategy, ethnocentrism can be an important factor that hinders a nation from fully utilizing its potential. This is because when a nation places itself at the center of everything, disregarding or evaluating other nations and cultures according to its own criteria, it can create barriers in international relations. These barriers may hinder cooperation and the development of strategic partnerships that could bring significant benefits to the nation.

Ethnocentrism can lead to a limited perception of the outside world and block the opportunity for full participation in the globalized economy and political processes. This may manifest as prejudice against other nations or cultures, which in the long run can obstruct the economic, political, and social integration necessary to strengthen national security and global influence.

To overcome this problem, it is important for the nation to develop a broader and more acceptable foreign policy strategy that takes into account the diversity of the global context and creates conditions for constructive and mutually beneficial relations with other countries and cultures.

CONCLUSION

In conclusion, as mentioned in the introduction of the article, in recent decades, Bulgarian political elites have been trying to find the right formula to escape the permanent crisis (especially the political one) in which the country has found itself, by copying various models of state-building and experimenting with numerous political projects.

All of this, along with the inability of these so-called elites to unite the nation and society, as well as the continuous use of different terminology, including when it comes to concepts such as:

- ▷Nation;
- ▷Nationality;
- ▷Ethnos;
- ▷Minority groups;
- ▷National interests;
- ▷National ideal;
- ▷National goals, etc.

The need for a unified understanding of the mentioned terms arises from the fact that each citizen may have a different interpretation of their essence. However, to build an informed and consolidated society, it is necessary for the entire population of the country to use unified terminology and have a common understanding of it.

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NOTES

¹Konstitutsia na Republika Bulgaria, Siela, Sofia, 2007, ss. 9, ISBN 978-954-28-0032-3

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²United Nations Charter, available at: <https://www.un.org/en/about-us/un-charter/full-text>, accessed on 2Mar 2025

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SOCIALIZATION OF CULTURAL HERITAGE (A THEORETICAL MODEL PROPOSAL)

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Abstract: *The topic of the socialization of cultural heritage has been the subject of research for several decades. This article presents a brief scientific discourse on the topic and presents a proposal for a model of socialization of cultural heritage. Described are the individual phases (stages) of socialization, the activities they encompass and the relationships between them. Possible future research horizons are also outlined.*

Keywords: *cultural heritage, socialization, process, model*

Research on the socialization of cultural heritage

Museums are the guardians of the past. They fulfil an important social role in preserving artefacts, interpreting history, and teaching next generations. Although an institution of the modern times in Europe, their history can be traced back to at least 6th Century BC when Ennigaldi-Nanna, a princess and a high priestess, curated the museum in the palace of her father Nabonidus, the last king of the Neo-Babylonian Empire (Fowler 2003). Scientific interest in antiquities rose during the Enlightenment but the international focus increased significantly in the aftermath of the Second World War, when a number of international documents were adopted – the 1954 Convention for the Protection of Cultural Property in the Event of Armed Conflict with Regulations for the Execution of the Convention, the UNESCO 1970 Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property, the 1972 Convention Concerning the Protection of the World Cultural and Natural Heritage, and the World Heritage Lists were created. Already by the mid-1970s, it was being accepted that cultural heritage is part of the social fabric and an expression of civilization (Cormack 1976). It can be viewed as a set of artificial social meanings, which affect community identity (Ivanov & Sachev 2009), and have a role in national unification and cohesion in times of crisis. (Sachev & Denchev 2010) Cultural heritage is important for the sustainable development of society (Sachev 2018) and its understanding and sharing is a factor in achieving and maintaining world peace (UNESCO Security Council 2017).

Socialization of cultural heritage

In psychology, socialization is the process of an individual's inclusion in a group/ community/society through the acquisition of certain qualities and skills (language, behaviour, customs, etc.). In his 1897 'Theories of Socialization', Giddings uses the term to denote the process of development of the social nature and character of the individual in his preparation for social life. (Giddings 1897). In pedagogy, the term encompasses the lifelong perception, acquisition, and mastery of social

historical experience through active interaction with the surrounding social environment, while at the same time preserving the qualities and characteristics of the individual (Clausen 1968; Doncheva 2018). In economics, socialization means the integration of a person into the social order in a way that favours his creation and consumption of goods, which in turn gives meaning to his life and helps build a life strategy (Stoilova 2015). But what does it mean to socialise cultural heritage?

The earliest use of the term in the context of cultural heritage is in 2004, where cultural heritage is seen as a contributing factor in the development of the cultural personality and the development of the four types of identity – universal, national, group and individual (Sachev 2004). In 2009, Sachev and Ivanov postulated that cultural heritage is not only a factor in the socialization of the individual, but it is an object of socialization – that is, of integration in the lives of the group/society. In 2011, in a dissertation study on private collections of archaeological objects in Bulgaria, the cultural heritage socialization was considered as a continuous ‘technological’ process of 5 interconnected phases (Debruyne 2012). Socialization can be defined as the removal of the object from the “cabinet reality” and its inclusion in the “museum reality” through routine and established procedures (Ivanov 2004; 2008). It goes hand in hand with the public access to museum collections, emphasizing the importance of museum interpretation through display and education (Kyoseva 2014; 2015). Formal and informal education play an important role in the socialization of cultural heritage with the help of science; cultural organizations and institutions, and the civil society (Spasova 2018; 2021). Many Bulgarian authors view tourism as instrumental in the socialization of cultural heritage and the scholarly focus has been placed on the role of state policy (Ovcharov 2011), museums (Boneva 2011), sustainable development of regions (Modeva-Nankova 2011) and pilgrimage tourism (Nazarska 2013).

Model of socialization of cultural values

The proposed model described in this article is a further developed version of the technological process proposed in 2011 (Debruyne 2012). The end goal is the incorporation of a given material object or intangible cultural element into the life of the community in a way that fills it with meaning and turns it into a shared value. Only as a shared value would the cultural heritage object or element will fulfil its potential as a cultural factor in the sustainable individual and societal development. In other words, the process of socialization turns an object or practice into cultural heritage. The proposed model consists of 7 steps.

Step 1: Search and acquisition

This phase includes all field research – archaeological excavations, ethnographic expeditions, anthropological studies, research of bibliographic and archival collections, etc. It is of particular importance that the (re)search be carried out in an organized, controlled and verifiable manner. Chance (unsought) finds also fall into this category. A third group of ‘finds’ are objects which are publicly inaccessible by

virtue of their being private property. Establishing and regulating public access to such artefacts is a major area of concern, as it requires balance of public and private interests. Donation is the most widely avenue for starting the social integration of such private property.

The question of acquisition concerns ownership. Establishing ownership of cultural property is required in order to ensure its legal protection. This involves deciding on roles and responsibility of care provision or safeguarding among various public and private players – institutions, organisations, individuals. Certain limitations may be imposed on the trade with cultural property such as first-buyer rights, import/export permit, etc. Many countries, Bulgaria among them, places additional limitations on archaeological heritage, esp. in lieu of the fight against looting and trafficking.

Step 2. Identification, registration and documentation

This phase includes documenting, registering and providing legal status and protection to the heritage object or element. The tangible object or intangible element receives the legal status of cultural heritage, often with a corresponding significance rank (for example, local, regional, national or world heritage) with all the rights and obligations of the owner arising from this.

Documenting cultural values is an important step in the socialization of cultural heritage, as it creates its information base. This includes activities such as measuring, weighing, photographing, recording, drawing, mapping, photography, etc. There are different documentation standards that offer different degrees of detail of the description – for example, Object ID, Iconclass, etc.

At this stage, the paramount issue is authenticity. This is a complex process, which varies from one type of object to another. It is no coincidence that there is no single definition of a forgery, nor a single approach to dealing with it. Experts use a rich arsenal of methods and techniques from various scholarly fields – art history, chemistry, physics, historiography, bibliography, archival studies, biology, medicine, etc. However, there are cases when it is simply impossible to say for sure whether an artefact is authentic, because we often do not know how to define authenticity.

Step 3. Physical protection

The physical protection of cultural property aims to preserve its physical integrity through conservation and restoration methods, safekeeping, etc. As the object is the primary source of information, efforts must be made to prevent, minimize or even altogether stop destructive processes. Physical protection is carried out using various techniques and means. The exact configuration of measures depends on the ‘life’ of the artefact – whether it is on display or not, whether it is outdoors or indoors, etc., what the possible risks are, the likelihood of them occurring, and the extent of the potential damage. That is, one cannot not talk about a uniform approach to all cultural values.

In historic terms, heritage conservation is a relatively new scholarly and scientific

field, formed only in the second half of the 20th Century. It is still looking for its unified scientific apparatus, which creates certain problems in terms of the exchange of experience through scientific discourse. At this stage of scientific understanding, three main types of conservation activities stand out: preventive, corrective (remedial) and restorative (restorative) (ICOM-CC 2008).

The development of technologies at the end of the 20th and the beginning of the 21st Century allowed for the improvement of conservation activities in favour of preserving the information resource of the artefact. There are now many differentiated diagnostic methods that allow for more precise dating of almost any type of material. It is possible to apply digital diagnostic methods for examining and restoring (recovering) the shape, colour, detail, etc. of many artefacts and objects, including tracking the condition over time (the so-called four-dimensional examination). From the latter, conclusions are drawn regarding the possible means and ways for better preservation and more effective protection of the examined objects.

Conservation and restoration activities are guided by several basic principles: authenticity, integrity, application of a differentiated approach, reversibility and minimal intervention. Violation of any of these principles harms the object, but also the future possibilities for it to be studied and understood. Even famous artefacts such as Tutankhamun's beard fall victim to unprofessionalism (BBC News 2015). Restoration often helps to study the artefact and its history. For example, we know that Rembrandt's "Night Watch" depicts a daytime activity. Conservation is regulated, both professionally and legally, sometimes with strange results, for example, the restoration of the fortress in Cadiz (Franco 2016), or the Sistine Chapel. (Daley 2013; Januszczak 1991) In recent years, digital restoration has gained momentum, opening up new horizons and allowing us to rediscover well-known works and even reconstruct works that cannot be restored using traditional methods such as the "Mona Lisa" (Beck 2001).

Conservation intervention raises questions that must find their ethical answers. The balance between authenticity and aesthetics is difficult to achieve, but it is mandatory and central to the proper exercise of the profession. When it is violated, the perception, understanding and interpretation of cultural heritage are hindered.

Step 4. Scientific socialization

Scientific socialization includes the entry of the object into scholarly circulation, where its polysemanticity can be revealed and assumptions and assessments of its place, meaning and role in the development of the community can be determined. Obtaining scientific information is a critical step in understanding and making sense of the heritage, and the application of the scientific method (i.e. the generally accepted methodological apparatus of the relevant scientific field) and professional ethical codes is of utmost importance. Research methods must be comprehensive, transparent and repeatable – something that is not always achieved. In the field of intangible cultural heritage research, additional difficulties are encountered in relation to the lack of generally accepted scientific methods and standards of work.

Insufficient regulation in this area is noticeable in many countries, and some side legislative initiatives (e.g. related to the protection of personal data) create additional complications in the implementation of scientific principles of transparency and repeatability of research.

Scholars and scientists have a care of duty in the quality of their work not only to themselves as professionals, but also to society as a whole and to future generations. Misuse of scientific knowledge or silence in the event of such misuse by third parties (e.g. for political or economic purposes) (ALLEA 2013) is unacceptable and contrary to ethical norms in science. In recent years, targeted efforts have been made to synchronize ethical scientific standards in order to overcome violations such as fabrication, distortion and appropriation of scientific work and results (ALLEA 2018).

Violation of scientific norms, including in the field of cultural heritage, is due to numerous factors – both subjective and systemic. Among the subjective ones, one can see burning desire for prominence and social acceptance, and profiteering, personal vendettas between colleagues, misunderstood patriotism, and even more dangerous trends such as fake news (Bogova 2020), nationalism, racism and chauvinism.

Among the systemic factors, the global trend of turning science into a business is now coming to the fore. Limited resources – money, people and time – lead to increased competitiveness. One of the most worrying trends is the increasing pressure to deliver “significant” or saleable findings while in reality most scholarly work is mundane. For example, in terms of scholarly knowledge, systematizing ceramics pottery forms from a given era is much more important than discovering a golden burial mask, because it gives us much more material for reflection on technological development, lifestyle, beliefs, trade relations, fashion, aesthetics, the structure of society, etc. However, the golden mask sells better.

A special mention goes to scholarly publications ethics. The role of the impact factor of the publication on the quality of scientific production must be seriously studied and more effective measures must be taken against its manipulation. (Falagas & Alexiou 2008; Chorus & Waltman n.d.) The assessment of scholarly production must include qualitative and quantitative factors, and prevent distortion. When assessing productivity, it is necessary to take into account demographic factors that influence career development such as gender, age, marital status, etc. (Rørstad & Aksnes 2014); systemic factors (academic workload, policy of the editorial boards of publications (Borwein & Bailey 2013); reluctance to publish negative results, etc. (Kerr 1998); and the specifics of the scientific field (Petersen et al. 2014). Counteracting unethical practices is a significant necessity given the responsibility of science to society.

Step 5. Public access

Access to heritage encompass both physical access (the object or element can be observed) and cognitive access (the object can be felt, experienced, interpreted and ultimately understood). There are numerous measures and guidelines implemented

to ensure physical access to cultural heritage, incl. of special interest and vulnerable groups. Museums go beyond the traditional framework of building and its adjacent sites by organising external exhibitions, demonstrations, going into public spaces, etc. The main means of communication of the museum still is the exhibition, but talks, book discussions, competitions, concerts, demonstrations, educational programs, etc., find their place among museum offerings.

One of the most important activities is attractive and cultivating audiences. The high rate of technological development leads to greater fragmentation of audiences in terms of preferred communication channels and access to heritage. If museums do not respond to these realities and expectations, there is a risk of compromising not only the physical but also the cognitive access, and hence the interruption of the process of socialization and sustainable transmission across generations. A possible approach to this challenge is inclusive communication, which allows the audience to actively and effectively experience cultural heritage. The most common example of inclusive communication is historical reenactment (reconstruction, reenactment or living history). Innovative solutions and approaches must be sought to differentiate museum products, even developing niche markets. Innovative methods of segmenting audiences are entering global practice - by interests (Beucler et al. 2016), by purpose of visits (Morris Hargreaves McIntyre n.d.), etc. Such research is not within the power of every museum, so it should be a product of joint efforts of the guild and be supported by other cultural institutes. The state, through appropriate agents, should support these efforts methodologically and financially, ensuring access to cultural heritage in order to complete the process of socialization. Some intriguing opportunities to make cultural heritage accessible outside the museum system can be created by the tourist industry (Oostwegel Collection n.d.) or commercial establishments (Dominicanen 2021).

Step 6. Interpretation

In order for cultural value to remain relevant in a changing world, its essence should be explained through the functions of formal education and leisure (informal education). Every cultural value is polysemantic, carrying both meanings and messages imparted at the time of its creation/formation, as well as meanings and messages acquired during its use and (re)validation over time. Very often, the meaning and message are encoded and may remain hidden. It is possible that a subsequent (later given) meaning may replace the original.

Step 7. Validation / Confirmation

Validation or confirmation of an object or element as cultural heritage is carried out during the interaction between the object or element and the members of the community in a way stimulates the socially responsible creative expression of the individual. Thus, cultural heritage fulfils its true function by being woven into the public consciousness and becoming part of the existence of the community. The accumulated knowledge encoded in the heritage object or element is refracted

through the social experiences of the recipients, forming new knowledge. The semantic load of the object changes in accordance with the social relationships and the level of technological development. If the meaning of the cultural property is confirmed, it remains a part of the cultural heritage. Conversely, if the semantic load depreciates, it becomes an anachronism, is rejected and falls out of social circulation. Only when this phase is successfully completed can we speak of the complete social adaptation of the object or element, of its transformation into cultural heritage and its transmission to future generations in a sustainable manner.

Conclusions

The proposed model is based on the accepted practices in the care and management of tangible cultural heritage. Its application in the case of intangible cultural heritage is one possible research horizon. The intangible cultural heritage is a living heritage and is subject to continuous interpretation and adaptation. This raises important questions about the applicability of some of the steps in the model – for example, acquisition and conservation, and whether and how these actions differ from its documentation and interpretation. Natural changes occur in the process of interaction between cultural heritage and the community. Where exactly is the boundary between natural and reasonable change and distortion or replacement? Can we disapprove or condemn the replacement of heritage, if the community has mandated the change? Should scientists judge community decisions? Is there a risk of a ‘slippery slope’ or an avalanche effect of interpretation change? If a phenomenon is museified (preserved in a museum), how can it remain alive and relevant to the community’s way of life?

A second research horizon is the application of information and communication technologies. Research on the uses of technologies by different generations is under way. The speed of development of processes in this area is in itself a challenge, which further complicates the work of specialists involved in cultural heritage. A large part of those working in the museum field have limited knowledge of new technologies, and due to misunderstanding they underestimate their capabilities.

A third research horizon is the economic use of cultural heritage, which was also deliberately left out of the present study. Some questions in this direction are: should we turn cultural heritage into an economic resource and why; under what conditions and to what extent; what are the alternatives and their advantages and disadvantages; how exactly should we adapt the classical business methods of market, consumer, competition and other research to the field of cultural heritage; what are the challenges of introducing economic/financial principles into the management of non-profit organizations? This range of questions must be considered both at a conceptual and practical level.

The list of possible difficulties can be continued with topics related to education, legislation, interpretation, etc. It is hoped that this study will serve as a reference and starting point for numerous future studies that will support the effective socialization of cultural heritage and its sustainable transmission to future generations.

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EPIGRAPHIC MONUMENTS AS PART OF THE CULTURAL HERITAGE FROM ROMAN TIMES IN BULGARIA

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Abstract: *The article deals with the Latin and Greek inscriptions found in Bulgaria and now part of the cultural-historical heritage from the Roman period, when most of the antique inscriptions were made. The integration and popularization of work with these databases will give the study of cultural and historical heritage a social dimension and will provide an additional incentive for understanding the ancient culture and society in the Bulgarian lands.*

Keywords: *epigraphy, inscriptions, Roman period, Bulgarian lands in Antiquity*

INTRODUCTION

The term epigraphy derives from the ancient Greek word *epigraphein*, “to write on”. As a auxiliary historical discipline, epigraphy is a term that covers the study of ancient or mediaeval writings, inscribed on hard materials/surfaces, in other words, different from parchment or paper, e.g. stone, pottery, wood, metal etc. Here we will discuss mainly those, written on stone. The monuments on which these writings are found are broadly called inscriptions, by which is understood the combination of both monument (*monumentum*) and the text, engraved or painted upon it (in Latin *inscriptio*). This wholeness is generally called in Latin *titulus* (Keppie 1991, 9-10; Lassere 2005, p. 4-5). The erection of inscriptions was widespread throughout the Roman Empire, which gives scholars the right to speak about an “epigraphic habit” – a characteristic of its social and political life (MacMullen 1982, p. 233-246).

This article examines the Latin and Greek inscriptions discovered in Bulgaria and now part of the cultural and historical heritage from the Roman period, when most of the ancient inscriptions were made. On the territory of present-day Bulgaria were located the Roman provinces of Lower Moesia and Thrace, part of the vast Roman Empire. After the conquest of Moesia and Thrace by the Romans in 30 BC, Roman cities with an urban culture and public life began to appear in these lands, which required different aspects of social, political and spiritual life to be marked in stone (Stoev 2017, 23-63). So, it could be said that the inscriptions are a mirror of the provincial life and society in the ancient Bulgarian lands and their investigation, preservation and presence in the digital environment is necessary for understanding the Roman cultural heritage in this country. They, as well as other artifacts from Roman times – such as Roman architecture, art, sculpture, ceramics, clearly show that the place of Bulgaria as an integral part of the ancient history of the world.

RESEARCH METHODOLOGY

The methodology used in this study is an analysis of the significance and importance of the erection of epigraphic monuments for ancient society (the so-called

epigraphic habit), which is carried out on the basis of the characteristics of the epigraphic monument and the different types of epigraphic monuments. This is one way to achieve the task of integrating epigraphy into the understanding of the culture of the lands of Bulgaria in antiquity, including through a review of the digitization of ancient inscriptions. On the way to this goal, it is necessary to consider in more detail what information different types of inscriptions provide about the cultural and historical processes in the ancient Bulgarian lands.

The placement of inscriptions is essential for the functioning of Roman power and society, because on the one hand they are called upon to hold society together as a whole, as their purpose is to be visible in public places, and on the other hand they aim to remind the community of the existence of a certain model of imperial power and subordination (Revell 2009, p. 20-35). In some cases, people wanted to be remembered for having done something for society, and therefore the honorary or building inscriptions were erected. In temples, inscriptions showed one's piety and respect for the gods. It goes without saying what the purpose of funerary inscriptions was, but it could be further claimed, that they also fulfilled a social function, as they were placed along the roads that led out of the city, hence, in a public environment and thus had a purpose representing the deceased as part of a local civic Roman society (Keppie 1991, p. 99; Weber 1991, p. 261).

DISCUSSION

There are two kinds of inscriptions from Roman times in Bulgaria – with Latin text, and with Greek text. The provinces of Lower Moesia and Thrace were placed inbetween the West and the East of the Empire and were subject to linguistic influences from Italy or from the Greek East, so in Moesia the Italian linguistic influence prevailed, and in Thrace – the Greek one. We can call them both “Roman”, for they are serving the same personal and official purposes of a society, which was dominated by Roman laws and values.¹ That's why, though there are certain differences, between the inscriptions in Greek and Roman areas of the Empire, both Latin and Greek inscriptions from the Roman time could be divided in several categories, based on the style and method of making, the shape of the stone, and the function of the text and the information it provides.

Types of inscription

Inscriptions can be divided into four categories based on their functionality – honorary, funerary, votive and building. The types of inscriptions, i.e. the shape of the stone, can vary, although some types are characteristic primarily of one of these categories.²

Firstly, we should discuss the so-called honorary inscriptions. The Roman Empire was primarily an urban civilization, in which the more important cities had a restricted self-government, reminiscent of the status of the *poleis*, the City-States of ancient Greece. It was formal from the point of view of their foreign policy, since their citizens were also subjects of the Roman emperor (Abbot 1968, p. 3-9). There-

fore, we must divide this type of inscriptions into two categories - those related to honoring the emperor, and those related to honoring the representatives of the government in the cities - members of the city council, magistrates and financial managers. In addition, in the provinces, inscriptions were often erected in honor of their governors (*legati Augusti*) or other official or representatives of the emperor's power here. The content of these inscriptions is relatively simple and is related to the careers that imperial governors, military leaders, or members of the city government pursued. The inscriptions are very often carefully crafted in the so-called *scriptura monumentalis*, an official font. Of course, the quality of workmanship depended on the availability of large workshops with experienced craftsmen, i.e. on the size and status of the settlement where the inscription was discovered. Sometimes the inscription was engraved on a stone block, which served as pedestal of the statue of the honored person (Almar 1990, p. 137-139).

Honorary inscriptions in honor of the imperial governors in the provinces and inscriptions in honor of the emperor were also found in the large military camps in Moesia, along the Danube River. Particularly important for public life were the inscriptions in honor of the emperor, as he was also the object of a cult, revered in all the provinces, and thus the erection of these inscriptions was a sign of the loyalty of the population (Lassere 2005, p. 617).

The second category of inscriptions, mentioned above, and also the most common one are the grave inscriptions (*stelae*). They are usually rectangular stone blocks, with St. Conrad defining three main types of steles: with a profiled inscription field, with an aedicule – a stylized imitation of temple columns in the upper half of the stone, above the inscription field, and *stelae* without a frame (Conrad 2004, p. 35).

The third group of inscriptions reveals the important importance of religion for provincial life in the Roman Empire and in the ancient Bulgarian lands. The Roman Empire had a syncretic religion that took shape with the period of the great Roman conquests 3rd century BC – 1st century AD, when the indigenous Roman gods were worshipped on a par with their foreign, most usually Greek, counterparts (Keppie 1991, p. 91). Thus, over time, Roman religious life became filled with a multitude of gods, and although the provincial authorities and the elite of provincial society worshipped and erected inscriptions mainly to Jupiter and the other supreme deities, the local Thracians that inhabited Moesia and Thrace, although obliged to have reverence to the state religion, were also free to worship their local deities, to whom they often gave Roman or Greek names.³

That is also why the votive inscriptions come in different shape and form. The inscriptions of the official deities in the big cities and Roman military camps along the Danube have really impressive outlook, elaborate decoration, and well-formed letters. In the rural landscapes, where the settlements of the pre-Roman Thracian population have been preserved, they often were shaped as a stone plate. The most famous example of such plates are those of the so-called Thracian horseman - a local Thracian deity-personification, especially popular among the non-ur-

ban population (see Kazarow 1938). Many of the votives – regardless concerning the state-cults or the local ones - were placed on a direct occasion: for example, for recovery from illness or safe arrival home. It was thus a fulfilment of a vow (*votum*), as a gratitude for a favourable response from the god to the prayers of the person who placed the inscription. (Keppie 1991, p. 93).

Building inscriptions, the 4th type, are most often an expression of one of two historical trends in provincial life – on the one hand, they speak of the activity of the military administration in strengthening the fortifications and camps along the border, and on the other - they speak of one of the most important characteristics of ancient urban life, euergetism, where representatives of the city government were obliged to build public buildings and facilities such as aqueducts, theaters, temples, etc. at their own expense, which was an act that brought them considerable prestige within the community. We can say that construction inscriptions share some characteristics with the previously mentioned categories, insofar as the inscription may begin with the titles of the emperor, if he was a benefactor, or list the positions and career of the magistrate who built it (Keppie 1991, p. 52-59; Almar 1990, p. 173).

Value as a source on the archaeology and ancient culture

The spread of Roman-era inscriptions found in Bulgaria clearly shows the spread of Roman culture and way of life in the Bulgarian lands in Antiquity. A huge part of the Latin inscriptions were found along the Danube, where the Roman army was concentrated, and especially around the military colonies of *Ratiaria* and *Oescus* - cities founded by Emperor Trajan by settling former legionaries after his wars against the Dacians (101-106 AD) (Stoev 2017, 49 - 63).

But in this multitude of inscriptions we can also distinguish the stages of the penetration of this cultural influence into the Bulgarian lands in antiquity. By studying the epigraphic monuments, we can distinguish during which emperors both the military and the urban population acquired Roman civil rights or made a career in the army and thus judge the processes of integration in these lands: for example, by judging by the names of those mentioned. The inscriptions, in which people bearing imperial surnames such as Aelius, Aurelius are mentioned, indicate the adoption of Roman civil law by the local population and show the periods in which the Romanization of the population progressed. A special kind of inscriptions – a bronze tablet called diplomas, represent imperial laws that granted certain soldiers' Roman citizenship. They give us invaluable information about the number of veterans in the provinces, the troops that were garrisoned there, and the method of recruiting the Roman army.⁴

It could be concluded, inscriptions inform us about what population inhabited these lands, where they were found, were they Romans or natives, what professions they had, how was their society stratified, how are the ruling classes composed, which cults were venerated by the Romans and the natives. They reveal us a lot about the family relations, even about some demographical processes, as for example life expectancy or date rates of the population, the marriage patterns, birth

rate etc. (Stoev 2017 with lit.). In other words, they are not only objects of cultural heritage, but also provide information about the creators of this cultural heritage.

Inscriptions in the Digital World

Today, most of the inscriptions are kept in the ancient sections of Bulgarian museums, very often as separate collections - lapidaries. A large part of the inscriptions has already been subjected to scientific publication - editions with ancient inscriptions are called corpora. The tradition begins with the prominent corpus of Latin inscriptions, which began to be published in Berlin in 1853 and continues to this day, whose volumes encompass inscriptions from all the provinces of the Roman Empire.⁵ The most famous corpora with Greek and Latin inscriptions from Bulgaria were published by B. Gerov and G. Mihaylov.⁶ However, for better socialization and use of the inscriptions for scientific purposes, significant steps have been made in the last two decades to digitize them. Currently, there are a large number of databases with integrated search engines for ancient inscriptions - Latin and Greek, which allow to quickly and conveniently cover a large number of realities of life revealed by the inscriptions. Perhaps the most detailed of them are that of Heidelberg University, as well as that of the University of Eichstätt-Ingolstadt.⁷ Some of the accentuate on the visual appearance of the inscriptions⁸, while others provide only the text of the inscription concerned.⁹ Most of the published inscriptions from the Bulgarian lands have already been summarized in these corpora. There are still unpublished ones in the museums of Bulgaria, and new ones are being discovered as a result of archaeological excavations, so they are also replenished annually with new inscriptions brought into scientific circulation.

Working with these databases is important tool for the epigraphists, because it allows searching for inscriptions from a specific region, by category or type of inscription, by the names or cults mentioned in them, in other words to complement his researches in the historical heritage by the inscriptions from a particular region.

CONCLUSION

The article does not exhaust all the nuances of working with epigraphic monuments and their value for the ancient history and culture of the Bulgarian lands. However, it can be summarized that, along with the information from other artefacts discovered through archaeological excavations, working with inscriptions is of essential importance for creating a picture of the cultural and historical heritage of Bulgaria. The integration and popularization of work with the online databases will give the study of cultural and historical heritage a social dimension and will provide an additional incentive for understanding the ancient culture and society in the Bulgarian lands.

NOTES

¹ See Keppie 1991, 9-11 for the builinguism in the inscriptions in the Roman Empire and the term "Roman inscription".

² Here we follow the broad categorization (s. Almar, K.P. 1990. *Inscriptiones Latinae. Eine illustrierte Einführung in die lateinische Epigraphik*. Odense: University Press, 109-191.). A lot of other types could be distinguished (as the military diplomas, or legal acts, written on stone), however the four types listed are the most common in the provinces of Moesia and Thrace, as far as inscriptions on stone are concerned.

³ The syncretism between the local and Roman deities is widespread process in the whole Roman empire. The opposite is also possible - Romans or even Roman officials made vows to local deities, whom they recognized as part of their religious system (Boteva, D. Dedicators with Roman Names and the Indigenous Cult of Thracian Horseman, *Archaeologia Bulgarica*, 11, 3, 75-89; for the same tendencies in the Empire see Ando, C. 2006, *Interpretatio Romana*, In: *The Impact of Imperial Rome on Religions, Ritual and Religious Life in the Roman Empire*. Leiden-Boston: Brill 51-65).

⁴ Among the vast literature on the subject, particularly important are Mocsy, A. 1984. Lateinische Cognomina als Geschichtsquelle: zwei Typen provinzialrömische Kultur. *ActaAcrhHung* 36, 197-222; Alföldy, G. 1966. Notes sur relation entre la dorit de cite et la nomenclature dans l'Empire romaine. *Latomus* 25, 37-57. On the Roman diplomas see Alföldy, G. 1968. Zur Beurteilung der Militärdiplome der Auxiliarkohorten, *Historia* 17, 215-227.

⁵ The information about the CIL-volumes see in *Corpus inscriptionum latinarum*: <https://cil.bbaw.de/en/> [viewed 11.03.2025]

6 Mihailov, G. 1958-1997. *Inscriptiones Graecae in Bulgaria Repertae*, vol. I-V. Sofia; Gerov, B. 1989. *Inscriptiones Latinae in Bulgaria Repertae*. Serdicae.

7 Epigraphic Datenbank Claus-Slaby: <http://www.manfredclaus.de/>; Epigraphische Datenbank Heidelberg: <https://edh.ub.uni-heidelberg.de/home?lang=de> [viewed 10.03.2025]

8 Ubi Erat Lupa. Bildendatenbank zu antiken Steindenkmälern: <https://lupa.at/> [viewed 10.03.2025]

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MILITARY MONUMENTS IN THE MODERN INFORMATION ENVIRONMENT

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Abstract: *This article examines the list of created monuments dedicated to the Balkan Wars in Southeastern Bulgaria and their implementation in the modern information system. Special attention is paid to the modern understanding and appreciation of the dedication of Bulgarian heroes to their lives in the name of the motherland. Information technologies offer great opportunities for the protection, preservation and promotion of cultural memory in the context of globalization and the spread of cultural memory. A general SWOT analysis of monuments in the region was also made and is specifically designed to study historical tourist routes, which, in turn, allows for their successful integration into modern society and as an educational model with teenagers.*

Keywords: *cultural heritage, war monuments, Balkan wars, tourist march, information technologies.*

INTRODUCTION

Military monuments are an important and valuable cultural resource. Modern information technologies offer great opportunities for creating a database, which, in turn, will help significantly to preserve historical memory, as, for example, in the representation of events related to wars and conflicts. It is often assumed that military monuments are part of the urban environment and cultural elements, but it is most common to pay attention to them in two cases-either during the celebration of historical memory or when they are vandalized. In particular, military monuments are present in the information environment, but in different forms. This form is multi-faceted, such as marking an anniversary from the Balkan War, making a report on military monuments dedicated to that war. This report is usually distributed via a television channel, radio or the most commonly used platform at the moment – online editions. This interaction is currently extremely important, because it is the only way to reach a wider range of people.

Why are military monuments important?

Military monuments are a tangible expression of the memory of nations. They present a wealth of physical evidence that fixes the memory of events directly related to cultural identity. The traditional mass understanding of military monuments is that they are built in order to perpetuate the memory of important historical events and personalities, as well as that ability to help create national unity and patriotism, but only in some cases. In this regard, it should be borne in mind that there are differences in how each person perceives and interprets and attaches great importance to these monuments. In the modern world, these monuments should not be left out of the global information environment. Digital technologies, social and online

platforms create the necessary parameters for military monuments to be fully integrated into the information environment. This need can be explained by the fact that society increasingly needs information that is available and can be transmitted online. (Cameron, F. & Kenderdine, S. (2007).

The perception of military monuments in the context of the modern information environment is a continuous process. Currently, digital technologies and online platforms on the Internet create the prerequisites for rethinking and transforming the image for military monuments. At first, monuments were only physical (material) objects that could be viewed exclusively on the spot. However, today, with the help of information technologies and rich color from various online sources of information-websites, social networks, virtual tours, mobile applications – almost unlimited opportunities are created for people from anywhere in the world to acquaint themselves with the history of these monuments, as well as participate in helping information integration through lengthy public discussions. (Lozano, J.& Brown, M.(2015).

A look at information tubes and the formulation of hypotheses

A very important aspect that can be marked as basic is the analysis of the collected information for monuments before it is transmitted. An event that occurs of information e.g. a collection of data, facts, stories, etc. needs to be carefully analyzed in order to accurately determine its meaning, as well as the meaning that it carries. It is important to note that the analysis is not only a description, and not a collection of data, but is an integral part of the process of information integration of military monuments in the context of modern information flow. The need is based on the fact that information systems still cannot do qualitative analysis, but to a person, since they work with information that is initially indicated to them, and this information must be updated constantly as well as the analysis of interpretation, about the importance of already created information. (Macdonald, S. (2013).

As a rule, each of us perceives information in our own way, strictly individual, so when information is sent through various information sources, it is necessary to observe the principle of objectivity. Because when preparing material that is based on the results of this research, whether it is an article or a report, the authors must observe the principle of objectivity. It is very important to be one with passion and self-forgetfulness. In this sense, information should be analyzed and interpreted correctly, rather than selectively or in accordance with the law. An important component is to present all the information, not just the one that suits the preliminary hypotheses. (Seitel, P. (2012).

Conditions for developing a hypothesis are created independently on the basis of objective analysis. In this case, with the topic of military monuments, many subjective factors are found to affect a person, which, unfortunately, create very serious difficulties, especially when it comes to their information integration. There are some serious subjective information flows, especially when it comes to monuments whose status is not a certain legal one. This is the reason why it is difficult to inter-

pret them, because a large flow of information causes confusion. We must take into account the fact that the dynamics with which the world is changing may negatively affect the way these monuments are perceived. (Smith 2006).

Specific examples can be provided, for example, with the United States of America and numerous actions to eliminate historical monuments that are directly related to robowaring. In this case, the tension over this issue seriously divides American society, and social networks play the role of a “conduit” into which subjective information is distributed, which ultimately contributes to the elimination of these monuments. Another example can be given with monuments from the countries of the former socialist camp. Changes after 1989. In Eastern Europe, I questioned whether these monuments are really directly related to the ideology of communism and socialism. And now this issue is exacerbating after the recent armed conflict between the Russian Federation and Ukraine. In the case of many actions against these monuments, they have something in common –the monuments are used as a “protest tribune”, even vandalism.

Bulgaria is also not an exception and is also part of this process. In Bulgaria, however, the topic is highly political in nature, and these political and social views differ greatly. Military monuments in Bulgaria are built as a result of wars and conflicts and can currently be affected in the process of delegitimization in the modern information environment. This happens, as a rule, when there are social and political unrest that can call into question their legitimacy. Unfortunately, these unproductive processes can be further inflamed as a result of media reflection to create and launch public campaigns to eliminate monuments or insist on revising their status. This storm can seriously endanger cultural heritage and can create additional and unnecessary social tensions between individual social groups.

For an objective interpretation of military monuments in the modern information environment, the following principles and values have to be observed:

- ▷Respect for all monuments, regardless of what historical period they reflect;
- ▷Respect for the opinions of all social groups that relate to them;
- ▷Non-discrimination in any form;
- ▷Providing opportunities for objective media coverage;
- ▷Capacity building (for example, through: campaigns, projects, promotion of public discussions);
- ▷Creating a platform for active inclusion in public life.

For the purposes of this study, a SWOT analysis was prepared and all the results obtained showed that military monuments can be and are extremely important to be included in the new information environment. The prerequisites are set out in the table.

Strengths 1. Historical significance of military monuments is an important element of cultural and historical heritage. Monuments are physical carriers of the memory of important historical events, including celebrities, personnel that are important for the history of the nation; 2. Educational function-Military monuments serve as sources of information and educational resources for future generations and are an important capital that helps form national identity and patriotism; 3. Tourist resource – Military monuments can serve as a source of information and educational resources for future generations. 4. National and international initiatives – in the modern information environment, they provide conditions for the global dissemination of information for monuments and can create platforms and initiatives that can be used for promotion, storage and conservation.	Weaknesses 1. Problems with supporting military monuments are related to the fact that many of them are exposed to natural conditions, and, unfortunately, a common problem is the lack of sufficient funds for their support and restoration; 2. Disputes related to symbols – Some military monuments can cause disputes because of the symbols they represent. 3. Incomplete or unbiased information – The public may be completely unaware of the world-historical significance and value of these monuments, what to use, for self-serving purposes and used in the context of political and social conditions that do not allow the use of these monuments in this regard. The public may always correspond to the official position;
Opportunities 1. Digitization and virtual tours- Digitization and the opportunities it offers create unlimited opportunities for creating virtual tours, applications, projects, etc., which creates new opportunities and prospects for global promotion and accessibility; 2. Introduction of new educational forms – Modern information technologies can be used to create educational programs that can be used in the following areas: video, mobile and Internet applications, and this increases the opportunity for young generations to engage more actively with the field of management; 3. Development in the context of globalization-Globalization shapes and creates issues related to human rights and aims to encourage international cooperation in the field of cultural heritage. Organizations such as UNESCO and ICOMOS are part of this process.	Threats 1. Distortion of historical facts – the modern information environment and the growing influence of social networks and platforms, significantly increase the risk of information manipulation. This may lead to distortion of historical facts and create misconceptions about the significance of the monuments; 2. Possible attacks and vandalism – Military monuments often become the target of vandalism and targeted attacks by various public groups or individuals who disagree with their symbolism and meaning. 3. Politically charged, military monuments easily turn into “tools/victims” of political machinations, as a rule, this is due to attempts to change their meaning in order to promote and form certain positions in the context of modern political confrontations;

Monitoring and evaluation

To determine whether war monuments can be integrated into a modern information environment, it is necessary to assess the progress made. The main tasks of monitoring are:

- ▷ Provide a constant information flow of up-to-date information;
- ▷ Providing systematic and periodic service updates (if the app is available).
- ▷ Identification of possible potential problems that may arise;
- ▷ Guarantee and ensure the active participation of all stakeholders, as well as creating opportunities for feedback;

Forecast

Military monuments will have an increasingly important place in the information environment, and will continue to be a debatable public topic subject to comprehensive interpretive analysis in an information environment that is also constantly undergoing change. This will create the right conditions for an ongoing debate that will focus mainly on their historical and social role, as well as the socially important topic of memory and traditions. This will affect the mood and political decisions regarding their management, storage, protection, meaning, even their existence will depend on these relations.

Military monuments as tourist resources in the modern information environment

In recent decades, tourism has changed so much that it is increasingly rare to understand tourism in the classical sense of traveling for the purpose of recreation or entertainment. Tourism is not only an industry, but also a cultural phenomenon that has managed to organize people from different parts of the world, giving them the opportunity to visit new places, meet new cultures, events and experiences. Today, we celebrate it as a means of preserving and popularizing cultural, historical and natural heritage. Among the main elements of lit tourism are tourist routes, for example, created and organized paths and excursions in cultural, historical, religious, natural and other tourist routes. When creating these routes, the focus is on the most valuable and interesting attractions in each locality or country. When planning such a route, analysis in advance is necessary what needs are created, that is, what its consequences will be. They can be designed for lovers of history, religious and cultural attractions, health and rural tourism, right down to specific culinary delights in a given region. An opportunity for an experience and a touch of a specific attraction, possibly using well-designed tourist routes that not only enrich your knowledge on tourists, but also a key role in preserving and promoting local traditions, culture and natural resources. It is important to note that tourist routes can also have economic significance, both attracting visitors and creating new opportunities for regional development.

An innovative cultural and historical route is often offered, through which every tourist can combine entertainment and education in their travels. The route in this article is associated with war monuments in the period 1909-1914, with an empha-

sis on the territory of Southwestern Bulgaria. It covers key places that preserve the memory of those fateful events and provides an opportunity for a deeper understanding of the historical significance of the Balkan War in Bulgaria.

Southwestern Bulgaria itself has a strategic geographical position. Key military operations and military operations during the Balkan Wars take place on its territory. The created monuments not only remind and symbolize the sacrifices and heroism of Bulgarian soldiers, but also have a mission to preserve our historical memory. The location of these monuments and important tourist destinations that create opportunities to explore history.

The tourist route that is offered includes visiting and exploring monuments located at significant historical and geographical points, for example, Sofia, Dupnitsa, Kyustendil, Blagoevgrad, Petrich and Sandanski. In each object, the tourist can discover a unique historical handwriting that is important for the reconstruction of our national identity during this period. The route takes four days, starting from the capital and passing through key regions such as Dupnica, Kyustendil, Blagoevgrad, Petrich and Sandanski. Here we make it a condition that the route between meals and free time is flexible and additionally recorded in relation to the amount of work and preferences of the group.

First day-Sofia: In the capital there are memorial plaques in honor of those who died in the Balkan War in almost all villages around the capital, and in some areas-Bistrica, Slatina, Volujak, Novi Iskir, Hostile, Pasarel, Knyazhevo, Gorna banja, Filipovci, Yana, Dobroslavci, Lower Crimea, Miroviane, Podhumer, Cepinci, Negovan and others.

Second day-Dupnitsa: Arrival in the city. Dupnitsa, where there is a monument in honor of the fallen soldiers from the region. With hotel accommodation in the city. Supper.

Dupnitsa: - Monument to the fallen in wars-Dupnitsa.

Third day – Kyustendil and Rila Monastery: Arrival in Kyustendil. Monuments in Kyustendil and Rila Monastery are associated with war victims and their role in strengthening national identity. A trip to Rila Monastery, along with its spiritual significance, provides a unique context for considering the relationship between religion, cultural and military history. With accommodation in the hotel part of the monastery. Supper.

Kyustendil: - Memorial plate in memory of those who fell in the Balkan wars.

Rila Monastery: - A memorial plaque in the courtyard of the Rila Monastery in memory of the fallen officers of the 35th Rila regiment. This was the last before the outbreak of the First World War in Bulgaria.

Day four-Blagoevgrad and Simitli: Arrival in the city. Dupnitsa, and in the afternoon – a tour in the city of Simitli, where monuments to fallen soldiers from the

region are located. With hotel accommodation in the city. Supper.

Blagoevgrad: Monument in honor of those killed in the Balkan War, and the liberation of Gorna Dzhumaya

Simitli: - Monument “100 years of Freedom” in Simitli, dedicated to the Balkan War and the liberation of Pirin Macedonia.

Day five-Sandanski and Petrich: Arrival in Sandanski, and in the afternoon – a tour of the city. Petrich, which also has significant monuments that embody its role in the wars for the liberation of Macedonia and Southern Bulgaria. These monuments serve as an example of the local significance of events related to the Balkan Wars.

Petrich: - Monument “To those who Died for the Motherland”, dedicated to the memory of those who died in the region during the Balkan Wars (1912-1913), World War I (1915-1918) and the Petrichki accident (1925). Later, plates for those killed during the second stage of World War II (1944-1945) were added.

– Historical Museum-Petrich. **In the museum you will meet the period of the Balkan Wars**, as well as specific events and personalities associated with the Petrich district.

Sandanski: - Monument to the fallen in Wars: Monument in honor of the fallen Bulgarian soldiers in the Balkan War (1912-1913), Inter-Union War (1913), World War I (1915-1918) and World War II (1942-1945), located in the central part of the city.

– Sandanski Archaeological Museum. In the museum you can find various exhibits related to the history of wars and the military heritage of the region.

CONCLUSION

In conclusion, military monuments, as an important part of the national cultural heritage, play a key role in the modern information environment. They not only preserve historical memory and pay homage to the fallen, but also serve as symbols of memory. In the context of dynamically developing information technologies and information networks, these monuments undergo significant transformations in their representations and perceptions. In an era of high-tech information society, the idea of a clash of civilizations provides in social media new opportunities for the dissemination and popularization of information about military monuments. In the light of these changes, it is necessary to understand that military monuments, despite their material nature, are important symbols of memory. For their preservation and conservation, it is important to create appropriate policies that combine historical value with the new requirements of the digital age and the modern information environment. In this research, war monuments in the period 1909-1914 in Southwestern Bulgaria also represent not only a visit and an acquaintance, but also one educational trip to important historical events, an opportunity to better understand the cultural and historical heritage of the region. The tourist route is based on these monuments, which not only provides an opportunity to preserve our national memory, but also encourages us to have a more in-depth knowledge of the historical

processes that have shaped modern Bulgaria.

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MENTORING AS A BRIDGE: KNOWLEDGE TRANSFER IN THE CONTEXT OF DIGITALISATION AND DEMOGRAPHIC CHANGE

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Abstract: *This paper examines mentoring as a strategic tool for knowledge transfer in the context of digitalisation and demographic change. Based on existing and current literature, the results show that mentoring promotes intergenerational learning, transfers both implicit and explicit knowledge, and supports cultural adaptation processes in the digital transformation. Reverse mentoring, in which experienced employees and digitally savvy junior staff benefit from each other, proves to be particularly effective. Although digital mentoring formats offer increased flexibility, the study emphasises the importance of hybrid models that combine virtual communication with personal exchange. Organisational support, clear structures and strategic anchoring in human resources development are key success factors. At the same time, the study also reveals limitations: the selected methodology restricts generalisability and reduces transferability. In addition, there is a lack of quantitative and long-term data on the sustainable effectiveness of mentoring. Overall, mentoring has proven to be a valuable but complex tool that requires careful planning, professional support and continuous evaluation in order to be effective in the context of technological and demographic change.*

Keywords: *Demographic change; Digitalisation; Human resource development; Intergenerational learning; Knowledge transfer; Mentoring*

INTRODUCTION

The world of work is currently undergoing radical change. Digitalisation and demographic change are in full swing and are transforming the world of work in a significant way (Gapsalamov, et al., 2020). Innovation and technological change are enabling new forms of collaboration. However, the forces of demographic change are counteracting knowledge transfer and hampering innovative progress (Madhavanprabhakaran & Francis, 2022). In these areas of tension, mentoring acts as a bridge and thus promotes innovative and technological progress. Mentoring can promote knowledge transfer between generations. This allows older employees to pass on their experience to younger ones. In times of rapid knowledge obsolescence, mentoring can serve as a decisive success factor in securing long-term success for companies (Singh, et al., 2021). This also promotes innovative strength and ensures that knowledge remains within the company. This paper examines the role of mentoring in the context of digitalisation and demographic change. Specific programmes are compared and contrasted to highlight how they can contribute to knowledge transfer between generations.

RESEARCH METHODOLOGY

This paper uses a methodologically sound literature review to examine the role of mentoring as a bridge in times of digitalisation and demographic change. This methodology was chosen because it enables a systematic analysis of existing scientific findings using universal methods. The aim is to highlight the current challenges and potential of mentoring approaches and to identify innovative concepts for promoting intergenerational cooperation in a digital working environment.

Methodological approach

The literature review is based on a comprehensive evaluation of relevant scientific publications, specialist books, reports and studies. The selected sources were analysed according to the following criteria:

1. Relevance for innovative mentoring programmes as a bridge for knowledge transfer between generations.
2. Up-to-date publications that reflect the current state of research.
3. Practical applicability, especially in relation to innovative approaches such as reverse mentoring or digital mentoring

RESULTS

The world of work is undergoing two profound changes: rapid digitalisation and an ageing workforce. While new technologies are fundamentally transforming existing work processes, the age structure in companies is shifting in favour of older employees. (Truxillo, et al., 2015). These developments increase the complexity of operational knowledge management and make the preservation and transfer of experiential knowledge a key challenge (Crimmins & Zhang, 2019). Digitalisation requires a constant willingness to learn and adapt, while demographic change is bringing the transfer of implicit knowledge between generations into focus. Companies are therefore faced with the task of managing both dynamics simultaneously in order to secure their innovative ability and competitive strength (Tunney & Mulders, 2022). Mentoring programmes offer a structured way to systematically transfer knowledge, experience and values between different generations and skill levels. Unlike purely formal training measures, mentoring relationships enable a deep exchange of implicit knowledge – i.e. knowledge that is difficult to document but crucial to the success of a company (Höher, 2015). Successful mentoring is based on trust, individual support and continuous dialogue. Mentoring can build bridges, especially in digital transformation processes: experienced employees pass on process knowledge and corporate values, while younger generations bring digital skills and new ways of thinking into the organisation (reverse mentoring) (Singh, et al., 2021). For mentoring to be effective in the context of digitalisation and demographic change, programmes must be designed in a targeted manner: Targeted selection and training of mentors and mentees: In addition to specialist knowledge, social skills and openness to new technologies are crucial. (Gapsalamov, et al., 2020).

Integration of digital tools: Virtual mentoring platforms, video conferencing and collaborative workspaces make it possible to build intensive mentoring relationships even across geographical distances (Jammulamadaka, 2020).

Flexible structures: Adaptable programmes take into account the different learning and working styles of different generations and offer hybrid formats (Jeske & Linehan, 2020).

Continuous monitoring and evaluation: Regular feedback loops and performance reviews ensure the quality and sustainability of the programmes. Case studies from various industries show that companies that strategically embed mentoring in their digitalisation and human resources development strategies achieve more sustainable success (Conboy & Kelly, 2016).

Success factors include: Early involvement of company management
Clearly defined goals and roles
Promotion of an open, learning-oriented corporate culture
Recognition and appreciation of the commitment of all those involved
Mentoring is not seen as an isolated measure, but as an integral part of holistic knowledge and innovation management (Adhikari & Moshal, 2018).

The study shows that mentoring plays a central role in intergenerational knowledge transfer. Older employees not only pass on technical expertise, but also informal skills such as problem-solving strategies and organisation-specific values (Bachmann & Möller, 2021). At the same time, they themselves benefit from the younger generations' knowledge of new technologies and agile working methods, which underscores the mutual learning process in the spirit of reverse mentoring (Zöllner & Sulikova, 2021). It became clear that digital formats significantly expand the reach and flexibility of mentoring programmes. Virtual mentoring relationships enable location-independent collaboration, especially in internationally active companies (Gadomska-Lila, 2020). Nevertheless, difficulties can arise when establishing mentoring relationships. Hybrid approaches that combine face-to-face meetings and digital communication are therefore considered particularly effective. The study also shows that successful mentoring requires clear structures and targeted organisational support. Programmes based on defined goals, transparent role descriptions and support measures for mentors and mentees are significantly more effective than informal initiatives (Vaiman, et al., 2022). Companies that strategically integrate mentoring into their human resources development and actively involve management create better conditions for sustainable knowledge transfer. In addition, mentoring not only contributes to the transfer of specialist knowledge, but also supports cultural change processes within organisations. It strengthens the willingness to change, promotes cultures of innovation and makes it easier for younger employees in particular to integrate into corporate structures, which in turn increases their loyalty to their employer (Parent & Lovelace, 2018). At the

same time, the research also identified challenges. The time commitment required of mentors and the difficulty of matching mentors and mentees are key obstacles. Successful programmes address these challenges through targeted matching procedures and incentive systems that promote motivation and commitment among all participants (Menges, 2015).

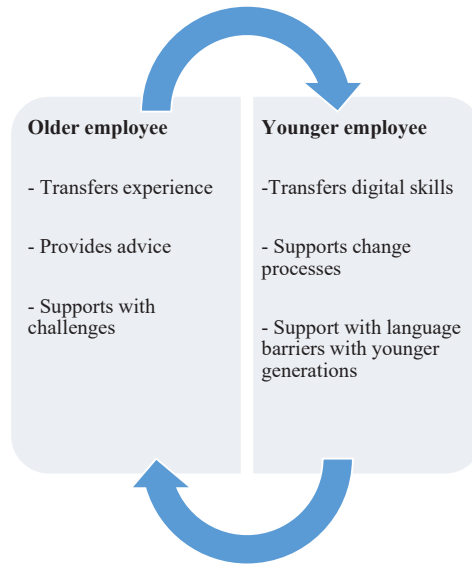


Fig. 1. Transfer in reverse mentoring

DISCUSSION

The results of this study confirm the relevance of mentoring as a tool for knowledge transfer in times of digitalisation and demographic change. It becomes clear that mentoring not only builds bridges between different generations and worlds of experience, but can also be an effective means of supporting technological and cultural change processes in organisations. In particular, the reciprocal learning relationship in the sense of reverse mentoring – the combination of experiential knowledge and digital skills – appears to be a critical success factor for companies that want to secure their long-term competitiveness. At the same time, the study shows that purely digital mentoring formats do not always have the desired effect. Despite the advantages in terms of flexibility and reach, building a trusting relationship often remains a challenge in the virtual space. Hybrid concepts that combine face-to-face meetings with digital communication offer a promising solution here. However, implementing such models requires additional resources and careful planning, which poses practical challenges, especially for smaller companies. From a critical perspective, it should be noted that mentoring alone is no guarantee of successful knowledge transfer. Without strategic integration into corporate development, defined goals and professional support, there is a risk that mentoring pro-

grammes will remain ineffective. In addition, success depends heavily on the individual motivation and compatibility of the mentoring pairs – factors that cannot be fully controlled despite careful preparation. With regard to our own publication, it should be noted that the study is based on a qualitative methodology and the results are therefore primarily exploratory in nature. Supplementing this with quantitative methods or long-term studies could have provided additional insights, for example into the long-term impact of mentoring on corporate success and innovation capacity. It also remains to be critically examined whether mentoring programmes always reach all target groups equally. In digital transformation processes in particular, certain groups of employees, such as those with little affinity for technology or who are sceptical about change, may only be addressed to a limited extent by traditional mentoring approaches. This raises the question of whether mentoring alone is sufficient or whether complementary measures, such as targeted change management programmes or digital training courses, are necessary to promote knowledge transfer and cultural adaptation in a holistic manner. Overall, the research shows that mentoring is an extremely valuable but complex tool whose effectiveness depends heavily on its implementation and the organisational environment. Critical examination of our own findings and of the topic as a whole underscore the need to view mentoring not in isolation but as part of a comprehensive transformation strategy.

CONCLUSION

This paper has shown that mentoring is a key tool for overcoming the challenges posed by digitalisation and demographic change. As a bridge between generations and knowledge worlds, mentoring not only enables the transfer of experience and knowledge, but also promotes cultural change in organisations. Mutual knowledge transfer – for example, in the context of reverse mentoring – has proven to be a particularly effective catalyst for digital transformation processes. At the same time, it has become clear that the successful implementation of mentoring programmes requires clear structures, strategic integration and targeted organisational support. Hybrid mentoring models that combine both personal and digital elements offer the greatest potential in an increasingly flexible working environment. The results of the study suggest that mentoring should not be viewed as a stand-alone measure, but rather as part of a comprehensive human resources development and transformation strategy. Mentoring is a valuable tool with long-term effects, particularly when it comes to promoting cross-generational cooperation and strengthening digital skills. Future research should include quantitative surveys to analyse the impact of mentoring on measurable business results. It would also be desirable to include international perspectives and cross-sector comparisons in order to obtain an even more comprehensive picture. Mentoring can be the bridge that companies need – between tradition and innovation, experience and the future, people and technology. The targeted promotion of this bridge is not an option, but a necessity for the working world of tomorrow.

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COMMUNICATION BETWEEN TAX ADVISOR AND CLIENT IN THE DIGITAL AGE: OPPORTUNITIES AND CHALLENGES OF THE USE OF ARTIFICIAL INTELLIGENCE IN TAX LAW

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Abstract: *This study examines the role of artificial intelligence (AI) in communication between tax advisors and clients and sheds light on the opportunities and challenges arising from the digital transformation in tax law. The study is based on a combination of practical experience in a tax firm and an extensive literature search. It was found that the integration of AI into tax consulting brings numerous benefits, especially in the areas of automation of routine tasks, error reduction, personalized advice, and more efficient communication. Digitalisation and the use of AI enable tax advisors to communicate with clients faster and more flexibly while improving the quality of advice. At the same time, challenges such as data protection, maintaining human contact, and the need for regular investment in technology and training were identified. The study shows that the future of tax consulting lies in a successful combination of modern technology and human expertise, with AI serving as a valuable support to optimize the advisory process and better serve the client.*

Keywords: *Artificial Intelligence (AI); communication; Tax advice; Digitalization; Efficiency*

INTRODUCTION

Digitization has permeated almost all areas of life, and tax law is not unaffected by this development. The digital transformation has not only changed the way tax returns are prepared, but also how tax advisors communicate with their clients (cf. Czarnowski 2023, cf. Pollmanns 2023). In the past, communication between tax advisors and clients was often characterized by personal conversations, extensive paper documentation and telephone inquiries. But these traditional forms of interaction are increasingly being replaced by digital channels that are more efficient and flexible (cf. Römer 2024).

A particularly significant technical advance that supports this change is the increasing use of artificial intelligence (AI) in tax law. AI opens up new possibilities for automating processes, analyzing tax data, and optimizing communication between tax advisors and clients (cf. Dersch 2024). However, the introduction of new technologies not only creates opportunities, but also challenges: What advantages does AI offer for tax advice? How does the use of these technologies change communication between tax advisors and clients? And what concerns and risks are associated with the implementation of AI in tax law?

This article examines the role of artificial intelligence in communication between tax advisors and clients and sheds light on the opportunities and challenges that arise from the use of these technologies in tax law. The aim is to develop a compre-

hensive understanding of the impact of digital transformation on tax consulting and to offer a perspective on the future of communication in this area.

RESEARCH METHODOLOGY

In the context of this study, a combined research methodology was applied, which is based on both the practical experience from the daily work in our law firm and on an extensive literature search. This combination of methods has made it possible to gain well-founded and practice-oriented insights and to substantiate theoretical concepts with concrete examples from our daily work as tax consultants.

Literature review

An essential part of this research is the literature review, which has served to determine the current state of research on the digital transformation of tax consulting and the role of artificial intelligence (AI) in tax law. Scientific articles, reference books and practice-oriented reports have been taken into account that deal with the specific challenges and opportunities offered by digital technologies in the tax system.

The literature review has helped to consolidate the theoretical foundations and identify relevant questions. A special focus has been placed on the interface between digital communication, AI and the impact on the client relationship. Through our experience as practicing tax consultants, we have been able to compare the knowledge gained with the challenges and results from our own professional practice.

Reflection on one's own professional practice

Our law firm has been active in the field of tax consulting for many years and has increasingly integrated artificial intelligence into its work processes in recent years. This has provided us with valuable practical insights that are now being incorporated into this investigation. The continuous use of digital tools and AI as well as the regular exchange with colleagues from the industry have enabled us to experience the developments in communication and tax consulting at first hand.

Own experiences in dealing with artificial intelligence:

- ▷ **Automation of routine tasks:** In our firm, we use AI-powered software solutions to automate the preparation of tax returns and the management of client data. These tools help us make standardized processes more efficient, minimize human error, and reduce workload, thereby increasing the quality of work.
- ▷ **Tax analysis and advice:** AI enables us to perform comprehensive data analysis and generate tailored tax recommendations for our clients. This process has not only improved the quality of advice, but also accelerated communication between us and our clients, as we can now point out tax optimisations more quickly and in a more targeted manner.
- ▷ **Communicating with clients:** The transition to digital communication channels has changed the way we interact with our clients. The introduction of secure

communication platforms and automated notifications has made information sharing more efficient and secure. These technologies provide more flexibility for both us and our clients, as face-to-face meetings are less frequent due to time and location independence.

Regular exchange with colleagues and practice

Another important part of the research was the continuous exchange with colleagues and other experts from tax consulting. This informal and formal exchange enabled us to follow current developments in the use of artificial intelligence and other digital technologies and to gain practical insights into the implementation and the associated challenges.

In conversations with other tax advisors, we have found that the use of AI brings both opportunities and challenges. While the automation of routine tasks and the associated increase in efficiency were cited as clear advantages, many colleagues also report difficulties in implementing new systems and the need to regularly adapt the technical infrastructure to meet legal requirements.

Case studies from our own practice

To deepen the theoretical and practical perspectives, we have used concrete case studies from our own practice to illustrate the effects of the use of artificial intelligence on tax advice and communication with clients. These case studies illustrate how digital technologies are used in different areas of our everyday work and what concrete results have been achieved.

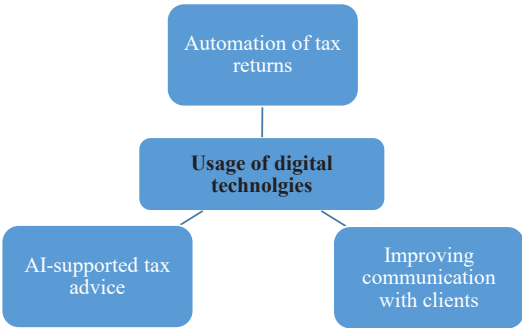


Figure 1: Examples from our own practice

- ▷ **Example 1:** Automation of tax returns: In our law firm, the automation of tax returns has been successfully implemented through the use of AI-based software solutions. This software automatically takes the extracted data from the clients’ financial records and transfers it to the appropriate tax forms. This leads to significant time savings, reduces the error rate and increases the efficiency of the entire process.
- ▷ **Example 2:** AI-supported tax advice: The use of AI tools made it possible to

make tax advice more individual and targeted. The system analyzes tax-relevant data and suggests adjustments that could generate tax benefits for the client. This personalized advice is supported by AI and complemented by our expertise as tax advisors, resulting in more informed decisions.

- ▷ **Example 3:** Improving communication with clients: Digital communication has changed significantly in our firm. By using secure cloud platforms and on-line portals, clients can access their tax documents and communicate with us at any time. This has not only shortened response times, but also optimized the flow of information, especially for clients who are limited in space or time and are unable to attend face-to-face meetings.

The continuous development of our law firm

In recent years, our firm has increasingly focused on the integration of digital technologies and artificial intelligence. Advancing digitalization enables us to make work processes more efficient and at the same time improve communication with clients. This development will continue in the future.

There are plans to implement additional AI-based tools that will enable even deeper analysis and more personalized advice. In addition, digital communication is being further developed, for example through the introduction of innovative portals and tools to further optimize collaboration. This continuous adaptation to new technologies ensures that our firm keeps up with the demands of the digital age and can continue to provide high-quality services.

Summary of the methodology

The combination of practical experience, continuous exchange with colleagues and a well-founded literature search enabled us to investigate the role of artificial intelligence in communication between tax advisors and clients in detail. This combination of methods allowed us to experience first-hand both the opportunities and the challenges of digital transformation in tax consulting and to put theoretical concepts into practice. The insights gained offer valuable insights into the transformation of tax consulting in the digital age and provide practice-oriented recommendations for the future development of the industry.

RESULTS

The role of communication in tax law

Communication between tax advisor and client is of central importance for successful tax advice. Clear, concise and understandable communication forms the basis for effective tax planning and structuring (cf. Pollmanns 2023). Tax decisions, such as choosing the best tax structure or preparing tax returns, often depend on the quality of communication.

Traditionally, communication between accountant and client often relied on face-to-face meetings and phone calls, which could be time-consuming. However, advancing digitization offers new opportunities to optimize this communication. In

particular, digital platforms and modern software solutions enable faster and more convenient communication. The use of email, cloud-based document management systems, and secure portals has significantly changed the way accountants share information and interact with their clients.

The use of artificial intelligence in tax law

Artificial intelligence (AI) is playing an increasingly important role in tax law and offers numerous advantages to tax advisors and clients. AI can be used in various areas to automate and optimize the tax advisory process (cf. Pollmanns 2023). Some of the key uses include:

- ▷Automation of tax returns and documents: AI-based software can help automate the preparation of tax returns by extracting relevant information from the client's financial records and automatically transferring it to the correct forms (cf. Regendantz 2025; cf. Bhatti 2024). This saves time and minimizes human error.
- ▷Tax planning and advice: AI can analyze large amounts of tax data to make recommendations for tax planning. By using predictive analytics and machine learning, tax advisors can point out possible tax optimizations to the client at an early stage.
- ▷Compliance and risk management: AI can help ensure tax compliance by automatically monitoring tax changes and calculating the impact on tenants (cf. Regendantz 2025). It can also identify risks that could lead to tax violations and make recommendations for action.
- ▷Chatbots and digital assistants: Chatbots and digital assistants can be used in communication between tax advisors and clients to answer frequently asked questions or process simple inquiries (cf. Czarnowski 2023). These AI systems are available around the clock and make it possible to answer many standard queries without human intervention.

Advantages of AI-supported communication between tax advisor and client

The integration of artificial intelligence into communication between tax advisors and clients offers numerous advantages:

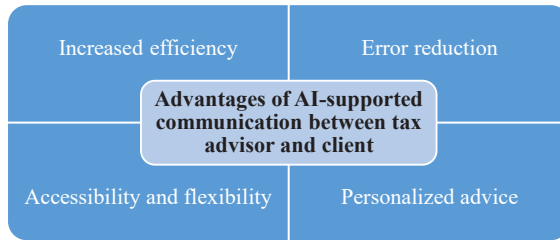


Figure 2: Advantages of AI-supported communication between tax advisors and clients

- ▷ **Increased efficiency:** Automating routine tasks and providing quick responses to standard inquiries can give tax advisors more time for complex, value-adding activities. This increases the efficiency of the entire consulting process.
- ▷ **Error reduction:** The use of AI can reduce errors that could occur when manually entering data or analyzing information. AI systems are able to process data with a high degree of accuracy and ensure that all tax requirements are met.
- ▷ **Accessibility and flexibility:** Digital platforms and AI-powered systems enable faster and more flexible communication. Clients can access their tax records and interact with their tax advisor at any time, without being bound by office hours or geographical distances.
- ▷ **Personalized advice:** AI can help provide personalized advice by analyzing a client's financial and tax data and creating tailored recommendations. This results in more personalized and accurate advice that better meets the client's needs.

Challenges of using AI in tax law

Despite the many advantages offered by the use of artificial intelligence in tax law, there are also challenges that need to be taken into account:

- ▷ **Data protection and data security:** The processing of sensitive tax and financial data requires high security standards (cf. Manz 2024). Tax advisors must ensure that AI systems comply with applicable data protection regulations and that their clients' data is secure.
- ▷ **Loss of trust and human interaction:** Some clients may have concerns about including AI systems in the advisory process, especially when it comes to complex and individual tax issues. For many, personal communication and trust in the tax advisor remain of central importance. There is a risk that AI will be perceived as impersonal in some cases.
- ▷ **Costs and implementation:** Getting started with the use of artificial intelligence requires investment in appropriate software and training for tax advisors.

Smaller tax consulting firms in particular could have difficulties making these investments.

- ▷ **Regulatory challenges:** Tax regulation is constantly changing, and AI systems must continuously adapt to new legal requirements and tax changes. Tax advisors must ensure that the AI tools they use are always up to date (cf. Regendantz 2025).

The future of communication in tax law

The future of communication between tax advisors and clients will increasingly be shaped by digital technologies and artificial intelligence. The further development of AI and machine learning will further automate and improve tax consulting. At the same time, it will remain important to find the right balance between technical efficiency and personal advice.

The combination of AI and human expertise could lead to a new era of tax consulting, in which tax advisors can support their clients in an even more targeted and efficient way (cf. Regendantz 2025). It remains crucial to protect the needs of clients and data protection in order to maintain trust and long-term business relationships.

CONCLUSION

The study of the role of artificial intelligence (AI) in communication between tax advisors and clients clearly shows how digital technologies can revolutionize and optimize tax consulting. The integration of AI into the consulting process offers numerous advantages, especially in terms of increased efficiency, error reduction and personalized advice. By using AI, routine tasks can be automated and fast, precise data analysis can be enabled, giving tax advisors more time for more complex tasks and individual advice to clients.

The continuous development and implementation of AI-powered solutions in our own firm has shown us the importance of the right balance between technological efficiency and human expertise. In particular, communication with clients is significantly improved by digital platforms by offering more flexibility and accessibility while maintaining security and privacy. However, the challenge of maintaining clients' trust in the human advisor and positioning AI as a support, not a substitute for personal advice, must also be taken into account.

However, the application of AI in tax consulting also poses challenges that should not go unnoticed. Data protection and the continuous adaptation of technology to changing tax law conditions place high demands on law firms. In addition, it is necessary to invest regularly in employee training and technical infrastructure in order to fully exploit the advantages of AI.

In summary, the role of artificial intelligence in communication between tax advisors and clients will continue to increase. Advancing digitalization represents an opportunity to make tax consulting more efficient, flexible and tailor-made. At the same time, it remains crucial not to lose sight of the personal and individual needs of the clients and to ensure trustworthy, high-quality advice. The future of tax con-

sulting will lie in a successful symbiosis between modern technology and human expertise, with AI serving as a valuable support for tax advisors to create even greater added value for their clients.

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DIGITALIZATION IN THE RESTAURANT INDUSTRY: STAFF PERSPECTIVES ON SUSTAINABILITY, EFFICIENCY, AND TRAINING IN OPERATIONAL PRACTICES

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Abstract: *The importance of digitization is continually increasing in the hospitality industry, particularly through the use of digital ordering and payment systems as well as digital training tools. These technologies offer potential benefits, resource conservation, and improved internal communication. In addition, the industry faces growing pressure to operate more sustainably. This study employs a quantitative online survey of 238 hospitality industry employees to examine staff perceptions of the effectiveness of digital tools in the areas of sustainability, efficiency, and training. The results indicate a generally positive attitude toward digital applications. In particular, ordering and payment systems, as well as shift planning tools, are perceived as helpful. However, uncertainties remain regarding the actual sustainability impacts of digital technologies, especially in managing food waste and resource consumption. The study concludes by offering specific recommendations for gastronomy businesses and suggests avenues for future research to further explore the relationship between digitalization and sustainable transformation.*

Keywords: *Gastronomy; Digitalization; Sustainability; Digital Order and Pay; Efficiency.*

INTRODUCTION

Sustainability requirements in the hospitality industry

In 2015, the United Nations adopted the Sustainable Development Goals (SDGs) as part of the 2030 Agenda. These 17 goals address economic, social, and environmental sustainability and are particularly relevant to the hospitality industry (Stomporowski & Laux 2019). Key global challenges include population growth, overconsumption of resources, social inequality, and climate change (Buchmüller 2019; Welfens 2019). Businesses are increasingly expected to continuously optimize their operations, driven by digital transformation, rising customer expectations, and intensified global competition (Wellbrock & Ludin 2019). The efficient use of limited resources has become critical for long-term success (Anstätt et al. 2022), with environmental performance increasingly serving as assess company (Matuszek 2013).

Climate protection and resource management

The European Union (EU) prioritizes agriculture and food systems as transformation areas, advocating for integrated policy approaches (Augsbach 2020). Various businesses, including hospitality enterprises and restaurants, are now expected to set measurable goals and contribute to climate targets. Moreover, guests and customers play a significant role by aligning their consumption behaviors with climate protection goals (Speck et al. 2021). The efficient use of resources such as electricity,

water, oil, and gas, reduces costs and emissions (Stomporowski & Laux 2019). Resource and energy efficiency is essential across all sectors, including services. While operational efficiency has long been a strategic economic objective (Shin & Cho 2022), sustainability now requires broader responsibility. Companies committed to sustainability are guided by long-term, values-based perspectives, that consider the planet and future generations (Hildebrandt & Landhäußer 2019).

The role of restaurant staff

Achieving the Sustainable Development Goals (SDGs) requires the implementation of numerous emission reduction strategies. In the hospitality sector, implementation is hindered by bureaucracy, staff shortages, and time constraints. Nevertheless, sustainability initiatives can offer several benefits, including enhanced location appeal, cost savings, and increased employee satisfaction (Luks 2019), and environmental measures can attract new guest segments and create a stronger team culture (Stomporowski & Laux 2019). In the restaurant industry, staff play a crucial role in communicating sustainability practices to guests, especially those in direct contact such as service personnel or managers. The staff action includes recommending local food or explaining sustainable practices to help raise awareness. Therefore, employees should be well-informed about the restaurant's sustainability initiatives and know how to access relevant information to respond effectively to guest inquiries (Stomporowski & Laux 2019).

Research questions and objectives

Restaurants must integrate digital technologies into traditional operations to remain competitive. Especially digital ordering and payment systems offer efficiency gains and enhance customer engagement. Simultaneously, restaurants face increasing pressure to adopt environmentally friendly practices. In a competitive market with labor shortages, digital tools can improve efficiency and reduce resources and waste. The objective of this study was to explore the following research questions:

- ▷How do digital tools impact sustainability efforts in restaurants, particularly in areas such as food waste reduction, recycling, and resource efficiency?
- ▷What are the perceptions of restaurant staff regarding the effectiveness of digital ordering and payment, shift management, and time tracking to improve operational efficiency?
- ▷How does the implementation of digital training programs influence staff engagement and skill development in the restaurant industry?

The aim is to develop actionable recommendations for hospitality businesses to enhance operational efficiency, promote sustainability, and increase staff awareness through the effective use of digital tools.

METHODS

This study employed a quantitative survey conducted online. The questionnaire comprised a total of 13 questions in closed formats. The aim was to capture

precisely evaluable proportions and ratings. Respondents were asked to rate their views on various topics, including sustainability, internal training, efficiency, and the frequency of using digital platforms. To obtain a broad and representative range of opinions, the survey was distributed through multiple channels, including social media platforms, mailing lists, and direct invitations to restaurant customers. The online questionnaire was available for a period of three weeks. Participation was both anonymous and voluntary to encourage honest and unbiased responses. The survey included Likert Scale questions with ratings from 1=very bad to 5=very good or 1=never to 5=always or 1=not at all to 5=definitely.

The survey was aimed at restaurant employees. A total of 238 participants (n=238) completed the questionnaire, representing female, male, and non-binary gender identities. The age range is from 16 to 64 years. Participants held various professional roles, including kitchen staff, service personnel, and office employees such as restaurant managers and assistants.

The data analysis was conducted in several steps: 1. Data cleansing: Invalid or incomplete answers were excluded from the analysis. These included, for example, empty fields or duplicate entries. 2. Calculation: The answers were presented in the form of percentage shares. These methods provided an overview of the distribution of opinions, identifying both majorities and minorities. 3. Rounding: The percentages were rounded to one decimal place. 4. Visualization: The results were processed in diagrams to present them vividly. To ensure the functionality of the questionnaires and the receipt of results, test runs were carried out with a smaller group to identify potential misunderstandings of the questions. The Likert Scale questions were standardized to allow comparability between the different subject areas.

RESULTS

Demographics

The participants in the study represented diverse professional backgrounds and age groups. In terms of gender distribution, the majority of respondents identified as female (59.5%), followed by male (37.8%), with a small percentage identifying as non-binary (2.7%). The age distribution indicates that most participants (41.8%) are between 26 and 35 years old, a smaller group (32.5%) is in the age range of 36 to 45 years, followed by 46 to 64-year-old staff members (16.1%) and the least amount is 16 to 25 years. The findings also show that the majority of respondents worked in managerial or office-related roles (56.6%), followed by service (30.4%) and kitchen staff (13.0%).

Importance of sustainability and focus on key areas from a staff perspective

Sustainability plays a crucial role in the restaurant industry, as the majority of respondents (56.5%) consider it very important, while 37.0% regard it as important. A smaller proportion (6.5%) viewed it as only moderately relevant, and no respondents selected “not at all” or “rather not”. When evaluating the most critical sustainability challenges in restaurants, food waste emerged as the top concern (19.4%), followed by recycling efforts (18.4%) and plastic waste reduction (13.8%). Electricity consumption (11.7%) and water consumption (11.2%) were also identified as key concerns by the participants.

What are the most important sustainability areas in your restaurant?

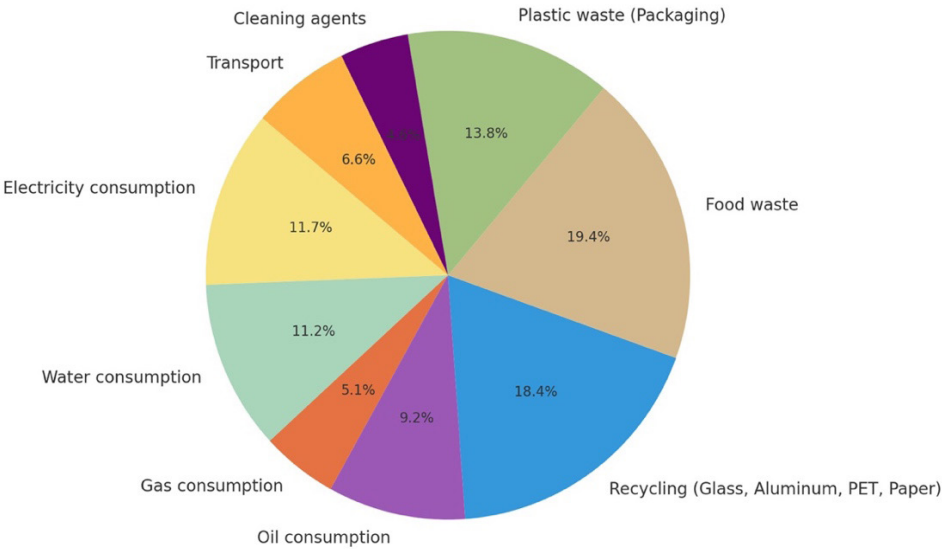


Figure 1: Key Sustainability Focus Areas (by the Author, 2025)

Use of digital tools to reduce resource consumption

Respondents expressed mixed opinions regarding the effectiveness of digital tools in reducing resource consumption. While 32.6% considered them somewhat useful and 19.6% viewed them as definitely useful, 28.3% remained uncertain about their overall impact.

Are digital tools useful for reducing resource consumption?

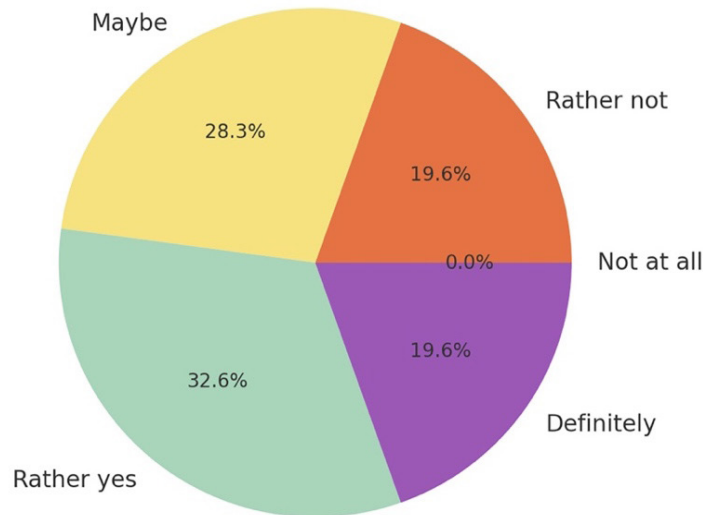


Figure 2: Use of Digital Tools for Resource Management (by the Author, 2025)

Use of digital tools for reducing food waste

When asked about the usefulness of digital tools in minimizing food waste, 43.5% of respondents rated them as somewhat useful, while 8.7% considered them definitely effective. However, 26.1% were unsure, and 13.0% felt that digital tools were not particularly helpful in this area.

Are digital tools useful for reducing food waste?

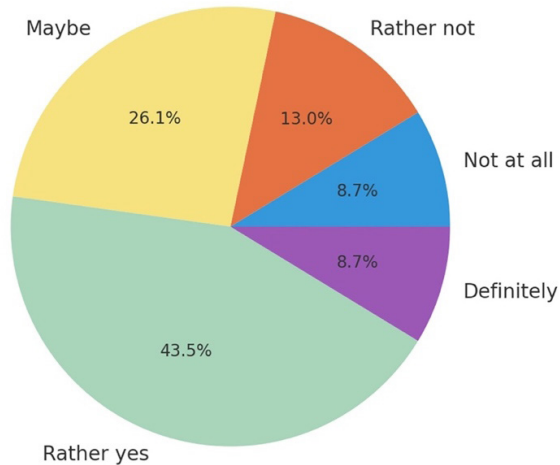


Figure 3: Use of Digital Tools for Reducing Food Waste (by the Author, 2025)

Use of digital tools for internal training

Digital platforms are commonly used for employee training across the restaurant industry, with 43.5% of businesses utilizing them often and 26.1% sometimes. However, a portion of respondents (8.7%) indicated that such tools are either rarely or never used.

Are digital tools used for internal training?

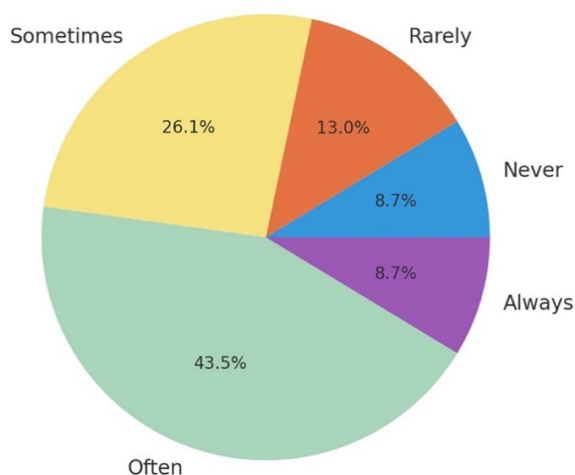


Figure 4: Use of Digital Tools for Internal Training (by the Author, 2025)

Efficiency of Internal Training with Digital Tools

When asked about the role of digital training in internal education, 46.7% of respondents found it to be highly beneficial, while an additional 22.2% viewed it as somewhat effective. However, 22.2% remained uncertain, and a small percentage (8.9%) believed it was not particularly helpful.

Does digital training facilitate internal education?

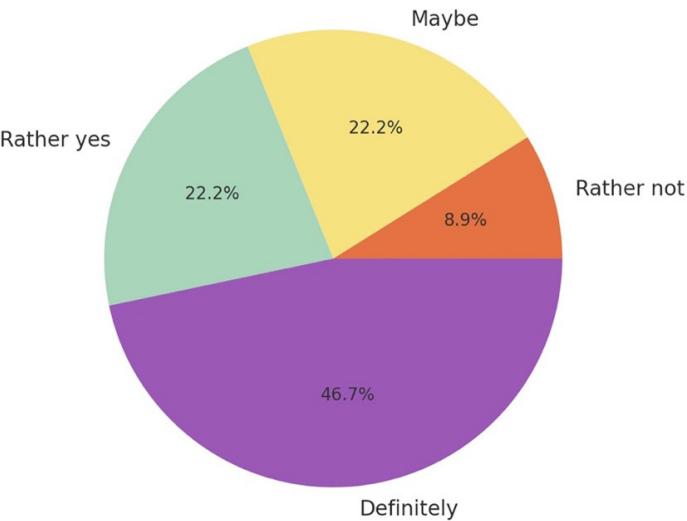


Figure 5: Efficiency of Internal Training with Digital Tools (by the Author, 2025)

Rating of Digital Menus

Digital menus on smartphones and tablets were viewed positively overall, with 50.3% rating them as good and 24.0% as very good. However, 19.7% found them only moderately effective, and 6.0% rated them poorly.

How well do you rate digital (paperless) menus on smartphones and tablets?

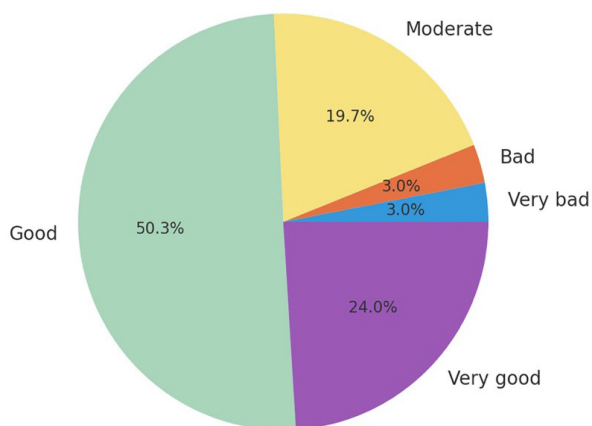


Figure 6: Rating of Digital Menus (by the Author, 2025)

Rating of the digital ordering process

The digital ordering process received favorable evaluations, with 56.8% considering it good and 13.1% very good. However, 24.0% found it only moderately useful, and a small minority (6.0%) rated it poorly.

How well do you rate the digital ordering process?

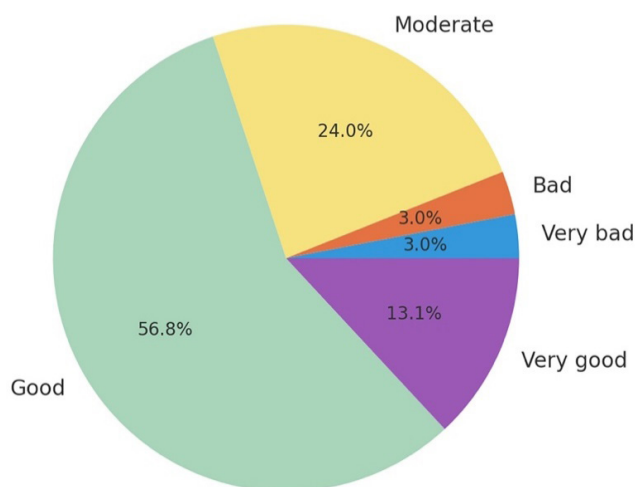


Figure 7: Rating of the Digital Ordering Process (by the Author, 2025)

Rating of the digital payment process

Digital payment systems were viewed positively, with 48.1% of respondents expressing satisfaction and 21.8% rating them very good. However, 24.0% found them only moderately effective, while 6.0% had a negative experience.

How well do you rate the digital (cashless) payment process?

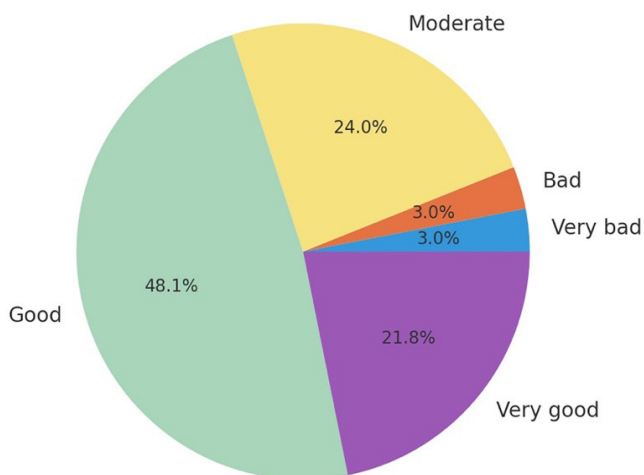
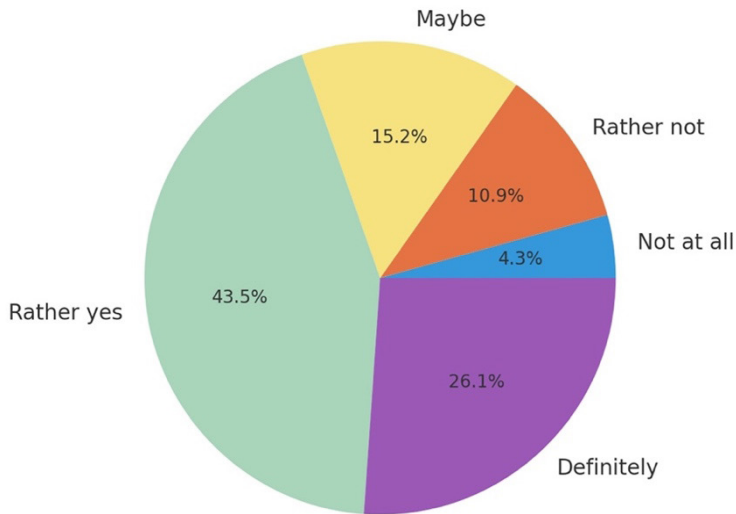


Figure 8: Rating of the Digital Payment Process (by the Author, 2025)

Perceived efficiency of digital ordering and payment systems

A substantial portion of respondents believed that digital ordering and payment systems enhance operational efficiency. While 43.5% responded positively and 26.1% considered them definitely efficient, 15.2% were uncertain, and 15.2% found them ineffective to varying degrees.

Do you find digital ordering & payment systems more efficient?



*Figure 9: Perceived Efficiency of Digital Ordering & Payment Systems
(by the Author, 2025)*

Effectiveness of digital tools in shift planning and time tracking

Digital tools for scheduling and time tracking were widely recognized as effective. A majority (54.1%) found them definitely helpful, and 30.3% responded positively, while only 15.7% expressed doubts about their effectiveness.

Do digital tools help with shift planning and time tracking?

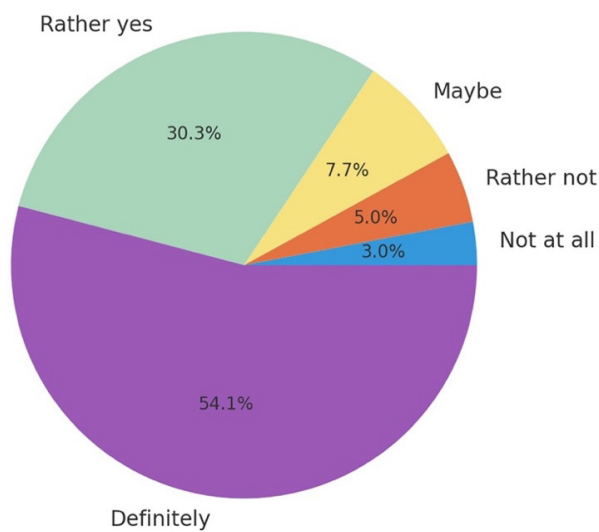


Figure 10: Effectiveness of Digital Tools in Shift Planning and Time Tracking (by the Author, 2025)

DISCUSSION

The staff roles: The results indicate that staff play a central role in implementing sustainability measures in restaurants. Employees who have direct contact with guests – particularly those in service and management positions – significantly contribute to communicating sustainable values. It is essential that staff are well-informed about the company's sustainability initiatives and are actively involved in their execution. The results also indicate that there is a high level of acceptance of digital tools, which provides an important basis for future training and communication measures.

Awareness of sustainability: The majority of respondents rate sustainability as very important. Notably, none of the participants considered sustainability to be unimportant. This finding reflects a high level of awareness among the workforce regarding ecological and social issues. This provides a good starting point for implementing further sustainability measures. At the same time, it also shows that specific topics, such as food waste and recycling, are perceived as particularly urgent and should therefore be the focus of future measures.

Key sustainability topics: The topics of food waste, recycling, and plastic reduc-

tion emerged as the most important areas of action. This confirms the relevance of operational measures that directly address daily processes in gastronomy. The further focus on electricity and water consumption also underscores the willingness to optimize infrastructural aspects in the sense of sustainable operations.

Use of digital tools to optimize resource and waste management: The assessment of the effectiveness of digital tools is positive overall, albeit with some uncertainty. Around half of the respondents see potential for saving resources in digital solutions – for example, for inventory control or waste analysis. Nevertheless, a considerable proportion of participants remained skeptical or undecided. This suggests a need for additional education and training to raise awareness of the benefits of digital tools and to increase their acceptance among restaurant staff.

Use of digital tools for internal training: The digital possibilities for training are widely used and also rated as helpful. It is particularly positive that almost 70% of respondents rate digital training as useful. Nevertheless, a proportion of them question its effectiveness. This could indicate differences in the quality of the training offered or a lack of technical equipment. Consequently, training programs should be designed to be more practice-oriented and closely tailored to the specific needs of the target group.

Perception of digital ordering and payment systems: Digital menus, ordering, and payment systems are mostly viewed positively. Respondents viewed these tools as user-friendly and efficient. Significantly, these technologies were reported to not only accelerate service delivery but also minimize errors and conserve resources. Nevertheless, the findings also indicate that some skepticism remains – particularly concerning user-friendliness and guest interaction. Targeted improvements in usability and training are useful here.

Perception of digital tools for shift planning and time tracking: Digital tools for shift planning and time tracking score particularly well. Over 80% of respondents find them helpful or very helpful. This indicates a high level of acceptance of such systems, which promote transparency and fairness while also simplifying operational planning. In addition to reducing organizational effort, these tools can improve employee satisfaction by enhancing scheduling flexibility and improving work-life balance.

CONCLUSION

The results of the study demonstrate a positive reception of digital technologies in the hospitality industry – particularly in areas such as ordering and payment processes and digital training opportunities. However, the extent to which these technologies lead to measurable stability outcomes remains unclear. While many employees express strong support for sustainability, they often lack specific knowledge or experience in using digital tools to conserve resources and reduce waste. These findings also suggest that the potential of digital technologies to support sustainable transformation has not yet been fully exploited.

Importantly, the high level of approval for digital applications should not over-

shadow the existing uncertainties about their effectiveness. In addition, the survey shows that digital training platforms are not always used across the board and sometimes need to be improved in terms of quality in order to actually contribute to skills development. Against this background, digitalization and sustainability in the hospitality industry should be systematically interlinked. Training must be designed to be practical and interactive, and digital applications for waste and energy reduction should be made more visible and better communicated internally.

Widely accepted tools for personnel planning can also be leveraged to enhance employee motivation and operational efficiency. It is crucial that digitalization is not only understood as a technical update but also as a cultural change in which all employees are involved.

Future research should focus more on the interactions between digital applications and actual sustainability effects. This includes empirical studies that capture changes in resource consumption or disposal management before and after the introduction of digital tools. Qualitative studies on the perception and use of digital training by different staff groups could also provide further insights.

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PEER COUNSELING AND GENERATION Z – A PERFECT MATCH?

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Abstract: *The baby boomers are retiring and are increasingly being replaced by Generation Z employees. Employers criticize Gen Z's lack of stamina and resilience and their demand for work-life balance, while Gen Z criticizes rigid work processes and lack of creative freedom and meaningfulness. Generation Z employees value authenticity, transparency and feedback, work-life balance, personal and professional development, technical affinity, value orientation and social responsibility. Peer consulting is a feedback-oriented consulting method that is becoming increasingly important as a form of self-organized learning. Group counseling achieves synergy effects by supplementing the perspective of the individual with that of other people. The aim of peer counseling is to diagnose, reflect on and clarify problems from the professional context. This study examines the extent to which peer counseling can contribute to supporting the needs of Generation Z as outlined above. A detailed analysis of the literature was carried out. Results show that peer consulting can meet the needs of Generation Z and can support the development of professional potential and better integration of Generation Z into the labor market. Looking ahead, further research is needed on the effectiveness of peer counseling in the context of the needs of Generation Z, ideally as a mixed-method approach that includes both quantitative and qualitative elements.*

Keywords: Collegial counseling; Generation Z; job satisfaction; needs, working environment.

INTRODUCTION

Good employees are a valuable resource for companies - without them, competitiveness quickly falls by the wayside. For some years now, employees belonging to Generation Z have been increasingly entering the labor market, replacing the so-called “baby boomers” who are gradually retiring. We are currently hearing and reading a lot about Generation Z on the job market and the tenor of the reports is usually only partly positive. TikTok videos of crying younger employees who realize that they will be spending at least eight hours a day in the office from now on are flooding social media channels. Employers are often criticized for a lack of stamina and resilience, as well as a very demanding attitude towards self-realization and work-life balance. Generation Z, on the other hand, criticizes rigid work processes, a lack of meaningfulness and a lack of creative freedom.

But who is Generation Z actually?

Generation Z refers to those born between the late 1990s and early 2010s. They are the first generation to grow up with digital technologies.

They are generally well educated, flexible and have their own expectations of the

world of work. They are not shaped by the world of work as it currently exists but shape it themselves (Scholz/Grotefend 2019: 169). Their perspectives on the world of work differ significantly from those of the so-called “boomer” generation, for whom, for example, an 8-hour day at the office is the norm and not the exception. The “baby boomer” generation refers to employees born between 1943 and 1960 and is currently the oldest and the generation with the highest birth rate on the labor market (Hesse et al. 2019:57).

Management positions appear to be largely uninteresting for Generation Z, although Gen Z has revolutionized the traditional understanding of leadership (Melzig-Thiel 2024:112). They set the pace and demand things that only cause the so-called “boomers” to shake their heads in disbelief. At the same time, the labor market is experiencing an unprecedented shortage of skilled workers, so it is essential to develop the potential of Gen Z and integrate it into the labor market in a beneficial way. To achieve this goal, managers need to break new ground and use new tools.

In this context, peer counselling can be of great importance as a possible tool to support and promote a better integration of Gen Z into the labor market.

This article aims to discuss which values determine the working world of Generation Z and how peer consulting can make a valuable contribution to developing the potential of Generation Z in today’s working world. The article concludes with practical tips on how the impetus from peer consulting can be used efficiently.

RESEARCH METHODOLOGY

The research design used here is an explanatory contribution that attempts to show a connection between the needs of Generation Z in working life and a possible solution contribution to satisfying these needs through the practice of peer counseling. A detailed literature search was carried out for this purpose. The search was conducted using the keyword “peer counseling and Generation Z”. Google Scholar, EBSCO and Springer Link were searched. The sources found were then reviewed and sorted and included according to their relevance to the issue raised here.

RESULTS

The term “Generation Z” refers to young workers born between 1995 and 2012 (Unternehmer.de n.d.). This results in a figure of around 12 million young people and a total share of 15 percent of the total population (Kring/Hurrelmann 2019: 14). But what exactly are the characteristics and needs of Generation Z in today’s world of work? An overview is given below (Fig. 1).

Characteristics and needs of Gen Z in the modern world of work

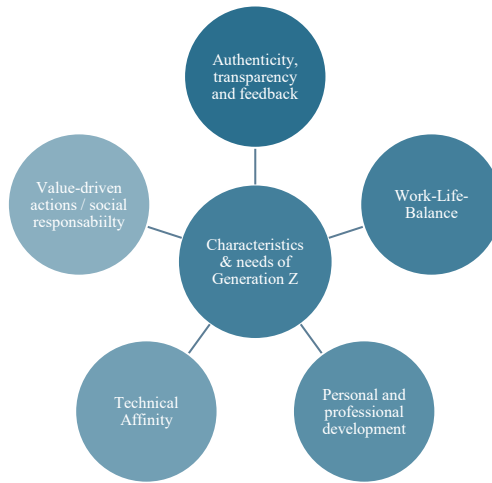


Fig. 1. Characteristics & needs of Generation Z

Need for authenticity, transparency and feedback

Generation Z values authenticity and transparency. Managers should communicate honestly and authentically. Compared to other age cohorts, the Gen Z group has less patience and therefore expects frequent and quick feedback (Chillakuri 2020: 41).

Need for work-life balance

Work-life balance in the form of flexible working time models with corresponding home office and working arrangements are essential for Generation Z. This increases well-being and loyalty (Melzig-Thiel 2024:113).

Need for personal and professional development

Companies can offer appropriate workshops, coaching and mentoring programs to promote and support young Gen Z employees accordingly.

Technical affinity

As a generation that has grown up with digitalization, Generation Z has a high affinity for technology. This can be supported by the use of appropriate collaboration tools, project management software and online communication software to strengthen efficiency and collaboration in line with the expectations of Generation Z (Melzig-Thiel 2024:113).

Value-oriented action/social responsibility

Generation Z considers the assumption of social responsibility and value-oriented action to be important. The company should therefore offer projects for social action, such as initiatives for environmental protection or local social projects.

Now that the needs of Generation Z in today's working world have been outlined, a brief outline of the theoretical background to peer consulting as a feedback-oriented consulting method is provided.

Peer counseling - what is it and how does it work?

Collegial counseling is a form of mutual professional counselling in a counselling process led by colleagues themselves (Franz/Kopp 2003:7). It is a procedure for reflecting on and clarifying problems of both a structural and personal nature, which are integral components of any change process (Franz/Kopp 2003:7).

In practice, collegial consultation is organized in such a way that roles are initially allocated for a session. Among others, there is the timekeeper, the case giver and usually several consultants. The allocation of roles is reversible. The case giver presents their case and receives feedback from the advisors. The feedback can be provided using various methods.

Group counseling achieves synergy effects since the perspective of the individual person is supplemented by the viewpoint of other people. The aim of the peer counseling process is not to impart specialist knowledge, but to find solutions to problems arising from interactions and dynamics in working life and the working environment. The aim is further to diagnose, reflect on and clarify these problems to develop and implement solutions with a final performance review (Schlee 2019:32).

The relevance of peer counseling arises from a changed working world in which change, and transformation are not the exception, but the rule. The differentiation of the professional world has progressed so far that the need for "self-organized, workplace-related learning" has increased (Schmid/Veith/Weidner 2019: 7).

What is now required is not just specialist knowledge, but also skills that relate to role- and field-specific abilities. Disjointed knowledge elements from different disciplines are no longer able to lead to viable solutions on their own - social reality urgently requires the "integration of knowledge and experience" (Franz/Kopp 2003: 7) from different areas to accomplish tasks.

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The aim must be to initiate a learning culture through the implementation of collegial consultation that motivates participating employees to make their knowledge and experience available to each other. However, the success of collegial consultation depends on how well this learning culture is established and maintained. If it is set up and maintained carefully, self-directed cooperative learning is simply more efficient than traditional learning strategies in many areas. Collegial consultation as a form of self-directed learning can also strengthen job satisfaction and health by increasing the sense of coherence (Schmid/Veith/Weidner 2019: 9). A good sense of coherence in the sense of "understanding and being understood". Using peer

counselling can contribute to greater health and job satisfaction. In this respect, the self-directed collegial form of learning can also contribute to the “humanity” factor in the field of tension with “efficiency” in the world of work, at least when collegial counseling is well accepted by those responsible and those carrying it out (Reinmann-Rotmeier/Mandl 2000: 197).

The relevance of collegial counselling compared to other forms of counseling has increased over time – for a long time there were too few supervisors and coaches, which led to a strengthening of collegial counseling (Appleby/Berkman/Blazejack 1958: 19). Thus, peer counseling did not emerge theoretically on the drawing board, but initially out of the need to satisfy the demand of working people for practice-oriented counseling – uncomplicated and inexpensive, yet available everywhere and effective (Foole/Kamphorst/Zier 1974: 182). In the 1970s, peer counseling was even a symbol of professional emancipation (Kühl 2008b: 139).

The current standard literature and current relevant studies concentrate predominantly on the factual implementation of peer counseling (Tauber/Kordon 2023; Rauschenberger 2021, Motzat 2004, Kluge 2004; Hyrkas/Koivula/Lehti et al. 2003.). In general, there is a tendency to neglect the theoretical foundation of peer counseling due to the strong focus on practical implementation - however, there is also a current attempt to supplement the theoretical foundation (cf. Schiersmann/Hausner 2023).

DISCUSSION

Now that both the needs of Generation Z in the labor market and the key points and objectives of peer counseling have been presented, the question of the extent to which peer counseling is able to contribute to supporting the needs of Gen Z and thus ensure greater job satisfaction, better exploitation of potential and better integration into the labor market will be clarified.

Authenticity, transparency and feedback

If we look at the need for authenticity, transparency and feedback, peer counseling appears to be the ideal tool to meet these needs. A weekly or bi-weekly collegial counseling session can give managers the opportunity to communicate honestly and authentically and allows Generation Z employees to receive frequent and quick feedback. Topics for peer counseling could, for example, be cases from their own day-to-day work, which can be used to reflect on their own professional actions and expectations.

Personal and professional development

In particular, the format of peer counseling can help to support Generation Z's need for personal and professional development. Employees can develop personally and professionally through regular exchanges in a guided manner, as is the case in peer counseling. However, the focus of peer counseling remains on topics that arise from the professional context. However, the personal development of Gen Z

employees in terms of problem-solving skills, the ability to present their own problems and defend their own opinions is of course also possible within the format of peer counseling.

The exchange of knowledge and professional development within the organization or company is also promoted.

Value-oriented action and social responsibility

Value-oriented action and social responsibility are important values for Generation Z. A regular collegial consultation format can strengthen corporate social responsibility and support the development of the company's values by allowing employees to provide feedback as part of the collegial consultation. These values can then be implemented in the corporate strategy. A company's actions that are in line with the values of Generation Z employees can promote loyalty to the company, support a sense of community and contribute to a positive working atmosphere.

Naturally, the format of collegial consulting cannot contribute to the needs of "technology affinity" and "work-life balance". However, collegial consultation can of course also be carried out as an online format via a communication platform to ensure greater flexibility in terms of time and location, or to strengthen the stability of teams working at different locations.

In summary, it can be said that peer consulting is a good tool to support the demands and needs that Generation Z places on the labor market.

It can support at least three of the five outlined needs of Gen Z in the context of the working environment, so it is not a perfect match with Gen Z, but a really good one.

At the same time, peer counseling is easy to learn, inexpensive and relatively simple to implement.

It would be interesting to conduct (further) research on the question of how Generation Z employees assess the fulfillment of their needs in the company through collegial consulting. A mixed-method approach would be desirable, which contains both quantitative elements and investigates the question of how effective peer counseling is in the context of Gen Z's job satisfaction, but also qualitative elements that promise further insights into how exactly Gen Z's needs are met in the world of work.

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THE DIGITAL TURN IN HIGHER EDUCATION: CHALLENGES AND OPPORTUNITIES IN THE POST-COVID ERA

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Abstract: *This paper explores the effects of the COVID-19 pandemic on higher education in Germany through a structured literature review, focusing on the long-term implications of digital transformation. The aim is to analyze how the crisis has accelerated the adoption of digital technologies and reshaped teaching, learning, and administrative processes. The study is based on academic literature, institutional reports, and recent research from 2017 to 2024. It examines key challenges – such as social isolation, infrastructure gaps, and digital fatigue – and contrasts them with emerging opportunities, including flexibility, self-directed learning, and improved digital communication tools. Special attention is given to how private universities of applied sciences in Germany have responded to the shift, offering a differentiated view on their adaptability. The paper identifies future-oriented models of hybrid education, highlights the growing role of business and administrative communication, and emphasizes the relevance of stakeholder collaboration in shaping the post-COVID digital university. The findings suggest that digital transformation in higher education is not a temporary adjustment, but a permanent structural shift with both risks and significant potential for innovation.*

Keywords: *Digital transformation; higher education; COVID-19; online learning; administrative communication*

INTRODUCTION

Like universities worldwide, universities in Germany faced significant didactic and administrative challenges due to the COVID-19 pandemic. Traditionally reliant on face-to-face teaching, these institutions were suddenly required to shift to online and hybrid models, forcing them to rapidly implement digital infrastructures, revise administrative workflows, and train faculty in new pedagogical approaches (Breitenbach, 2021). This transition highlighted the need for greater institutional flexibility, not only in teaching methods but also in administrative and business communication processes, which play a key role in higher education management.

The enforced digital transformation brought both risks and opportunities, revealing structural weaknesses while simultaneously paving the way for long-term innovation. The increasing reliance on digital learning platforms, online enrollment systems, and hybrid teaching formats underscored the importance of efficient communication between students, faculty, and administrators (Mulders & Krah, 2021). As universities navigate this shift, it has become evident that institutions must continuously adapt to evolving student needs and technological advancements to maintain their relevance and competitiveness.

This paper therefore presents a structured literature review. It aims to provide a comprehensive overview of the key developments, digital tools, and organizational

changes that have shaped higher education in response to the pandemic. Special attention will be paid to both the challenges institutions face in the implementation of digital learning and communication infrastructures, and the long-term opportunities for innovation and strategic transformation in higher education. By synthesizing recent academic and institutional research, this review seeks to contribute to the understanding of how digitalization is reshaping the landscape of higher education in Germany and beyond.

RESEARCH METHODOLOGY

This paper is based on a comprehensive literature review and explores the hypothesis that the COVID-19 pandemic has not only triggered a temporary shift toward digital teaching but has permanently changed the structure and expectations of higher education. The paper investigates how the accelerated digitalization of university education has impacted teaching formats, communication processes, and institutional adaptability.

By analyzing academic publications, this paper examines how higher education institutions have responded to the challenges and opportunities of digital transformation. Particular attention is given to recurring themes such as the effectiveness of digital learning, organizational challenges in implementing new technologies, and the evolving role of administrative and pedagogical communication.

The aim is to identify how universities have adapted their structures, and what long-term trends may emerge from the digital shift. This review also seeks to highlight which innovations could shape the future of higher education and where further research is needed.

COVID's impact on universities

To help manage the spread of the coronavirus, the federal states, in coordination with the federal government and universities, began imposing and recommending various measures in mid-March 2020, aimed at limiting the virus's spread and containing the pandemic. Central measures based on state ordinances regularly adapted to the requirements were contact restrictions and hygiene requirements at the universities. This included a significant shift from in-person teaching to online distance learning during the summer semester of 2020, winter semester 2020/21, summer semester 2021, and winter semester 2021/22 (Hochschulministerkonferenz, 2023).

During the Covid pandemic, there has been several studies that have addressed the impact of Covid on students and teachers, but also on higher education institutions in general. In the following, challenges as well as positive sides and opportunities of Covid limitations will be considered.

Current research

The digital transformation in higher education, accelerated by the COVID-19 pandemic, has brought significant shifts in teaching, learning, and administrative

processes. In the wake of the pandemic, universities worldwide were forced to rapidly adapt to digital and hybrid teaching models, overcoming numerous challenges while also seizing new opportunities. The following analysis will delve deeper into these aspects, drawing upon current research to explore both the obstacles institutions faced and the innovative opportunities that emerged during this period of rapid digitalization.

Challenges

In the COVID pandemic, shortly before the start of the summer semester 2020, higher education institutions were faced with the major challenge of converting their study programs, which were primarily characterized by face-to-face teaching, to digital and location-independent formats at very short notice. Even though universities, like all other educational sectors, were hit quite unprepared by the COVID pandemic, they seem to have succeeded comparatively smoothly in converting to digital operation and thus maintaining their educational offerings. Nonetheless, many studies indicated very similar challenges within the Covid pandemic. According to the DZHW survey “Studying in Times of the Corona Pandemic”, it was shown that there were problems, particularly with regard to the social and academic integration of students. Most students lacked contact and personal exchange with other students and teachers in the purely digital teaching environment. The university was missed as a social place of exchange (Lörz et al., 2020).

Owusu-Fordjour et al. (2020) also identified several negative impacts, revealing that the quality of learning at home was reduced due to distractions, an unsuitable learning environment, and limited interaction with teachers. Moreover, the crisis highlighted several stress factors, including technical challenges, limited communication and collaboration, difficulty focusing, excessive screen time, insufficient logistical infrastructure, absence of physical presence, increased workloads, the loss of hands-on learning experiences, and a general decline in social interactions.

There were also findings at the university of Trier. The students’ wishes regarding their studies focused primarily on social activities at the university. According to the study 60.4 percent would like to attend classroom lectures again, 69.8 percent would like to visit the refectory or cafeteria and 53.3 percent would like to meet with study groups on campus again. Furthermore, the following key findings should be highlighted at this point. For 87 percent of the students, communication with fellow students was clearly more difficult. 78 percent of the students also saw these problems with regard to working in learning groups. 83% expected their studies to take longer than the standard period of study (Zimmermann et al., 2021).

Opportunities

In addition to the challenges, the advantages when discussing recommendations for teaching at universities should be particularly emphasized. The design of high-quality teaching requires cooperation between teachers and students. While face-to-face classes have been a longstanding tradition, digital learning in higher

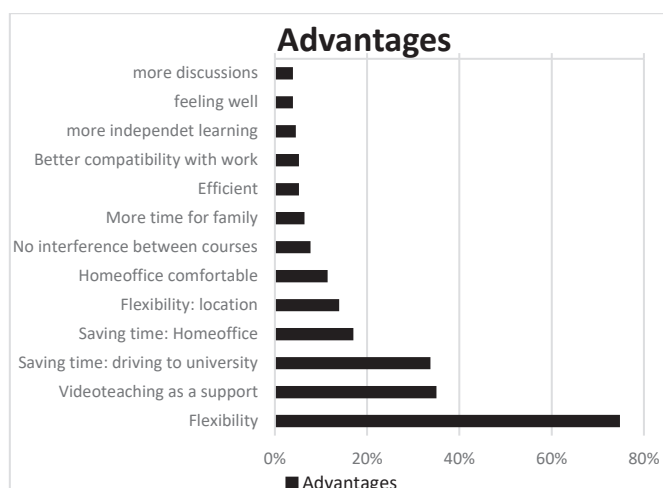
education is still in its early development. The shift towards digital teaching in higher education took a significant step during the COVID 19 pandemic, as face-to-face classes were suspended for an extended period. This enormous challenge for the educational institutes has also opened up an opportunity to make a big step towards the digitization of teaching and to gain important insights. For example, it was found that after months of online teaching, students increasingly demanded face-to-face meetings with lecturers (Vladova et al. 2021). Furthermore, according to Vladova et al. 2021, it was found that individual formats that are carried out in classical face-to-face teaching can also be carried out in non-physical presence with the required quality. On the other hand, certain teaching and learning content cannot be conveyed digitally. Among other things, this could indicate a future trend towards hybrid teaching and learning formats.

Furthermore, Vladova et al. (2021) clarify that a complete digital teaching environment was made possible by digital learning platforms. The technological support provided by learning platforms has had a positive impact on attitudes towards digital learning, with the appropriate choice of learning platform contributing to students' satisfaction with digital learning. In this way, teaching could be structured and simplified. This has increased the acceptance of digital learning.

Kistler et al. (2022) also found in their study that opportunities arising from a more digitally oriented world for the future of teaching were particularly evident in the flexibility in terms of time and space, and that as a result, rigid structures can also be broken up in the future. The combination of innovations and traditional teaching and learning formats offer the potential to develop personalized teaching and learning scenarios.

In the Marburg study, a question was asked about the advantages of digital teaching. The question was an open question, and multiple answers were possible. For clarity, the mentions are presented graphically figure 1, whereby only the advantages with the most mentions are represented (Breitenbach, 2021).

As shown in figure 1, flexibility is one of the most frequently mentioned advantages, especially the possibility to learn at any time or at any place. Surprisingly, there were even students who participate more often in discussions when courses are held online. As might be expected, students who travel long distances to get to university see online study as an advantage in terms of time savings and convenience. Likewise, flexibility in terms of learning location and free time management was frequently mentioned. They also mentioned a better compatibility of free time and studies as an advantage of digital teaching (Breitenbach, 2021).



*Figure 1. Advantages of online courses
(Breitenbach, 2021)*

Influence of Covid on higher education

The findings of many studies indicate that the digitization of teaching in higher education is not simply the introduction of a particular technology into the classroom, but is associated with various specific challenges. Experience with all-digital teaching has shown that learners see both advantages and disadvantages in digital teaching. Although their trust in the education system and especially in teachers is generally high, the results draw attention to the specificities of the content to be taught and to the specific characteristics of learners as the main challenges for the success of digital teaching. Regardless of whether the teachers are didactically and methodologically competent in designing the digital teaching environment, from the students' point of view not all content is conveyed equally well. Their social needs should not be neglected either - the university is not only seen as an institution for imparting knowledge, but also for personal development (Vladova et al., 2021).

Universities after COVID

Little is known about the impact of the switch to digital teaching on the quality of teaching and learning at universities. Some studies highlight that the quality of teaching and learning digitally was a major issue in the early stages of the pandemic (Kreidl & Dittler, 2021). During the pandemic, however, organisational and technical processes seemed to have improved (Besa et al., 2021).

The question of whether and, if so, to what extent the COVID pandemic actually acts as a catalyst for lasting change in teaching and learning at German universities cannot be answered at present and will have to be observed (Zawacki Richter, 2020). It should be noted that, after initial euphoria over a very short-term suc-

successful conversion to digital teaching formats, during the pandemic the desire for a return to face-to-face teaching in higher education became louder and louder on the part of many actors, both students and teachers and also university administrations (Berghoff et al., 2021). However, the picture is quite ambivalent. At the same time, students also see advantages in digital teaching, especially greater flexibility in terms of time and space in their studies, but also greater self-determination in shaping their individual learning process (Stifterverband, 2020). A complete return to teaching and learning as it was before the pandemic therefore seems rather unlikely (Lübcke et al., 2022).

Moreover, post-pandemic studies have highlighted several important aspects regarding the future of technology-assisted education at universities. Contact universities, especially in developing contexts, were faced with significant infrastructural challenges during the pandemic. Universities hastily provided laptops and other technological gadgets, but access to stable internet and other essential resources was uneven, particularly in rural and peri-urban areas (Pitso et al., 2024). Despite these challenges, students gradually began to warm to online learning offerings, with some preferring the flexibility of remote learning and demonstrating a reduced inclination to attend in-person classes (Pitso et al., 2024). The transition to technology-assisted education has revealed several important insights when viewed through the Technology Access, Acceptance, and Application (TAAA) model. This model is particularly useful in understanding how technology has been integrated into education and how it will shape future learning environments. The model identifies three critical factors for successful technology adoption: Access, Acceptance, and Application.

1. Access involves ensuring that both students and faculty have the necessary technology infrastructure, such as laptops, stable internet, and sufficient resources to participate in digital learning.

2. Acceptance refers to the willingness of both faculty and students to adopt and integrate technology into their learning and teaching practices. This is influenced by factors such as training, institutional support, and the perceived benefits of technology.

3. Application concerns how technology is used in educational settings, with two possible approaches: FS-1 (Technology as Utility), where technology is applied for synchronous learning (e.g., live sessions), and FS-2 (Technology as Essence), where technology plays a central, asynchronous role, enabling self-directed learning and more flexible education.

Post-pandemic, universities are moving towards FS-2 models, where asynchronous, technology-driven learning environments provide more flexibility and control to students over their learning processes. However, the infrastructure and institutional culture still pose significant challenges. The TAAA model illustrates these stages and how universities can move from adaptive to optimal use of technology, ultimately reaching a stage where technology is fully integrated into the educational process, supporting both students' and institutions' evolving needs.

As universities continue to adapt to these new demands, the TAAA model will be crucial in guiding their efforts toward a more flexible, student-centered learning environment.

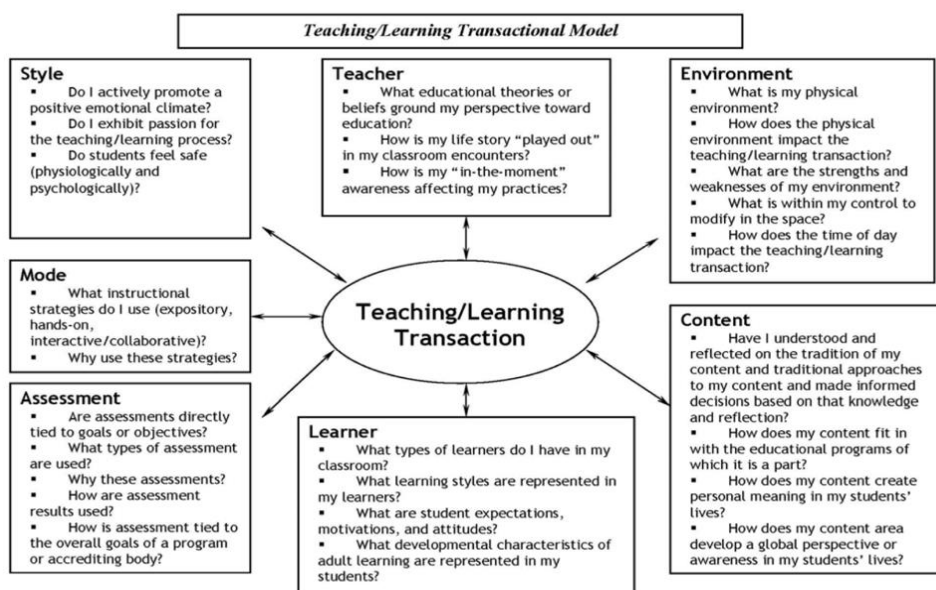
Stakeholders (students and teachers)

As universities continue to navigate the post-COVID landscape, the role of key stakeholders—particularly students and teachers—becomes increasingly vital. The digital shift has not only transformed institutional structures and teaching methods but also reshaped the expectations and experiences of those who are at the heart of the educational process. Understanding the perspectives, challenges, and contributions of students and teachers is essential for ensuring that the changes brought about by the pandemic lead to lasting, positive outcomes for higher education. In the following chapter, we will explore how these stakeholders have adapted to the new educational models, their evolving needs, and the critical role they play in shaping the future of universities.

In their study Zinger et al. (2021) asked university presidents about their experiences of the COVID pandemic and what strategies in particular helped them to cope with the challenges. Within universities, they reported high motivation among teachers and new approaches of cooperation between teachers, organisational units and students as well. Accordingly, this may be a great opportunity for profound change in the world of university didactical and conceptual thinking. According to them the classic organisational structure and the old hierarchies appear more and more as an obstacle to future-oriented further development. It has been shown that the cooperation between the university, its teachers and its students has worked and contributed at all levels to overcoming the consequences of the COVID-19 pandemic. Therefore, it seems urgent to secure both the attitude and the newly developed structures for university teaching beyond the crisis and to maintain and develop the structures together in the future. In this way, the needs of all sides can be balanced and incorporated into a functioning concept.

Since current research certainly shows that students and teacher are important player to design future teaching models for universities, a theoretical model will be described in the following that supports the study of Zinger et al. additionally.

The learning-to-learn transaction model, shown in figure 2, explains that the quality of teaching depends on the cooperation of teachers and students. Quality teaching, in other words, is a shared experience of teachers and learners in the learning process, with both learning from each other. Learners bring their own perceptions and expectations of teaching and learning, which may conflict with, complement, or overlap with the teacher's perceptions and expectations (Dees et al. 2007).



*Figure 2. Learning-Teaching-Transaction model
Adapted from Drees, 2007*

The dimension teacher is the self-reflective part of the model and deals with the individual characteristics, expectations and beliefs of the teacher. The learner is an important part of the teaching transactions and reflects the learner's learning style, expectations, motivation and abilities. The teaching style addresses the appearance of the teacher in the classroom in terms of how questions and demands of the learners are responded to and how the teaching-learning process is organized. The focus is on the general interpersonal classroom climate created by the teacher's actions and general personality. The mode shows how the teacher organizes the learning process and what kind of activities are created to impart knowledge to the learners (Dees et al. 2007).

Content is about both the actual learning content and the relevant pedagogical issues associated with teaching. What is relevant is the interplay between the content and the learning environment, as well as the impact of these on the individual development and general understanding of the students. The environment addresses the space in which the learning process takes place - the physical, social or even virtual environment for learning and teaching. Assessment encompasses how learners' knowledge is identified and how it impacts on the teaching experience. Assessment is important in shaping the learning process. Students' expectations of how they will be assessed and what knowledge and skills they will acquire are critical to how they learn (Dees et al. 2007).

Diffusion of innovation theory & business and administrative communication in higher education

As universities adapt to the digital transformation, the successful integration of new technologies and teaching models hinges not only on the engagement of students and faculty but also on the effective diffusion of innovations throughout the institution. The next chapter delves into the Diffusion of Innovation Theory, developed by Rogers (2003), which helps explain how new ideas and technologies are adopted across organizations, and the crucial role of business and administrative communication in ensuring smooth transitions and fostering institutional acceptance of these changes in higher education.

The diffusion of innovation theory (DOI), developed by Rogers (2003), offers a fundamental model to explaining how new ideas, technologies, and practices spread within organizations. In the context of higher education, DOI is particularly relevant for examining the adoption of new study formats, digital learning tools, and administrative communication systems. Rogers (2003) explains that the diffusion process is shaped by five main attributes: “relative advantage, compatibility, complexity, trialability, and observability” (P. 1). These attributes determine how quickly and effectively an innovation is adopted within a social system.

Business and administrative communication plays a critical role in the diffusion of innovations within higher education institutions. Communication is not only a vehicle for transmitting new ideas but also a mechanism for reducing uncertainty and facilitating change (Drucker, 1993). Effective communication strategies are essential in ensuring that faculty, students, and administrators understand, accept, and implement new technologies and study models. Research has shown that institutions that integrate structured administrative communication frameworks into their digital transformation strategies experience higher levels of acceptance and engagement with new systems (Siemens, 2014).

Higher education institutions that have successfully implemented digital learning strategies have done so by fostering open communication channels, leveraging digital tools for administrative coordination, and ensuring that decision-making processes are inclusive and transparent (Weller, 2020).

Technology and digital communication as enablers of flexible study formats

The increasing reliance on digital communication technologies in higher education provides an opportunity to implement more flexible study models. Learning Management Systems (LMS) serve as integrated platforms for course management, assessments, and faculty-student interaction (Siemens, 2014). LMS platforms could, in theory, integrate AI-driven personalization features that recommend optimal study formats based on student learning preferences and past performance (Luckin et al., 2016).

Artificial Intelligence (AI) plays an increasing role in higher education through adaptive learning technologies, predictive analytics, and automated student support systems (Nguyen, Rienties, & Richardson, 2021). AI-driven adminis-

trative communication tools could enhance decision-making processes for students selecting study formats each semester. These tools could provide real-time recommendations, identify students at risk of falling behind, and streamline administrative workflows (Selwyn, 2020). Despite these potential benefits, research on AI's role in supporting flexible study format transitions remains limited.

The use of video conferencing and virtual learning environments has expanded significantly following the COVID-19 pandemic. Platforms such as Zoom MS Teams have enabled institutions to offer remote and hybrid learning (Hodges, Moore, Lockee, Trust, & Bond, 2020). Effective business and administrative communication strategies will be essential to ensuring that students experience a seamless experience without disruptions to learning continuity (Dede, 2009).

RESULTS

The literature reviewed in this paper reveals that the digital transformation in higher education, catalyzed by the COVID-19 pandemic, has had profound and multi-dimensional effects on university structures, pedagogical practices, and administrative processes. Several key trends have emerged across the research, which can be summarized as follows:

Acceleration of Digital Infrastructure and Learning Platforms:

In response to the pandemic, universities, particularly in Germany and Europe, rapidly adopted digital technologies such as Learning Management Systems (LMS), video conferencing tools, and asynchronous learning environments. This shift, initially intended to maintain the continuity of education during lockdowns, has led to the broader institutional recognition of these digital platforms as essential components for future teaching models. The increased reliance on digital platforms has reshaped how institutions engage with students and manage courses (Breitenbach, 2021; Vladova et al., 2021).

Pedagogical and Social Challenges:

While digital education has provided new opportunities, it has also introduced significant challenges for both students and faculty. Studies have reported difficulties in social interaction, collaboration, and student motivation in remote learning environments (Lörz et al., 2020; Owusu-Fordjour et al., 2020). Faculty members, on the other hand, faced steep learning curves as they adapted to new digital teaching tools, leading to varying levels of instructional quality across institutions. These challenges highlight the need for improved support systems for both students and educators to navigate the shift to digital formats effectively.

Structural Inequality and Technological Access:

The digital shift in higher education has exposed disparities in access to technology, particularly among students in rural or under-resourced regions. Many students struggled with inadequate internet access, lack of devices, and insufficient learning

environments, which hindered their ability to fully engage with digital learning platforms. These inequalities underscore the importance of addressing digital infrastructure gaps before further expanding digital learning models (Pitso et al., 2024). Additionally, disparities in technological readiness among universities and faculty have contributed to uneven experiences for students across different institutions.

Institutional Learning and Organizational Transformation:

As the pandemic progressed, universities adapted to digital teaching by improving internal workflows, investing in faculty training, and embracing hybrid learning models that blend face-to-face and online teaching methods. This transformation reflects a shift from emergency responses to more strategic planning for long-term digital integration. Research suggests that institutions are moving towards more sustainable models of digital education that incorporate both synchronous and asynchronous learning, and that institutions are becoming increasingly aware of the need for flexible teaching environments (Besa et al., 2021; Zawacki-Richter, 2020).

Emerging Hybrid and Asynchronous Models:

An increasing interest in hybrid or flexible teaching formats has been noted, combining the benefits of digital convenience with the depth of in-person instruction. These hybrid models have the potential to offer greater flexibility and personalization in learning, which can be particularly advantageous for students with varying needs and schedules. Moreover, the TAAA model (Pitso et al., 2024) emphasizes that successful digital transformation requires a balance of access, acceptance, and application of technology, all of which contribute to the development of effective hybrid teaching environments. The growing integration of asynchronous learning models allows students to engage with content at their own pace, increasing the flexibility of higher education (Vladova et al., 2021; Kistler et al., 2022).

CONCLUSION AND DISCUSSION

The findings of this literature review suggest that the COVID-19 pandemic has served as a catalyst for the long-awaited digital transformation in higher education. While the initial shift to online learning was driven by necessity, the long-term implications suggest that higher education is moving toward a more permanent digital and hybrid model. This shift represents not just a temporary response to a crisis but a structural change that has the potential to reshape how universities operate, engage with students, and deliver education.

One of the most significant outcomes of the digital transition is the permanent integration of digital learning environments into mainstream education. Asynchronous learning, interactive Learning Management Systems (LMS), and administrative automation now provide universities with the tools to better serve a diverse and global student body. However, the pandemic has also exposed the limits of purely digital education, particularly in terms of fostering social interaction, engagement, and equitable access to resources. These limitations highlight the need for universities to balance digital innovation with the need for personal connection and community-building within the educational experience.

From a strategic perspective, the digital turn offers universities the opportunity to become more adaptable and student-centered. Institutions that are able to develop inclusive, well-supported, and pedagogically sound digital ecosystems are likely to succeed in the increasingly competitive higher education market. However, challenges remain, including the risk of digital fatigue, the unequal distribution of resources, and the potential for students to become disengaged from the institutional culture.

Looking ahead, it is clear that digital transformation in higher education is a multi-faceted process that requires ongoing investment in technology, pedagogy, and infrastructure. As universities continue to refine and expand their digital offerings, they must also consider the evolving needs of students and faculty. Further research is needed to assess the long-term effectiveness of hybrid models, particularly in terms of student outcomes, engagement, and institutional resilience. Additionally, studies should explore how digital technologies can be leveraged to create more personalized, flexible, and inclusive learning environments for all students, particularly those from marginalized or disadvantaged backgrounds.

In conclusion, while the digital transformation of higher education presents significant opportunities for innovation and growth, it also poses considerable challenges that must be addressed through thoughtful, strategic planning. The future of higher education will likely see a blend of digital and traditional learning environments, each complementing the other to create more flexible, accessible, and responsive educational models.

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SYNERGIES IN THE DIGITAL WORLD – A PATHWAY OF INNOVATION

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Abstract: *organizations can drastically alter value propositions thanks to the broad availability of digital technologies like distributed ledgers, cloud computing, and in-memory databases. Higher precision and efficiency are made possible by these developments, which also address global issues and open the door to sustainable societies. This study assesses the configurations of strategies of digital transformation result in unsuccessful and successful digital service innovation. The data is gathered from 80 employees who work in multinational companies (MNCS) and collected through questionnaire surveys. The data is analyzed through statistical analysis like descriptive, correlation, and regression. The results show that CDM and SO have insignificant impact on DSI, while TDD has significant impact on DSI. It is concluded that depending on the circumstances of the firm, they are a representation of several options that result in the same outcome. As a result, they can be used as a foundation for making decisions concerning the digital transformation plan. They are also useful for determining the gaps that exist between a strategy that is failing and one that is successful.*

Keywords: *innovation; digital transformation; digital service innovation; centralized decision-making*

INTRODUCTION

In modern society, service innovation is crucial. Individuals, businesses, and society at large have all benefited greatly from the ongoing improvement and creation of completely new services (Nylén and Holmström, 2015). Organizations can drastically alter value propositions thanks to the broad availability of digital technologies like distributed ledgers, cloud computing, and in-memory databases. Higher precision and efficiency are made possible by these developments, which also address global issues and open the door to sustainable societies (Opazo-Basáez et al. 2022). This includes a wide range of industries and applications. For instance, platform-based service ideas like crowdsourced delivery might greatly lower pollution and traffic in crowded places. Monetary services provided by operators of mobile money allow underprivileged populations in rural and emerging economies to have access to and be included in the financial system (Chen et al. 2021). Innovative gadgets like wearables and smart eyewear enhance patient care and treatment quality in the medical field. Established firms must adopt digital technologies and incorporate them into their firm's structures, working models, and processes – a procedure considered as digital transformation (DT) in order to successfully create and develop these new services (Ardolino et al. 2018). The significance and transformative potential of DT are recognized by the body of existing research on service innovation. Additionally, Hinings et al. (2018) discuss the significance of

digital service innovation (DSI) for incorporating service-disbenefited communities (Matzner et al. 2018) discuss epitome of innovations of service in the sharing economy, and discuss the use of IT to scale contact-intensive services. Numerous academics have investigated how DT strategies are developed and implemented, as well as how new executive positions, such the Chief Digital Officer (CDO), are created and incorporated into the company (Hinings et al. 2018).

On the other hand, little is understood about the influence of DT strategy building blocks on service innovation. Businesses like Siemens and SAP have effectively used digital technology to move from a product-based to a service-based business strategy. To handle this shift, both businesses have created and implemented extensive DT plans. However, a strategy's success is not assured by its very existence or conception (Chanias, 2017). Despite developing new digitally connected services, building its own platform of Internet of Things, and adding sensors to many of its products, General Electric's (GE) stock price remained stagnant, ultimately resulting in the departure of its former CEO. This implies that various aspects that might not be shown by a single-case study alone are necessary for DSI to be successful. A technique that may have been successful for one company may not be readily transferable to another, as seen in the GE case (Shehadeh et al. 2023). However, the majority of research on DT strategies to far has focused on how they are developed and implemented rather than how successful they are. In light of this, it is maintained that integrating DT tactics with service innovation allows for the closure of a theoretical research gap and offers practitioners practical recommendations. Therefore, this study looks into the fundamentals of a DT approach that result in effective DSI. The author uses configuration theory since these components may be dependent on one another as well as on external or contextual factors (Zaki, 2019). Consequently, the following research question serves as the basis for this paper:

What configurations of DT strategies lead to successful and unsuccessful DSI?

Research Framework

Explaining which combinations of DT techniques result in successful and unsuccessful DSI is the main goal of this study. Since DT strategies are designed and implemented to combat this threat, the author anticipates that they will vary based on the level of threat faced by businesses in their particular sectors. For example, the effects of digital disruption are already being felt by shops (Zaki, 2019). However, because they face little competition, other industries, such highly dedicated manufacturing, could not notice any digital impact. We contend that there might be more than one route to success because of the intricacy of DT. Additionally, the components of a DT strategy may have several interdependencies. For instance, a high level of strategic outsourcing may necessitate tighter management through centralized decision-making in order to monitor the various implementation initiatives. Conversely, a low level of structural separation might support a decentralized strategy that enables more effective local control. The configuration theory is used as the theoretical viewpoint to address the current study subject (Tsou and

Chen, 2023). According to configuration theory, “different, internally constant sets of companies and their associations to the performance results and environment are the best manner to assess organizational phenomena.” Predictor variables (PVs) are both required and sufficient factors for forecasting a particular result, according to traditional variance-based theories. Additionally, they make the assumption that there is always symmetry in the relationship between a PV and the result. This specifically implies that a predictor may be adequate, but not required, for a given result (Okunlaya et al. 2022). It also implies that a particular outcome is the result of the interaction of various predictors, and that this interaction may be represented by many predictor configurations (Lanzolla et al. 2021). The framework is shown below:

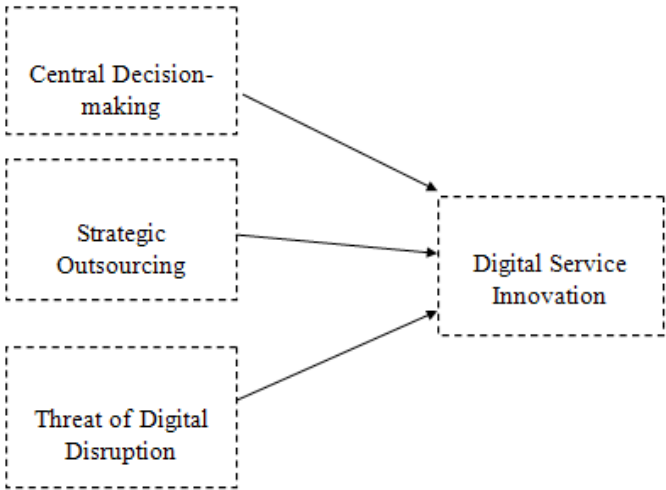


Figure 1 Research Framework Source: Author’s Illustration

METHODOLOGY

RESEARCH PHILOSOPHY

In this study, the positivism philosophy is utilized. This philosophy complies with the only essential information is statistical knowledge that is knowledge collected from observation, comprising measurement. For the aim of positivism, the responsibility of researcher is restricted to the collecting of data and the explanation of data dispassionately. To place in another manner, the author is based on objectivity, and the author sustains a distance from individual values while the author is conducting the research. Within the notion of these studies, the results of the study are quantitative and observable (Render et al. 2016). A quantitative research can be assessed statistically important to the positivism.

Research Approach

In this research, the deductive approach is used. The growth of a hypothesis is established on formulated theory is the emphasis of a deductive approach that is followed by the development of a strategy of research to offer evidence for the hypothesis. It is mentioned that the deductive reasoning is the procedure of reasoning from the particular to the worldwide (Asmus and Radocy, 2017). In the notion that if a specific theory or case instance considers showing the continuation of a causal association or relationship, it is essential that is the notion in different instances. It is feasible that a deductive approach might be used to assess whether or not the association takes place in wider circumstances. It is feasible to provide an elucidation for the deductive approach by using hypotheses shaped from the intention of the theory (Gorman and Johnson, 2013).

Research Method

In this research, the quantitative research method is used. The reason for this method assesses the procedures of assessing and gathering factual data to show patterns, calculate averages, remove wide conclusions, and charge correlations. There are different fields that utilize it, comprising the social sciences and scientific both. The interpretation and processing of factual data is achieved with the help of statistical methods in quantitative method (Ackermann and Koch, 2016). An assessment of occurrence is carried out in a methodical way through collecting of evaluated data and the application of statistical, mathematical, or computational approach is regarded as quantitative research. In this research, the significant information is collected from respondents who are possible and current clients (Ackermann and Koch, 2016).

Data Collection Method

The primary method of data collection is used through survey method. The primary data is utilized because the collected data directly from the participants. The author is the one who gather primary data is a portion that is gathered from primary sources. The primary data is obtained from the source is a place where the data is firstly collected. Primary data is regarded to be the valuable kind of data in the notion of research (Asmus and Radocy, 2017). The main sources of data are adapted and selected in a way that is particularly developed to consider the objectives or expectations of a provided research project. Prior to choosing a data collection source, it is important to identify the research purpose and the demographic will be the emphasis of the examination (Asmus and Radocy, 2017). Moreover, the data is gathered through close-ended questionnaire through Likert scale in which 1 being strongly disagree and 5 being strongly agree.

Sample and Sampling Techniques

The sample size is 80. At start, 115 questionnaires were distributed and out of that 80 questionnaires were collected which were completely filled. The participants

were the employees of MNCs. They were approached through different platforms of social media like Facebook and LinkedIn. They were also approached through respective company's website as well. Moreover, the sampling technique used is simple random sampling. A division of a statistical population is considered to as a simple random sample. In this sample, each subset member has an equal opportunity of being chosen. In the majority of instances, this results in the formation of a well-balanced subset that has the best possibilities of accurately representing the larger group as a whole (Panter and Sterba, 2011). Moreover, in this study, each employee has the chance of being selected.

Data Analysis

The act of gathering and analyzing huge volumes of data to recognize patterns and create insightful conclusions is referred to as statistical analysis. The raw data is used and connections are sought between variables in order to highlight trends and patterns to pertinent stakeholders (Fleming and Zegwaard, 2018). In addition to their work in a diverse range of sectors, statistical analysts are accountable for the development of new scientific discoveries, the enhancement of the health of our communities, and the direction of commercial decisions. The results include descriptive statistics, correlation test, and regression analysis.

Ethical Consideration

A few ethical considerations are also considered. Voluntary involvement is ensured in this study, which means that all of the research subjects are free to select whether or not they want to participate without being subjected to any kind of pressure or coercion. There is no requirement for the participants to submit a reason for withdrawing from the study (Panter and Sterba, 2011). Additionally, anonymity is secured, which means that no one is aware of the identities of the participants, and the researcher is not able to make a linkage between any particular participants and their data (Fleming and Zegwaard, 2018).

RESULTS AND DISCUSSION

In this chapter, different statistical results are analyzed that comprise of descriptive, correlation, and regression analysis. In this part, SO refers to strategic outsourcing, DSI refers to digital service innovation, CDM refers to centralized decision-making, and TDD refers to threat of digital disruption. The results are shown below:

Descriptive Statistics

Descriptive statistics is based on succinct and meaningful organization, presentation, and summarization of data. Without giving any generalizations and conclusions to a wider population, it focuses on assessing and characterizing the main components and traits of data (Aljandali, 2016).

DESCRIPTIVE STATISTICS									
	N	Minimum	Maximum	Mean	Std. Devia- tion	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
CDM	80	1.67	4.67	3.2625	.70500	-.108	.269	-.741	.532
SO	80	1.33	4.67	3.2375	.72565	-.156	.269	-.306	.532
TDD	80	1.33	5.00	3.1625	.81476	-.091	.269	-.206	.532
DSI	80	1.00	5.00	3.2208	.80250	-.300	.269	-.056	.532
Valid N (listwise)	80								

Table 1 Descriptive Statistics

According to the above table, it is assessed that the mean values for all the variables are at moderate level because the values range from 3.1 to 3.3. Additionally, the values of SD are less than 1 and that indicates that there is less deviation in the dataset. Moreover, the values of skewness and kurtosis show that the values range from -1 to +1 and that indicates that the dataset is normally distributed.

Correlation Test

The correlation test is used to determine how two components are related to each other. It helps them determine whether and to what level one object transforms responding to another. A low level of correlation shows a poor relation between the two constructs, whereas a huge correlation shows an association. When a rise in one constructs causes a rise in the other, there is a positive association between both (Rahman and Muktadir, 2021). An adverse correlation shows that one component declines while the other increases. The results are depicted below:

CORRELATIONS					
		CDM	SO	TDD	DSI
CDM	Pearson Correlation	1	.349**	.148	.192
	Sig. (2-tailed)		.001	.191	.088
	N	80	80	80	80
SO	Pearson Correlation	.349**	1	.089	.042
	Sig. (2-tailed)	.001		.435	.714
	N	80	80	80	80
TDD	Pearson Correlation	.148	.089	1	.422**
	Sig. (2-tailed)	.191	.435		.000
	N	80	80	80	80
DSI	Pearson Correlation	.192	.042	.422**	1
	Sig. (2-tailed)	.088	.714	.000	
	N	80	80	80	80
**. Correlation is significant at the 0.01 level (2-tailed).					

Table 2 Correlation Test

The above table shows that most of the relationships are at a weaker level because they are less than 0.3. The relationship between CDM and SO is at moderate level because the value is around 0.3. All the correlation values are positive, which means if one variable goes up, the other variable also goes up.

Regression Analysis

The regression analysis is conducted to assess and estimate the relationships between one or more IVs and a DV. It is used to replicate the future association between variables and to assess how strongly they are connected. A model used to assess the linkages between IV and DV is known as simple linear regression (Rahman and Muktadir, 2021). With the exception of using different IVs, multiple linear analysis of regression is considerably similar to the simple linear model. The results are shown below:

MODEL SUMMARY				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.444 ^a	.197	.165	.73312
a. Predictors: (Constant), TDD, SO, CDM				

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.029	3	3.343	6.220	.001 ^b
	Residual	40.847	76	.537		
	Total	50.876	79			
a. Dependent Variable: DSI						
b. Predictors: (Constant), TDD, SO, CDM						

COEFFICIENTS ^a						
Model B		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		Std. Error	Beta			
1	(Constant)	1.575	.530		2.971	.004
	CDM	.169	.126	.149	1.343	.183
	SO	-.051	.121	-.046	-.419	.676
	TDD	.398	.102	.404	3.886	.000
a. Dependent Variable: DSI						

Table 3 Regression Analysis

The above table shows that adjusted R-square value is 16% and that indicates 16% explanatory power of the model. Additionally, as per Anova table the p-value of f-test is 0.001 that shows that overall model is significant. Moreover, the coefficient table shows that CDM and SO are not significant because of high p-values, but TDD is statistically significant because p-value of t-test is 0.00<0.05. This means CDM and SO have no impact on DSI, however TDD have significant impact on DSI.

DISCUSSION

According to Hanelt et al. (2021), a decisive factor that can lead to either success or failure is the presence of an imminent threat representing a digital disruption. In one configuration, the lack of this threat is connected with success; nevertheless, the presence of this threat is a component of all three configurations that are associated with failure. Previous studies have demonstrated that the prospect of disruption or competitive pressure can have an effect on an organization's capability in a manner that is either positive or negative, depending on the circumstances of the competitive situation. According to the findings of our investigation, the competitive pressure is portrayed in a pretty unfavorable manner. Case company Rho, for example, has stated that they are under a great deal of strain because their "current business is stopping in a few years" and their "biggest worry" is whether or not they are able to transition their core business in a timely manner (Sebastian et al. 2020). On the other hand,

their DT drive has been more focused on the innovation of internal processes than it has been on the development and introduction of new business models and services, which has resulted in an increase in pressure. The case company Kappa, which is a conventional business-to-business hardware vendor, is also experiencing severe competition, which has resulted in a significant decrease in turnover due to the presence of competing internet platforms (Nwankpa and Roumani, 2016).

In the light of the danger posed by digital disruption, it is important to have a more in-depth conversation about the role that partnerships play in the implementation of DT plans. It has been demonstrated through the findings that organizations who are in danger of failing at DSI do so because they do not participate in strategic implementation partnerships. A “do-it-yourself” method, on the other hand, appears to be appropriate in situations when firms sense no or very little threat and adopt a centralized decision-making style (Kraus et al. 2021). The conclusion that can be drawn from this is that firms that are not under pressure have sufficient time to experiment and build up their resources, such as software developers or information technology infrastructure. Take, for example, the case business Pi, which is a global leader in the field of industrial manufacturing. Due to the fact that Pi holds a solid competitive position in the industry, the risk of digital disruption is virtually non-existent for the company (Wessel et al. 2020). As a consequence of this, Pi was able to construct a spin-off and recruit a large number of software engineers who created and implemented an industrial Internet of Things (IoT) platform with minimal support from outside sources (Berghaus and Back, 2016). In the event that Pi had been subjected to a greater degree of pressure to alter itself in a short period of time, it is possible that the firm would not have been able to take its time and effectively implement its plan primarily on its own. The decision to engage in partnerships or not engage in partnerships in consideration of coming pressure is sometimes also made owing to this pressure. It is crucial to highlight that this decision is sometimes carried out. Examples include the case of Iota, which operates in a highly competitive sector and does not participate in partnership arrangements. It has been suggested that companies should acquire the knowledge necessary to learn how to engage in healthy partnerships that do not pose a threat to the core business of the organization but rather benefit both parties involved (Fischer et al. 2020). Recently conducted research on DT has shed light on the significance of ecosystemic thinking and strategic planning, particularly in relation to the development of new service offerings. Despite the fact that firms that are well-positioned on the competitive field may be successful in innovation-related activities on their own for the time being, it is not apparent whether a fairly egoistic viewpoint will also be successful in maintaining this position.

The examination of the necessary conditions demonstrates that the centralization of decision-making is a necessary condition for the successful implementation of DSI. To be more specific, this indicates that firms require a C-level executive to control the digital transformation plan or to establish a digitalization committee that includes at least one C-level executive as a member. This substantiates the findings of earlier stud-

ies that emphasize the significance of the energy of the top management team (TMT) in the process of organizational transformation, particularly in change projects that are supported by information systems. Examples of organizations in which the TMT does not play a significant role include the case company Kappa, which serves as an illustration (Ismail et al. 2017). In Kappa, the DT strategy is primarily directed by a business unit leader who answers to the top management board. This board is responsible for approving, for instance, budget requests, but it is not as deeply involved in directing the strategy. A similar situation occurs in the case of the company Rho, where a business unit leader is accountable for the DT strategy. This individual asserts that the managers who approve the business cases generally do not have a comprehensive understanding of what is actually required for them (Frank et al. 2019). In addition, the author mentioned that it is necessary to make the management aware of each and every step that is required in order to bring features that can ultimately be monetized for Rho into the live environment. For this reason, we advise that in order for a DT strategy to be successful, it must receive attention from high management and be overseen by executives at the C-level management level.

CONCLUSION

Specifically, the research has implications for established organizations that are interested in successfully engaging in DSI. These implications are for practitioners. In the first place, the setups can serve as a model for executives to follow, which is a generic interpretation. Depending on the circumstances of the firm, they are a representation of several options that result in the same outcome. As a result, they can be used as a foundation for making decisions concerning the Digital Transformation plan. They are also useful for determining the gaps that exist between a strategy that is failing and one that is successful. For instance, if the organization's DT strategy is currently designed to be similar to configuration and may thus be headed in the direction of failure, they have the ability to make the necessary adjustments in order to achieve configuration. The second implication is connected to the choices that are made concerning the location of authority. One of the conditions that must be met in order to achieve DSI is the centralization of decision-making, as demonstrated by our setups. Therefore, established firms ought to make certain that their diversity and inclusion plans are governed by executives at the C-level. Our case studies illustrate three main options: integrating the tasks with an existing role, such as the CEO; establishing a dedicated role, such as a Chief Data Officer (CDO); or putting in place a DT committee that is comprised of different executives or managers. Due to the fact that these choices appear to be equally effective, the company may choose their option taking into consideration the specific circumstances of their situation. In the event that the firm does not possess adequate resources to promote or recruit a dedicated CDO at the present time, for instance, they can start their initial steps by constructing a DT committee consisting of C-level executives and managers from their existing workforce. Afterwards, the organization might begin to transfer the responsibilities to a dedicated function gradually, or it might even decide to keep the DT committee if it turns out to be successful. Furthermore, the find-

ings illustrate the various alternatives that are available for strategic outsourcing. One of the components of a recipe for success is the utilization of strategic outsourcing, and our configurations demonstrate that the lack of this component might, under some circumstances, results in its failure. It has been discovered through a more in-depth examination of our instances that organizations may delay engaging in partnerships or outsourcing because they are afraid of allowing people to work within the organization, or even because they believe that they are capable of handling everything on their own. In spite of the fact that this strategy might be workable for large companies that have access to a great deal of resources, businesses of a smaller or medium size, in particular, should strive to establish a robust ecosystem of partners who can supply the capabilities that are lacking. In an ideal scenario, the organization would also be able to gain knowledge from this process and expand its own DT skills over the course of time.

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SURVEY RESULTS ON THE SUITABILITY OF FIELDS OF ACTION AND FRAMEWORKS FOR DIGITALIZATION IN CONNECTION WITH CYBER-PHYSICAL SYSTEMS

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Abstract: *The impetus for this study is the increasing digitalization in connection with cyber-physical systems. Since implementation successes are lacking, the goal is to generate a framework that supports the realization of transformations in connection with cyber-physical systems, a kind of guideline. The first step was to identify fields of action and frameworks that support the implementation of digitalization or cyber-physical systems. The survey was intended to verify, supplement, or correct the findings obtained previously. The findings were that regarding the implementation approach, domain experts classify digitalization in connection with cyber-physical systems within the discipline of product/system development. The level of awareness of the term “System of Systems” has increased. The “Systems Engineering” framework is favored for the implementation of digitalization projects in connection with cyber-physical systems, as are the previously developed 36 business fields or dimensions. The preferred modelling language to be used is Systems Modelling Language (SysML). The survey also failed to provide a clear answer to the discussion about the use and added value of agile methods in implementing digitalization. On the other hand, it does provide valuable insights into what is conducive to project success in this context.*

Keywords: *Survey, digitalization, cyber-physical systems, implementation, frameworks*

INTRODUCTION

Digitalization today is increasingly taking place in conjunction with cyber-physical systems. Cyber-physical systems (CPS) are systems in which information and software technology components are combined with mechanical components, with data transfer and exchange as well as control and monitoring taking place in real time via a network such as the Internet. Key components are mobile and movable facilities, devices and machines (including robots), embedded systems, and networked objects (Internet of Things) (cf. Bendel 2021). This presents a challenge in implementation. The unsatisfactory success rates of various studies confirm this. Depending on the question and the study, over 40% fail to achieve the objectives of digital transformation (cf. NTT DATA Business Solutions 2024: 48), or up to 70% report failed digitalization projects (cf. Forth/Reichert/de Laubier / Chakraborty 2020). A literature review on barriers to digitalization indicates that a lack of methodological know-how hinders the implementation of digitalization projects (cf. Volkwein et al. 2022: 10). While recommendations for digitalization projects or frameworks for the development of cyber-physical systems exist, there is no guidance that is suitable for both types of projects in conjunction. The goal of the entire study is to develop a framework or guideline that promotes positive implementation. Funda-

mentally, the goal of the entire work is to answer the research questions posed and to conduct a corresponding scientific investigation. This publication is only an excerpt of the entire research and presents the results of a survey on this topic.

RESEARCH METHODOLOGY

To achieve the goal, the ideal research process was divided into five phases according to Atteslander (cf. Atteslander 2003: 21) was applied. Supplemented with the approach “Mixed Methodologies” (cf. Hug/ Poscheschnik 2020: 112) qualitative and quantitative research methods are combined within the framework of the research design.

1. Research phase: Theoretical orientations

The impetus for this study is, on the one hand, the increasing introduction and use of digital technologies with cyber-physical systems and the associated problems arising from the implementation of digital transformation. The research object in this paper is digitalization, and the research subject is the healthcare industry, which exemplifies various sectors of the regulated market. In this context, a regulated market means that the resulting products are subject to strict legal requirements and require product approval. For this purpose, the previous research and studies have highlighted the entire range of various disciplines required for the research object of digitalization in connection with cyber-physical systems. 36 fields of action were identified and clustered, each offering different methods that must be considered during implementation:

Business Perspective	Technical Perspective	Project-specific perspective
- Strategy / business model - Business Administration - Organizational management - Innovation management - Process management - Contractual arrangements - Value chain/ecosystem - System/product concept - Purchasing, production, handover, operation - Resource management - Knowledge management - Information management - Transformation opportunities/ areas - Assessment of benefits - Business IT alignment	- Workflow management - Technologies as enablers - Information systems - IT infrastructure - Interoperability - Safety, Security and Privacy - System of Systems Challenge - Operational system/product development - System development regulations	- Project management - Portfolio management - Stakeholder Needs - Risk assessment - Decision management - Complexity reduction Human Perspective - Digital Leadership - People, soft skills & social skills - Change management - Interface communication - Industry-specific regulations - Industry specifics

Table 1: Necessary fields of action for digitalization with cyber-physical systems

In addition, FW frameworks were examined that appear relevant to the topic:

FW 1 = St. Gallen Business Engineering Framework / Navigator BEN; Business engineering is defined as “business engineering design theory,” meaning the approach provides models and methods for the development mode “change” (“Change the Business”) (cf. Österle/Winter/Brenner 2011:2).

FW 2 = Systems Engineering GfSE / INCOSE – ISO/IEC 15288; Systems Engineering (SE) is an interdisciplinary team approach to the implementation of complex systems. SE focuses on product development (cf. GfSE 2017:2).

FW 3 = Scaled Agile Framework (SAFe); The scaling agile framework is an agile concept for the methodical organization of software and now also hardware development (cf. Block 2023: 60).

FW 4 = Digital Transformation Management Frameworks (DTMF); the DTM framework is one of many created and marketed by consulting firms. It takes a holistic perspective and focuses on digital innovations (cf. Hess 2022: 6).

FW 5 = Zachman Framework. One of the oldest representatives of the enterprise architecture frameworks is the Zachman Framework. Zachman recognized that information systems entailed a complexity that needed to be mapped through clear classifications and interfaces. The approach is that the questions “what,” “how,” “when,” “who,” “where,” and “why” must be answered (cf. Schweda C. 2024: 243).

FW 6 = TOGAF (The Open Group Architecture Framework); The core task of “TOGAF” is to shape transformation. A core element of TOGAF is the Architecture Development Method (ADM), a model consisting of 10 phases (see The Open

Group 2022:17).

FW 7 = HISA Health Information System Architecture – ISO 12967 and **FW 8** = WHO Guideline are industry-specific frameworks from the healthcare industry and represent regulated domains.

These basic findings are used in the survey and prepared to gather opinions.

2. Research phase: operationalization process

The operationalization phase consists of naming the object, defining terms, formulating research questions, hypotheses and indicators (cf. Atteslander 2003: 40).

3. Research phase: research design

Synonyms for research design include research design, research or experimental setup, and experimental plan (cf. Atteslander 2003: 54). During this phase, the questionnaire was developed, the framework was defined, and the pretest was conducted. The survey's original text can be found at <https://forms.gle/6gEjuBC9yygek5BaA> To start the data collection, the target group was contacted directly via email or via a post in specialist social media groups.

4. Research phase: analysis and evaluation procedures

The response rate in the professional context was approximately 30%. The response rate on the social networks was well below 10%, with 750 emails and various posts sent. A total of **98 fully completed questionnaires** were included in the analysis. The evaluation and interpretation of the data follow in the next section:

RESULTS FROM THE EMPIRICAL RESEARCH

1. Professional experience of respondents explicitly in product development

Asking about the participants' professional experience allows us to draw conclusions about the extent of their professional competence and thus assess the significance of the results. Encouragingly, the respondents were well-experienced in product development, thus providing significant significance. 68.3% of respondents have more than 10 years of professional experience in product development.

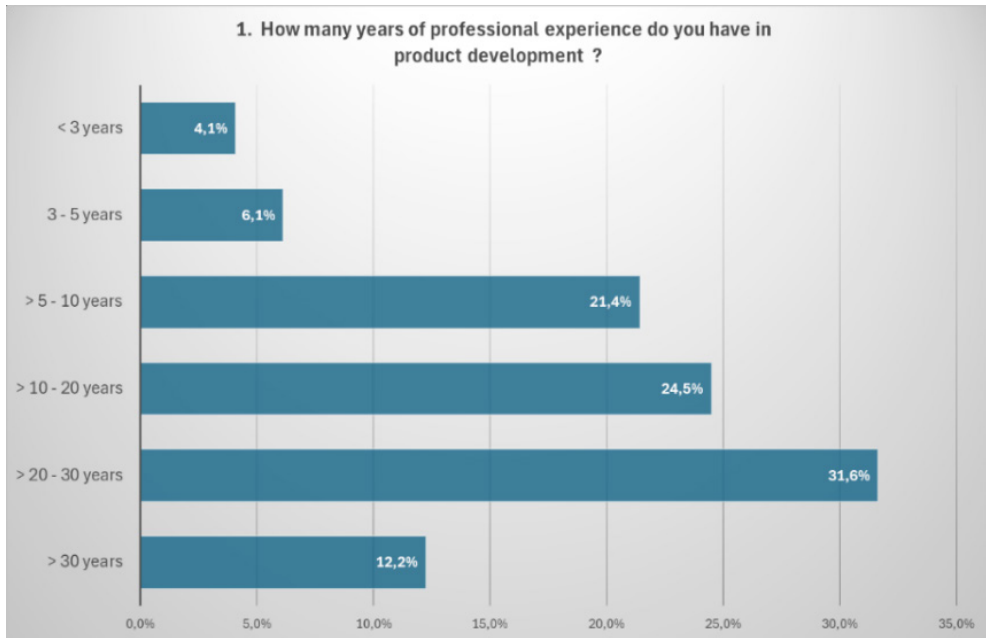


Fig. 1: Professional experience of respondents explicitly in product development

2. Industry experience of respondents

Another aspect used to assess the meaningfulness of the answers was the industries in which the participants gained their professional experience. Since the healthcare industry was the primary focus of the research, this shows that 63.2% of respondents possessed expertise in the desired area. The rate of almost 30% know-how in information technology was truly interested in the context of the research object of digitalization. Each participant could specify a maximum of three areas. The industry knowledge is also positive. Now, with 59% coming from the automotive industry, was included. Only industries that also have to operate under legal requirements and the normative requirements similar to those of the healthcare/medical technology industry were included.

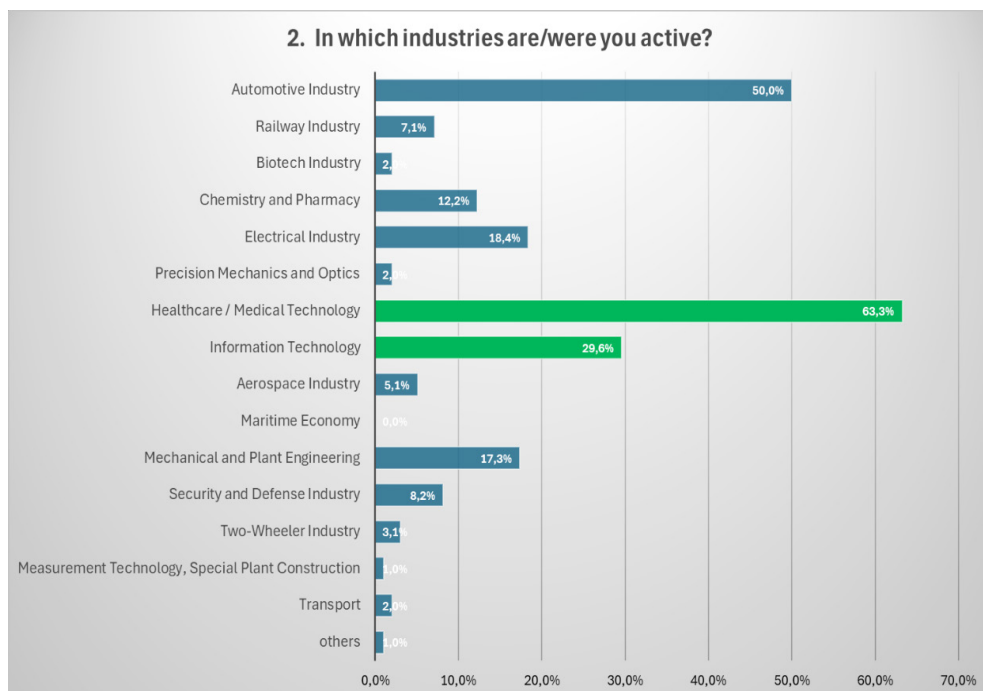


Fig. 2: Industry experience of respondents

3. Main areas of activity of the respondents

To further understand the perspectives of the respondents, the focus of the participants' activities was of interest. Here, three fields of activity could be selected. The area of product development was further clustered separately into the various areas. The overall result showed that 55.1% had experience with "management, project management, coaching, and consulting." Looking at the individual questionnaires, each of the latter had a direct connection to a product development sector, i.e., practical experience in development. In general, product development is well represented, and almost a quarter of respondents had digitalization expertise. How is to be viewed positively in this context.



Fig. 3: Main activities of the respondents

4. Position on the classification of digitalization by respondents

The first technical question was to gather the general opinion on whether digitalization in conjunction with cyber-physical systems falls within the discipline of product/system development regarding the implementation approach. To ensure respondents have a common ground, two definitions were provided:

Digital transformation and digitalization are considered synonymous in this context and have two perspectives. First, the technical process of how signals are transformed and made usable through data processing. Second, the use of digitalization by us as individuals or society, i.e., the effectiveness of the interaction with and by people, the corresponding technologies, and the design of their use.

Cyber-physical systems are systems in which information and software components are combined with mechanical components, with data transfer and exchange, as well as control, taking place in real time via a network such as the Internet. Key components include mobile and movable devices, devices and machines (including robots), embedded systems, and networked objects (Internet of Things).

Over 90% of respondents are convinced that digitalization in connection with cyber-physical systems falls into the discipline of product/system development regarding the implementation approach.

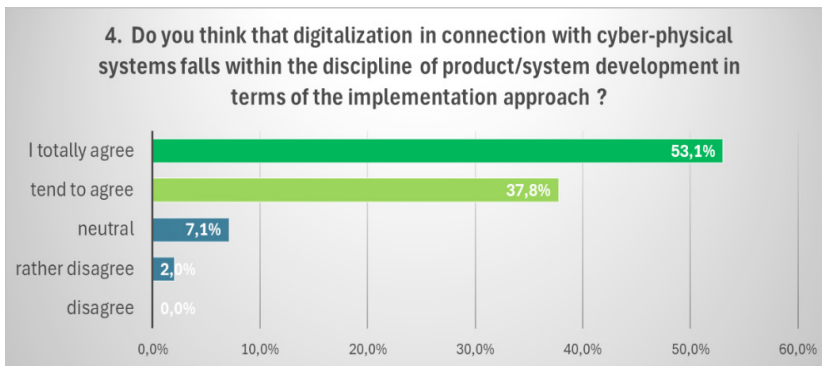


Fig. 4: Position on the classification of digitalization by respondents

5. Awareness of “Systems of Systems” among respondents

Since the term “Systems of Systems” is only slowly becoming widespread in the minds of companies, it was all the more surprising that 92.9% of respondents are familiar with it.

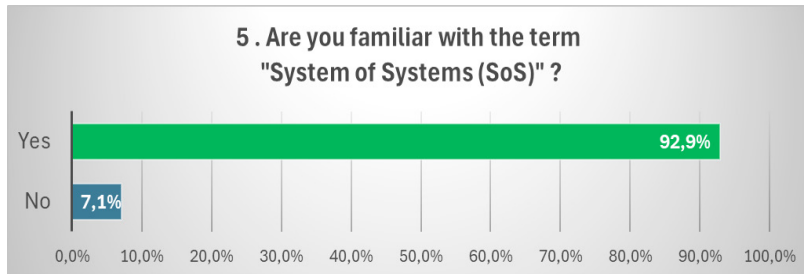


Fig. 5: Awareness of “System of Systems” among respondents

6. Evaluation of frameworks from the respondents' perspective

In the subsequent question, participants were asked to evaluate the frameworks identified in the literature review and preliminary work in terms of awareness and recommendation. To ensure a consistent understanding, the definition of framework was reiterated:

a **framework** is a guideline or tool that supports the implementation of tasks. Synonyms include design patterns, frameworks, or regulatory frameworks.

General project management was added to the eight identified frameworks. The “System Engineering / ISO 15288” framework received the highest recommendation; project management frameworks are also “well-known and recommended.” Very interesting was the finding that the “Scaled Agile Framework (SAFe)” was rated as “well-known but not recommended” by almost one-fifth of respondents. Somewhat alarming was the finding that the two healthcare frameworks were rated as “completely unknown” by a high percentage, even though many experts from this industry participated in the study.

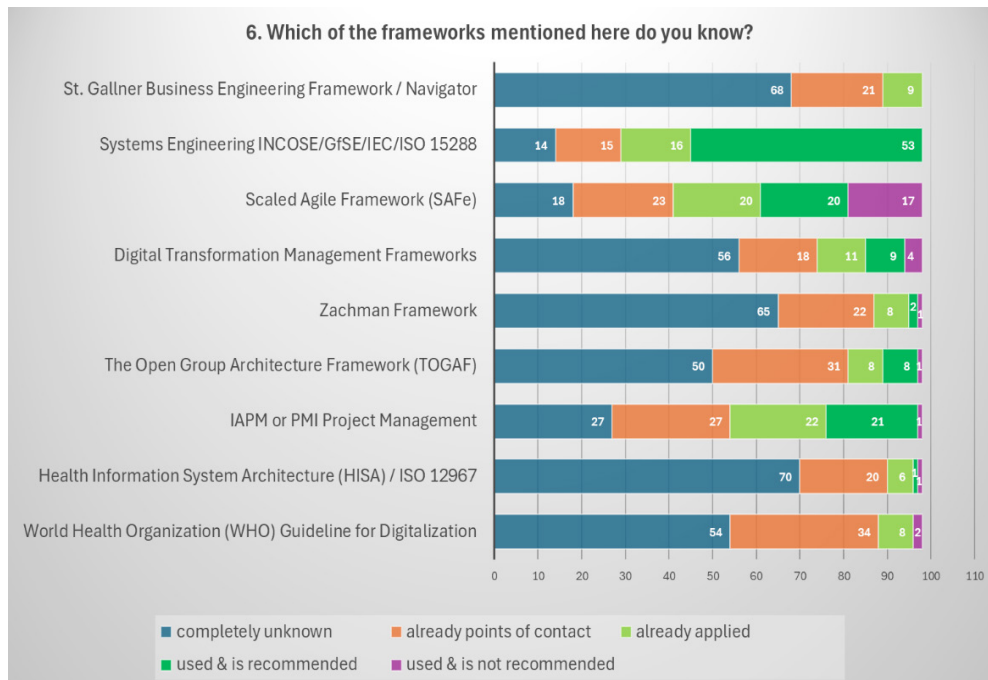


Fig. 6: Evaluation of frameworks by respondents

7. Further frameworks from the participants' perspective

The new findings that could be used here were:

- ▷AWS (Cloud Development Kit)
- ▷UAF (Unified Architecture Framework) applied and recommended
- ▷Universal Authentication Framework

These three suggestions are explicitly analysed again for the creation of the framework.

8. Evaluation of the fields of action from the participants' perspective

To everyone's surprise, all 36 fields of action/dimensions developed in the preliminary work were rated as "absolutely necessary" or "important in this context." The fact that contract management was perceived as so improper poses a risk to the implementation of these projects.

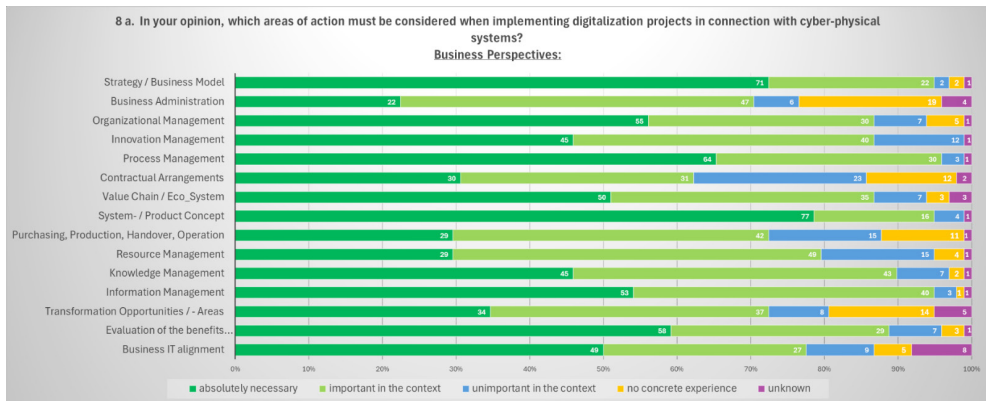


Fig. 7a: Evaluation of fields of action – business perspective

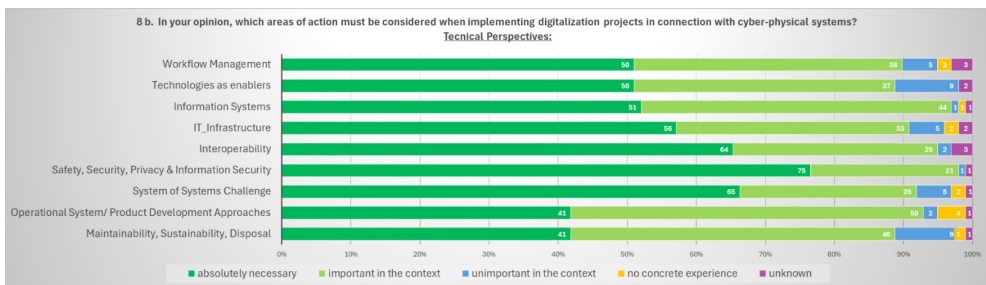


Fig. 7b: Assessment of fields of action – technical perspective

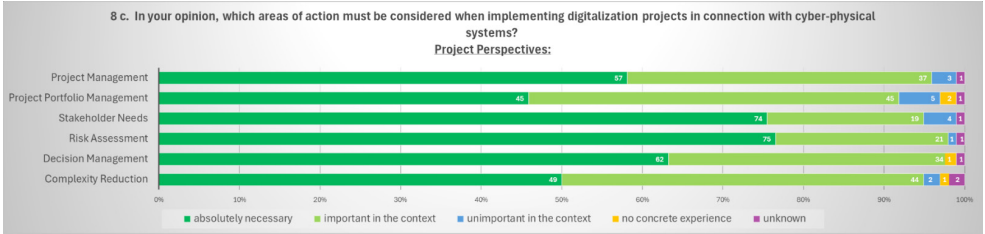


Fig. 7c: Evaluation of fields of action – project perspective

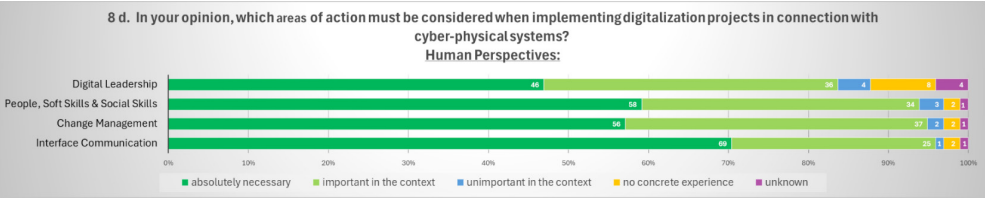


Fig. 7d: Evaluation of fields of action – human perspective

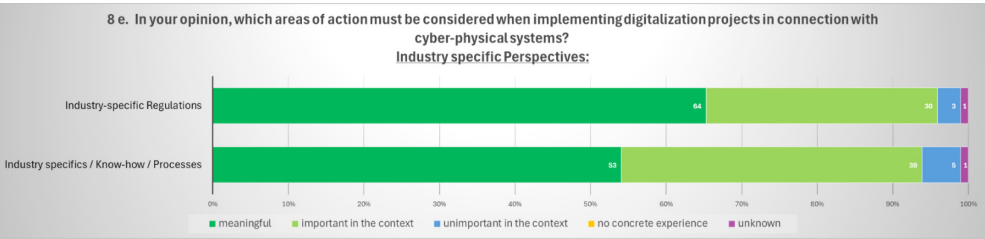


Fig. 7e: Assessment of fields of action – industry-specific perspective

9. Further fields of action from the participants' perspective

Further insights and confirmations were generated by asking respondents which other areas of action they considered relevant for the smooth implementation of digitalization projects with cyber-physical systems. Participants were provided with a free text field for this purpose, including the following answers:

- ▷ Employee training, in-company training/further education
- ▷ Organization and roles, redesigning organizational structure
- ▷ Transformation in steps (no big bang)
- ▷ Implementation team mix with external and internal consultants
- ▷ Verification and validation strategies must be clear and based on a "system of systems". Stakeholder needs must be fully analysed. Preliminary developments must be completed before a major project.
- ▷ Closer, transdisciplinary collaboration between individual engineering disciplines (elimination of silos).
- ▷ Technical approach plan, technical roadmapping
- ▷ Glossary
- ▷ Corporate culture, culture of the employees' countries of origin.
- ▷ If the entire value stream chain is not defined, smooth implementation is not possible
- ▷ etc.

10. Respondents' preferences for modeling languages

When asked which modelling language respondents preferred in the context of digitalization projects involving cyber-physical systems, Systems Modeling Language, often known as SysML, was the favourite with 78.6%. Respondents could also select up to three preferred languages for this question. BPMN came in second, followed by UML. All three favorites belong to the Object Management Group (OMG) consortium.

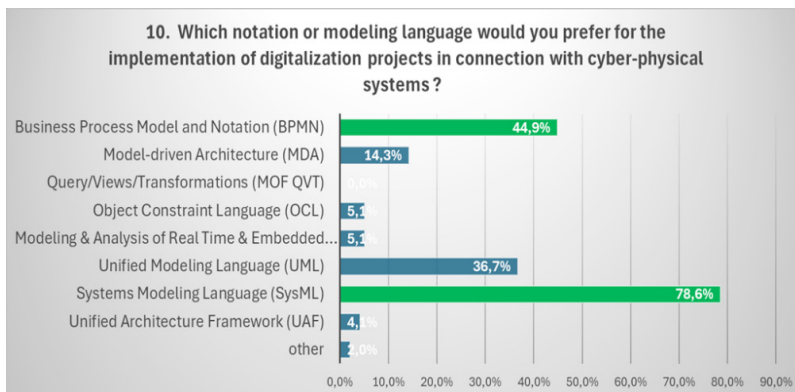


Fig. 8: Respondents' preferences for modeling languages

11. Evaluation of “provocative statements” about agile methods

Agile methods elicit very different opinions. In the daily work environment, there is often highly controversial debate about whether “agile working” or “non-agile working” leads to success. In this regard, participants were presented with several provocative statements from everyday practice to evaluate. The question was which statements they would support regarding the implementation of digitalization with cyber-physical systems. The pre-formulated statements, each with three phrases from the everyday working world, reflect the two different camps of opinion, and participants could express their opinion in varying nuances, from “total agreement” to “total disagreement.”

Statement 1, “agile methods make projects more adaptable than other project methods” was supported by 57.1%.

Statement 2, “Agile methods are ‘old wine in new bottles’” was agreed with by 42.8%, with a quarter of the respondents viewing this neutrally.

Statement 3, “agile methods focus more on customer needs than other project management methods”; 41.9% agree, but more than a quarter of respondents view this neutrally.

Statement 4, “agile methods make collaboration between interdisciplinary teams more difficult,” was strongly rejected by 52% of respondents.

Regarding statement 5, “agile methods enable time and cost savings,” almost 40% are neutral and there is a tendency towards supporting this statement.

Statement 6, “agile methods are better suited for pure software development than for cyber-physical systems,” is agreed with by 56.2% of experts.

Ultimately, the overview reflects the interplay of the two perspectives. What’s very interesting about the analysis is that, for the two extreme views, “pro” and “con,” there is also a considerable number of experts who, at certain points, lean toward one or the other.

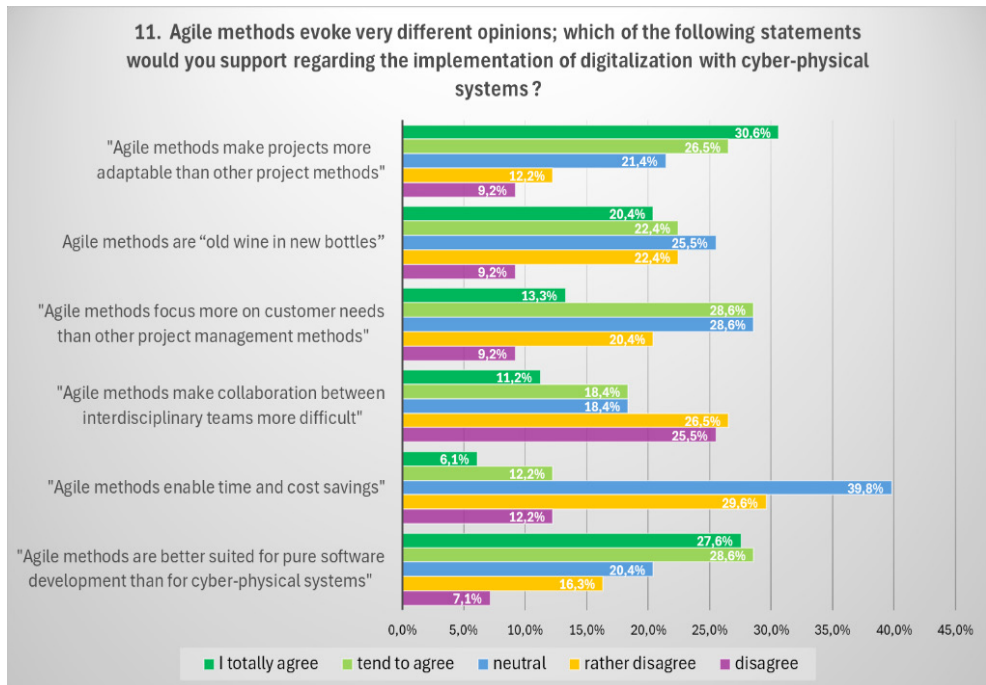


Fig. 9: Evaluation of "provocative statements" about agile methods

Question 12 - Opinion poll on "Agile Methods"

In a further call, survey participants were asked to share their personal experiences and opinions on the use of agile methods in product development with cyber-physical systems. These statements are often difficult to interpret. Here, an attempt was made to cluster the statements into 12 "pro agile" statements. 11 statements could be rated as rather neutral, 19 statements could be classified similar to "yes, agile, but ...", and 17 statements were rather negative and dismissive of the agile approach. Of course, one can still negotiate the classification of a statement, but the trend is clear that a large proportion of participants, depending on the circumstances, again decide for or against agile methods. It was clearly evident from the comments that the framework conditions in companies should change when developing using agile approaches. Furthermore, it is again evident that the preferences from question 6, that systems engineering is recommended, are not as convincing when implementing digitalization in conjunction with cyber-physical systems and agile approaches in this context.

All the advice given is very valuable for creating a framework, as it clearly shows what is not conducive to project success or necessary omissions that must be considered.

CONCLUSIONS/DISCUSSION

In summary, it can be stated that despite the many requests to participate in the survey, only moderate participation was achieved. It is positive that the right target group was reached. These were experts with many years of professional experience in the relevant segment of the healthcare industry or other sectors in the regulated market. The statement that digitalization in connection with cyber-physical systems falls into the discipline of product/system development regarding the implementation approach was met with broad agreement. It is encouraging that the level of awareness of the term “System of Systems” has increased compared to recent years. The Systems Engineering framework emerged as the favorite for supporting digitalization projects in connection with cyber-physical systems. The previously developed 36 business areas or dimensions that are considered necessary for the successful implementation of the digitalization of cyber-physical systems. The preference for the modelling language to be used in the implementation is Systems Modelling Language (SysML). The discussion about the use and added value of agile methods in the implementation of digitalization could not be clearly answered in the survey here either.

Research phase 5, “Use of the results,” for the development of a guideline is still pending.

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THE IMPACT OF DIGITAL TRANSFORMATION ON A COMPANY'S HR MANAGEMENT – AN ANALYSIS WITH A SPECIAL FOCUS ON SOCIAL MEDIA

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University of Library Studies and Information Technologies

Abstract: *Digital transformation is currently a hot topic and has an enormous impact on almost all areas of a company. In this article, the effects of digital transformation on HR management in companies are examined in a specific context. In 2013, PwC defined the digital transformation as a fundamental change in the entire corporate world through the establishment of new technologies based on the internet with fundamental effects on society as a whole (PwC 2013). One manifestation of this is social media as digital communication channels. There are already several scientific publications that deal with the effects of digital transformation on human resource management, which is why a comprehensive literature review is a very suitable research method. As some prior knowledge already exists, such an approach lends itself to discussing the specific contexts within the scope of this article. In particular, the aim of this paper is to uncover which areas of HRM are influenced by social media and how.*

Keywords: *Digital transformation; Human resource management; Social media; Corporate digitalization; HRM*

INTRODUCTION

First, the main concepts of this paper, namely digitalization, social media and human resource management (or HRM) will be explained as an introduction to the topic.

There are numerous definitions and interpretations of “digital transformation”, “digitalization” or the “digital age” in academic literature. The meaning of the different terms is usually very similar (Berger 2015, as cited in Schallmo and Rusnjak 2016). In 2015, the German Federal Ministry for Economic Affairs and Energy defined digitalization as the comprehensive networking of all areas of the economy and society as well as the ability to collect and analyse relevant information and turn it into action (BMW 2015). Capgemini published in 2011 that digital transformation would become a hot topic for companies worldwide and defined it as the use of technology to radically improve the performance and reach of companies (Capgemini 2011).

Social media (as a development or manifestation of digital transformation) is a term that is on everyone's lips, although it should be noted that the term is used in a very inflationary buzzword-like manner. The following is a suitable definition:

“Social media is a variety of digital media and technologies that enable users to interact and create media content individually or as a community. Interaction includes the mutual exchange of information, opinions, impressions and experiences as well as participation in the creation of content. The users actively refer to the con-

tent through comments, ratings and recommendations and in this way build up a social relationship with each other. The boundary between producer and consumer becomes blurred. As a means of communication, social media relies on text, images, audio or video individually or in combination and can be platform-independent.” (25th NEON Plenum 2013 as cited in Scheffler 2014)

In order to place this definition in the context of the topic, it is to say that there are of course numerous developments in the scope of digital transformation that have an impact on a wide variety of business areas. According to a survey by Statista (2023), the main motives that companies are pursuing with digitalization are the flexibilization of company processes, the realization of cost reduction potential, customer loyalty, strategic corporate development, increasing the benefits of products and services, the development of new products, employee training/education and the optimization of supply chains (Statista 2023).

To put it simply, social media is one of these developments in digitalization that could have an impact on human resource management alongside other developments. In addition to social media, data mining, cloud computing and mobility appear to be particularly relevant in the field of HRM (Schellinger et al. 2020). How exactly social media is to be classified here and what impacts it has for a company’s HRM will be explained in the course of this paper.

To conclude the introduction, it should be mentioned what is meant by HRM. According to Lado and Wilson (1994), HRM is “a group of independent but interrelated activities, functions and processes that aim to absorb, develop and retain human resources.” (Rowold 2015). It is therefore about focusing on processes and functions within companies that deal with people, such as the recruitment of personnel, the deployment of personnel, the motivation of employees or optimization (Rowold 2015). **This paper discusses the impact of digitalization through social media.**

RESEARCH METHODOLOGY

As already mentioned in the abstract, there is a lot of prior knowledge in this field of research. Since HRM itself, like digital transformation, is a very broad field with a multitude of conceivable interdependencies, there are numerous unexplored circumstances. This is also due to the fact that HRM can often also provide an initiative for further digitalization in companies. There have been a number of scientific publications on the effects of digitalization on HRM (especially in recent years). The research method of a comprehensive literature review therefore lends itself to finding, describing, analyzing and finally evaluating this prior knowledge. A clear objective is to determine the current state of research. In addition to identifying existing research gaps, the aim is also to gain initial insights into the topic of this article, which could then be empirically verified by further research, for example. A methodically structured approach with a particular focus on scientific databases and a combination of the keywords “digital transformation”, “human resource management”, “HRM” and “social media” led to different results in very different

combinations. The terms were also varied, such as “digitalization”, “personnel management” or specific social media platforms such as Facebook, LinkedIn, etc. The search criteria were not limited in terms of time, as the sources were then evaluated according to their topicality and it cannot be ruled out that older research results may be relevant to the research area.

RESULTS

Digitalization can be described as a so-called megatrend that is expected to have very significant social and economic consequences, which in turn will lead to an all-encompassing change in work (Hirsch-Kreinsen 2020). Tim Cole (2017) already stated in 2017: “Everyone is talking about it. Many see it as the solution to all future problems. Some are afraid of it. We are talking about the digital transformation, the massive change in business models, operating processes and markets brought about by digitalization.” (Cole 2017)

Such a view can certainly be substantiated. For example, the Federal Ministry for Economic Affairs and Climate Protection in Germany has determined that 83% of all German companies already have a digitalization strategy (BMWK 2024). Examples of publications are “Digitale Transformation” by Jan-Felix Schrape (2021), “Digitale Transformation von Geschäftsmodellen” by D. Schallmo, A. Rusnjak, J. Anzengruber, T. Werani (eds.) (2016), “Die digitale Transformation des Unternehmens” by W. Appelfeller and C. Feldmann (2018), “Digitale Transformation von Arbeit” by H. Hirsch-Kreinsen (2020), “Digital Offroad Erfolgsstrategien für die digitale Transformation” by S. Kramer, U. Bosch, S. Hentschel (2018), “Digitale Transformation managen” by Dechow, Homrighausen, Schulte, Sekol (2022), “Digitale Transformation Fallbeispiele und Branchenanalysen” by H. Krcmar, G. Oswald (2018), “Digitale Transformation strategisch steuern” by T. Hess (2019), “Digitale Transformation der Organisation” by K. Reinhardt (2020), “Management der digitalen Transformation” by M. Harwardt (2020), “So gelingt digitale Transformation!” by K. Scheerhorn (2020), “Umsetzung der digitalen Transformation: Wie Unternehmen sich für eine digitale und nachhaltige Zukunft wandeln müssen” by H. Tuczec (ed.) (2022), which cover many areas of digitalization.

If you research publications in this area only within the last two years and with specific reference to HRM, it is noticeable – especially internationally – that the topic has received an enormous amount of attention after the coronavirus pandemic. Examples are mentioned here: “Exploring human resource management digital transformation in the digital age” by Zhang, Jie und Zhisheng Chen (2024), “Digital transformation adoption in human resources management during COVID-19” by Al-Alawi, Adel Ismail, et al. (2023), “Digital transformation in human resources management and work-at-home” by Pham, Nhat Tan, et al. (2025), “Digital transformation and labor upgrading” by Li, Wencong, Xingquan Yang and Xingqiang Yin (2024), “Digitalisierung und KI im Personalmanagement” by Helmold Marc (2024), „Prozesseffizienz im HR-Management: Prozessanalyse, Prozessoptimierung, Digitale Transformation” by Schönenberg, Ulrich and Wnuk-Lipinski, M.

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According to Schellinger et al. (2020), work is increasingly taking place virtually. This also means that employees are working more and more with intelligent machines and the demands placed on employees are changing. The introduction has already briefly touched on some of the functions and processes of human resource management. The explanations just mentioned indicate that the digitalization has an impact on some areas of HRM, because new technologies, for example, need to be mastered. Dirk Holtbrügge described the effects of digitalization on HR management as early as 2015 as follows:

"Finally, the importance of HR management is increasing due to digitalization and the development of new technologies. These promote the virtualization of work and the mobility of employees and result in a significant expansion, increase and shift in requirement profiles. In addition, networking, coordinating and monitoring activities are becoming more and more important compared to executive activities, which in turn results in a shift in the focus of HR management." (Holtbrügge 2015)

In addition to social media discussed here, the most important digitalization developments for human resource management are (as mentioned before) data mining, cloud computing and mobility. These will not be discussed in detail in the course of this article. Other developments in the context of digitalization that have or will have an impact on HRM in the future are: artificial intelligence, mobile applications and cloud solutions (Schellinger et al. 2020).

The question is, what impacts does social media have for which areas of HRM? In order to answer this, it is first necessary to clarify what social media can actually do and what it is suitable for in the corporate context. Social media allows users to network and share user-generated content. Social media provides online opportunities for communication, interaction and the publication of content. Social media can therefore be regarded as online-based applications, whereby the way in which they are used depends largely on social interactivity (Pietsch 2012). As a result, there are various well-known providers of social media, which can of course be used by any company. Young people in particular use social media and exchange information on a wide range of topics. This can also include professional topics and concerns. On popular platforms such as Xing, Facebook and LinkedIn, people share experiences

about employers, give job application tips or recruit friends for their own company (Cole 2015). The digital transformation is making the job market more transparent. Employers can be rated via the Kununu platform, which is one manifestation of this (Jäger and Petry 2012).

This shows that the greatest use of social media in human resource management concerns the instruments of **recruiting, employer branding and employee retention** (Schellinger et al. 2020, p. 192).

It should be mentioned that employer branding is a specific part of personnel marketing. Personnel marketing is the term used to describe all measures aimed at attracting, developing and retaining employees. Employer branding refers more to the shaping of a company's image as an employer (Ruhr University Bochum 2024). Why is this explained here? There are publications (such as the one already cited here from "Personalmanagement" by Dirk Holtbrügge (2015)) that do not explicitly consider personnel marketing as an instrument of human resource management, or do not explicitly list it as an instrument of HRM alongside the tasks of personnel requirements planning, recruitment, personnel development, personnel release, personnel deployment, personnel remuneration and personnel management. However, the widespread opinion is that personnel marketing is also a sub-area of HRM. Namely, the area that deals with marketing in personnel work and is intended to make the employer attractive to new employees or to retain existing employees (Ruhr University Bochum 2024).

The three areas recruiting, employer branding and employee retention will be discussed in more detail now below.

Using social media as a form of digital transformation for recruiting is obvious, as the previous explanations show. Younger people are increasingly using social media such as Facebook, LinkedIn, Twitter or XING to find out about job vacancies (Bernauer et al. 2011; Steinmetz/Scheel 2012; Arnold 2014 as cited in Holtbrügge 2015). The great advantage for companies here is to open their own career pages in order to specifically address the younger target group of school and university graduates (Holtbrügge 2015). This can also be observed in practice in many cases. Numerous companies have also set up their own career channels on Instagram (which as a social network does not even specifically serve as a career platform) such as "Deloitte Germany Career", "Bosch Career", "Deutsche Bahn Career", "Lidl Career", "Vodafone Career", "Aldi Career", "MAN Career", "Bain & Company Career", "Volkswagen Career", "KPMG Career Germany". Another major advantage of digitalization and social media in particular is the ease of communication. Companies can basically get in touch with potential applicants immediately. However, there is also a major disadvantage for companies: negative comments and (perhaps unjustified) criticism from users cannot be controlled, which could have a significant impact on the public perception of a company (Holtbrügge 2015). It should also be mentioned here that different social media offer different options for HRM, depending on their functionality. For example, it is not possible to search for potential applicants on Snapchat, but it is possible on Xing and LinkedIn. The active

personal approach or recruitment of employees is also used on these platforms on a daily basis, whereas on the less business-focused platforms such as Snapchat, Instagram or Facebook, it would be rather inappropriate to approach and recruit potential new employees in a professional context.

The influence of social media on the second HRM sub-area of employer branding will be explored below. Employer branding is about the employer building a brand. It is a strategic measure by a company in which marketing concepts are used to build a brand. The company should be presented as an attractive employer and position itself well against other competing companies. The aim is for the company to create an image as a good employer that is also perceived as such. An employer brand is assigned certain characteristics by (future) applicants. In order for these to be perceived, there must be a very clear differentiation from the competition. Employers must therefore emphasize clear characteristics in terms of perception (Schuhmacher and Geschwill 2014, p. 35). Social media can also be used to influence employer branding. Firstly, social media can be used as an information tool for potential applicants and thus to reduce risk. What does this mean? Employees who are considering a job change or job seekers always perceive a certain risk when choosing a company because they do not fully know whether the decision for an employer is the right one. In the search for information on the basis of which the potential new employer is assessed as suitable and the risk of a wrong decision is thus reduced, social media are also used, which strongly influences the perceived attractiveness of an employer (Büttgen and Kissel 2013). The crucial question is therefore how an employer's social media presence must be designed so that the information conveyed there generates a positive response from the desired applicants, which indicates a high level of employer attractiveness (Büttgen and Kissel 2013).

Another influence of social media on an employer brand is the so-called self-congruence effect. This means nothing other than the brand personality of an employer must match the applicant's self-image (either actual image or target image) for an applicant to decide in favor of a particular employer. This is because the decision-making action can be attributed to a (better) fulfillment of the self-motives (Büttgen and Kissel 2013). It is very common to find pictures and videos of a company's employees on social media describing their activities or everyday working life and expressing how much they like their job. Such employee characteristics are transferred to the employer brand by consumers and potential applicants (Bendapudi and Leone 2002, p. 93 cited in Büttgen and Kissel 2013). Due to their characteristics, social media are ideally suited for such processes. The third way in which social media can influence employer branding as part of HRM is through the so-called corporate image. This refers to an image that someone (e.g. customers, suppliers, applicants, employees) has of the company (Kiessling and Babel 2010). Such an image is usually not created from the information that the company itself creates, but much more intensively through family, friends, associations or mass media (Kiessling and Babel 2010). If you engage with potential employers on social media, you will inevitably receive information about competitors and products. As a result, social media gen-

erates knowledge about the potential employer as well as the company as a whole. What does this mean for employer branding? An overarching corporate brand image is an “overarching identity anchor that interacts with an employer brand. The specific characteristics of a corporate brand color the perception of the company as an employer (Sponheuer 2009, pp. 134-135, quoted by Büttgen and Kissel 2013).

Finally, the effects of social media on employee retention are examined. How important it is for an employee to work for their company, to earn their salary there and not to work for another company, essentially depends on their individual attachment to and identification with the company. Since employees “sacrifice” a lot of their lives for a company, they also want to pursue different goals, such as training, earning money, benefiting society, having fun or realizing themselves (Felfe 2020). Employers who are better able to meet developments such as demographic change, permanent change processes (keyword VUKA) and the expectations of the younger generation are perceived as more attractive and are therefore more likely to retain employees (Felfe 2020). According to Kohne, Ringleb Yücel (2015), the behavior of Generation Y has also changed compared to the past. Nowadays, they hardly ever start a job that lasts until they retire. Especially in the IT environment, for example, employee turnover is high and people often change companies after 3-4 years (Kohne, Ringleb and Yücel 2015). There are many ways to use social media directly or indirectly for employee retention, which also have to do with employer attractiveness and the aforementioned employer brand. A positive employer image, for example, also promotes employee loyalty because employees identify more strongly with their employer (Kanning 2015). How social media can influence this has already been briefly described above. An earlier study from 2006 by the Corporate Leadership Council shows that employee retention can also be influenced by the involvement of employees in communities, the affirmation and explanation of positive corporate values or the development of a performance-oriented corporate culture as drivers of employee retention (Corporate Leadership Council, Adams B et al. (2006), cited in Schuhmacher 2014). It is also conceivable that social media can have an influence here, especially for integration into communities, because on XING and LinkedIN, for example, the employer can be linked directly to their own profile, so that a community of employees is available online when you click on the company’s profile. The influence of social media on corporate culture (as driver of employee retention) could also be the subject of further research in this context.

CONCLUSIONS/DISCUSSION

Schellinger et al. (2020) stated around 5 years ago that the use of social media in human resource management was generally “still in its infancy” (Schellinger et al. 2020). However, based on a comprehensive literature search, some research results could certainly be found. Similar or overlapping correlations can also be found in related scientific fields, such as employer branding, employee retention, the use of social media in companies, employer identification, internal marketing, employee motivation, corporate culture and employee satisfaction, but these do not specif-

ically address the connection between human resource management and digital transformation. This article looked at social media as a development of digitalization and its impact on HRM. Some insights were gained, in particular which areas of HRM can be influenced by social media and, above all, how. The purpose of this article is not to conclusively clarify how exactly social media should be designed in a company in order to have an optimal impact on human resource management. It is therefore by no means a practical or scientific guide. This would, for example, be an opportunity for further research and publications. It would also be possible to delve deeper and more specifically into the subject matter by focusing on specific social media platforms in further research. In terms of possible uses, there are some serious differences between the social media platforms. For example, the use of Xing or LinkedIn for companies is certainly relatively clear in practice. In contrast, the use of Snapchat or Twitter with an impact on employees is probably less well known. For recruiting, the LinkedIn and Xing platforms are very well suited for directly addressing potential employees. Kununu and Glassdoor can only be used in this HRM area to place job advertisements. Glassdoor and Kununu are also not suitable for employee retention and internal company use (e.g. links to the employer or groups). Despite the existing findings, the potential for further research is great, especially as there will certainly be new developments and changes in the future with regard to digitalization and social media.

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FOCUSING ON PEOPLE: LEADERSHIP STRATEGIES FOR EFFECTIVE PROJECT MANAGEMENT IN THE RAILWAY SECTOR

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Abstract: *Technological innovation and precise project management requires a lot of attention in infrastructure projects in the railway sector (Bresnen/Marshall 2000). Equally important is effective leadership in the human sector. The just mentioned human sector needs to be given much more advantages and attention. It is this article that analyzes the importance of leadership strategies and their impact on the success of international projects in railway infrastructure projects and in the engineering industry. Particular attention is paid to how the efficiency and management of projects can be improved if human-centred leadership concepts are taken into account. In doing so, the focus is on clear communication, teamwork and cross-cultural competencies of the team (Edmondson 1999). By examining the most successful methods and international examples, it shows how executives in the railway-engineering sector encourage motivation and engagement of members of their teams. In doing so, the objective is to optimise the achievement of the objective and results of projects in the sector concerned. It follows from this article that leadership focused on people's needs increases productivity and ensures the long-term sustainability of projects and their success. Finally, recommendations focused on the human factor, on future approaches to leadership and integration of innovation in project work are made.*

Keywords: *Leadership, Human Factor, Project Management, Railway Projects, Intercultural competence*

INTRODUCTION

Infrastructure projects in the railway sector are complex, intricate and long-term, affected by many different factors. In addition to standard aspects such as financial planning, time management and technical implementation, the human factor plays a crucial role. Project teams are made up of experts from various disciplines, often arising from different cultural environments (Hofstede 2011), who need to work together on the effective implementation of projects. This is about managing human resources and focusing on improving interpersonal relationships and cooperation within teams. This type of management, especially in the railway sector, requires special leadership skills to address the various challenges of a dynamic and complex working environment (Kotter 1996).

The current state of the problem indicates significant delays and cost overruns in many rail infrastructure projects around the world. Goleman (Goleman 1996) points out that one of the often ignored aspects of these projects is team management and human sector policing. In addition to knowing technical and financial requirements, project managers should be able to coordinate team members within organizations or directly in one team. Noted leaders with their leadership and joint

work greatly influence the success of the project. Clearly defined leadership strategies (Northouse 2018), which are focused on the human factor, provide a chance to address challenges and strengthen the effectiveness and engagement of team members. Thus, certain strategies such as intercultural competence, emotional intelligence, and person-centered leadership aim to achieve universal success.

Furthermore, an important aspect is internationalization in projects in general but also in railway projects (Müller/Turner 2017). In today's growing international cooperation, there are not only technical and logistical challenges, but also complex cultural and social differences. Northouse (Northouse 2018) clarifies and points to the special ability of leaders to overcome cultural barriers and create a common understanding that promotes teamwork and the success of a single project. In this framework, technological change also becomes a key factor (Kotter 1996). Therefore, digitalization and technological developments in railway projects require not only expertise in technology, but also a change in the way of management. Department or team leaders need to constantly adapt to new technologies and ways of working in management, which also poses additional challenges for their leadership skills.

The focus of the article refers to the research, how leadership strategies that are focused on the human factor, increase the success of railway infrastructure projects. The occasion was laid on the key skills necessary for project leaders in the railway sector. Furthermore, the article analyzes how various strategies, such as agile leadership (Adkins 2010) and team promotion, can have a positive impact on improving the quality of projects and cooperation within international teams (Hofstede 2011). It demonstrates how these management approaches not only improve the efficiency of the project, but also guarantee its long-term and sustainable results.

The structure of the article is based on a detailed analysis of the topic, which focuses on the human factor. In the foreground, a comprehensive review of the literature relating to the concepts of leadership and human factor management in infrastructure projects is presented. To assess the practical impact of leadership strategies, a research methodology is used that includes qualitative approaches, in particular interviews and case studies, i.e. analysis of projects in the railway sector. Furthermore, the research methodology relating to the management of international railway projects was taken to provide a deep understanding of the complex and complex challenges facing the human factor. The results section is based on concrete examples of leading successful railway projects and international best practices to emphasize the role of leaders in overcoming various challenges. The closing notes emphasize the critical importance of the human factor, giving practical methods for integrating human-centered leadership strategies. This article aims to improve the efficiency of the leadership approach both in international railway projects and in engineering in general.

RESEARCH METHODOLOGY

The study of various strategies and ways of project and human factor managing in the railway and engineering sectors requires a detailed and theoretical approach

(Turner/Company 2008). Therefore, the chosen methodology is precisely the one that enables a detailed analysis of complex social phenomena and meets the needs of complex multicultural infrastructure projects.

The examination includes three main methods:

Interviews with experts:

Interviews with prominent leaders and experts in various engineering projects were conducted in order to achieve a practical and thorough understanding of specific challenges and successful management practices, both international (Müller/Turner 2017) and internal projects. These qualitative interviews allow the exploration of personal experiences and individual experiences of professionals working in different cultural environments (Goleman 1996). The interviews were based on the role of leadership, communication, technological changes and team dynamics in projects.

Analysis of case studies of successful projects:

In order to combine theoretical results with practice, case studies of successful projects from different countries and continents were analyzed (Wong 2007). Among other things, it deals with various complex projects in Europe and the Pacific. The successful projects are examined in more detail, especially with regard to leadership problems and decision-making. According to Hofstede (Hofstede 2011), the focus is on the strategies of managers and their handling of cultural and technical challenges.

Comparison of international standards and leadership models:

The analysis looked at international project management standards, especially those from PMI and IPMA (Crawford 2014; Project Management Institute 2017). It focused on how these standards are applied in project leadership and managing people. It also noted cultural differences (Turner/Company 2008).

Explanation of method selection

Qualitative methods such as interviews and case studies were deliberately selected. Edmondson (1999) explains that dealing with human factors strongly depends on subjective experiences, individual perceptions and interpersonal communication. Quantitative methods can only mismatch these measurements (Bresnen/Marshall 2000). Furthermore, the interviews provided deep insight into the personal experiences of professionals and various members of different teams, while on the other hand, case studies provided a deeper link between theory and practice (Dainty/Loosemore 2012). Building on the above methods, the analysis of international standards further enabled the adoption of a wide range of positions and the making of universal recommendations (Aulich 2013).

Focusing on the international context

The examples and methods discussed are specifically aimed at engineering projects in an international context (Gandau et al. 2018). According to Aulich (Aulich

2013) the globalization of projects initiates that they become increasingly multi-cultural, innovative in technology and complexly organized. Consequently, it was necessary to analyze management approaches (Avolio/Bass 2005) that outweigh national specificities and are globally applicable. For the results visible from the ARTIK and the mentioned study it would be desirable to use them not only for national railway projects, but also comprehensively in engineering. In this way, they serve as the basis for the successful use of managerial ways that are directed to the human factor.

RESULTS

The analysis of contemporary literature, best practices and international standards has shown many factors that significantly influence the success of running and managing both railway and engineering projects in general. These factors can be divided into three categories: communication competence (Müller/Turner 2017), team orientation (Dainty/Loosemore 2012) and ability to adapt to technical (Adkins 2010) and cultural changes (Aulich 2013).

Factors of success in leading and managing railway and engineering projects:

Communication competence:

Transparent and continuous communication is recognized as the most important factor in the success of the project (Müller/Turner 2017). Managers who are able to transmit various information in a simple and clear way, provide security, transparency and trust in teams by example. Communication competence is especially important in multinational projects. In such projects, different languages and cultures are present, which are also reflected in the quality of communication. It is precisely for this reason that a transparent and clear communication culture and competence should be fostered to avoid misunderstandings and delays in projects.

Team empowerment and participation:

The next factor of success is the empowerment of project teams and their organization (Dainty/Loosemore 2012). Increased commitment and openness to innovation have been demonstrated by team members who actively participate in the processes of taking responsibility and decision-making. In successful railway and engineering projects, it was concluded that leading managers should focus on creating an environment in which innovative ideas, open communication are encouraged, and mistakes are used as opportunities for learning and application to other projects. The analysis of the results clearly showed that the lack of social competence of leading managers jeopardizes the stability of the team, causes false interpretations and poor or insufficient communication. Such a deficiency spreads further in the team and affects its members.

Ability to adapt to technical and cultural changes:

In today's Management, which is characterized by dynamic technological development, Change Management in management becomes the main point of effective

leadership (Kotter 1996). Leading managers who can actively anticipate risks and changes in rapid technical development, support teams by perfecting them, nurturing a healthy communication culture and providing security. A key competence in international railway projects is the ability to effectively address the cultural diversity of teams (Hofstede 2011). Leading managers in multicultural teams not only need to understand the different communication styles and work habits of team members, but they need to actively support the comprehensive work environment by possessing or perfecting social competencies. Therefore, it follows that the effectiveness of the project is optimised by nurturing the culture of the team and its members. This is achieved through regular and repeated social training of leading managers and team members and consciously promotes cultural sensitivity.

Specific strategies for successful management

Based on the analysis, the following strategies have been identified which are particularly effective:

Flexible approach to Leadership: The application of adaptive principles in the planning and management of railway projects resulted in positive and successful results (Sutherland/Schwaber 2017). Flexibility and adaptability do not mean abandoning traditional planning processes at the same time, but rather the integration of flexible practices that make it safe to adapt well to changing conditions. A relevant example is the implementation of the Scrum method and its elements, with the application of iterative feedback loops between architects, technical engineers, suppliers and contractors.

Encouraging innovation through employee involvement:

When leaders set up spaces like innovation labs or regular workshops for sharing ideas and lessons learned, projects are more successful. Employees feel more active, involved, and connected to the project (Edmondson 1999). When senior managers consciously introduce ways to develop ideas, such as innovation labs or experience-sharing workshops, they help projects to be more successful while demonstrating greater involvement and connection with the project. Furthermore, such approach to projects affects team members, which ultimately means that this creates an inseparable link between the projects and the human factor in which both profit with success and satisfaction.

Structured programs for learning intercultural meaning:

In international projects as well as in projects whose teams are made up of members from different cultures, specially designed programs for intercultural learning have been recognized as a success factor (Hofstede 2011). Such integrated programs include not only continent-specific or country-specific content, but also exemplary exercises to improve empathy, manage conflicts, and ensure the ability to positively and beneficially exploit diverse cultural synergies. This comparison of railway projects shows interesting differences in applied leadership and management strategies (see Table 1.):

Table 1. Comparison: German vs. international railway projects

Aspect	German Railway Projects	International Railway Projects
Communication style	Formal, documentation-heavy	More flexible, more dialogue-oriented
Management structure	Hierarchically shaped	Flatter hierarchies, more personal responsibility
Promoting innovation	Driven top-down	A mixture of top-down and bottom-up
Dealing with cultural diversity	Moderate cultural diversity	High cultural diversity, requires active management

The table shows that in German railway projects there is a strict hierarchy and formal decision-making, which can increase risks if not detected in time and thus lead to delays in processes because rapid change is needed but can also increase efficiency in individual phases of the project. On the other hand, international projects more often exhibit more flexible management approaches and stronger participation structures, which increase adaptability in dynamic project environments.

CONCLUSIONS/DISCUSSION

This article and the study showed that together: management, social competence and human factor management are key and integral part of the success of large complex projects of railway and engineering profession. This analysis shows that effective project management is based on four key areas: clear communication, team empowerment and participation, and the ability to adapt to technical and cultural changes. Agile methods in management and bottom-up strategy are extremely useful in supporting and maintaining these areas.

The importance of management for the success of the project in the railway sector

Management is not only an auxiliary function in the context of railway projects, but it is also a key line for achieving success (Müller/Turner 2017). Having technical knowledge is not sufficient to solve challenges, especially in situations where different national and cultural contexts, large number of team members and rapidly changing technological conditions collide. Leaders in management should act as communicators, leaders and agents in order to achieve the effectiveness and success of the team and the project. They are not only tasked with controlling project information such as cost, time and quality, but are also expected to have knowledge

of social competencies, emotions and interpersonal relationships. Such approach to projects and to man at the same time, increased success and quality of the project, but also most importantly, satisfaction and security (Edmondson 1999) of the human factor that is a fundamental part of every project.

Existing challenges

Despite all the above factors that mark success, there are always different challenges that need to be addressed. So, we can name one of the biggest obstacles and that is resistance to changes, whether technical or otherwise. This is especially true in traditional organizations. Thus, scepticism towards new management processes or methods is encountered (Goleman 1996). In this way, progress and introduction of novelties in the project are prevented. The next but equally important challenge is cultural differences that create misunderstandings and schisms in projects that ultimately fail. Excessive differences in values, work styles and communication habits make teamwork difficult and reduce the efficiency and success of both the project and the team. Managers should be able to recognize and effectively manage this diversity in order to foster a productive work environment.

Technical changes also pose a challenge (Adkins 2010). For example, automated process management or the use of AI-based systems require a great willingness to accept and change. Sudden or planned technological advances can cause uncertainty, uncertainty, and fear of the new (Edmondson 1999). It follows that management must be regularly interested in these situations in relation to the human factor and act proactively. Ultimately, it can be said that the complexity and speed of projects require a balance between well-organized and structured management and flexibility. It follows that international projects or projects with a large number of cultural diversity composed teams, require clear guidance and, at the same time, rapid response to unexpected challenges. It must be noted that the social competence required of the manager is required.

Thus, the above challenges highlight the great need for the continuous development of leadership skills to meet the dynamic needs of complex projects and the project environment.

Recommendations for future projects and research

On the basis of this study and its findings, important recommendations can be obtained for application in practice and future uses to improve situations in organizations and projects, both railway and engineering. Already in the early or first phase of the project, it is necessary to develop the skills that a leader needs to possess. This is particularly true of social skills and conscious use of cultural diversity and knowledge of the human factor (Wong 2007). Leaders must be able to reliably and safely manage the human factor, as well as know technological and organizational skills.

Intercultural and national change management training and programmes should be integral to the leadership development of each organisation. In this way, the sustainable development of cultural and national sensitivity and adaptability is en-

couraged (Goleman 1996). At the same time, according to Adkins (Adkins 2010), integrating Agile methods provides an efficient and flexible yet safe response to challenges, uncertainties and innovations. In particular, a more detailed study of hybrid leadership approaches that combine hierarchical stability with flexible flexibility is emphasized. This allows complex railway projects to be more human and adaptable and to be oriented towards the human factor.

The conclusion is very clear and says that globalization and technological change require a redefinition of leadership in which man occupies a central position. Because the success of a project depends on the social, Strategic and empathic interaction and combination between technology, cultures and people.

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SYNERGIES IN THE DIGITAL WORLD: PATHWAYS OF INNOVATION IN INTERNATIONAL BUSINESS

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Abstract: *This paper starts with a brief overview of globalization, how it appeared and how it developed throughout times. It stresses on the Golden Era of globalization and internationalization, driven by the technological advances and the liberalization of trade policies in the late 1980s. That time was also the time of the invention of digital technologies (like the computer and the Internet), which very quickly spread across the globe. The digital transformation which followed has revolutionized international business by fostering synergies across industries, markets, and economies. Technological advances allowed start-ups and SMEs to grow exponentially. The interconnectedness which the Internet created increased the appetite of companies to search for new markets, new services, new suppliers, and new human talent worldwide. This paper explores the pathways through which digital innovations enable international businesses to achieve competitive advantages, enhance operational efficiency, and drive global collaboration. Key themes in the paper include artificial intelligence (AI), blockchain, cloud computing, and data-driven decision-making. The paper also highlights the role of strategic partnerships in international business and touches briefly upon regulatory frameworks and cyber threats in the digital business landscape. Undoubtedly, the way firms operate nowadays has been influenced largely by the increased possibilities of digital technologies. Digitalization plays a pivotal role in today's globalized economy.*

Keywords: *synergies, digital world, business, globalization*

INTRODUCTION

The globalization of humankind has existed since ancient times. Early forms of globalization have occurred for millennia, but their scope remained somewhat regional. One of the most prominent examples from that time was the Silk Road, that connected East Asia, Central Asia, and Europe. The Silk Road became a powerful symbol of cultural exchange, international trade, and global interconnectedness. It also reflected early forms of diplomacy, partnerships, and interdependence. Over time, people tried to continue the quest for collaboration on a global scale, as it brought them numerous advantages. International cooperation helped knowledge and technology spread faster, leading to innovation and more scientific research.

The modern era of globalization began in the late 20th century. It became a true phenomenon, particularly after the 1980s with the technological advances and the liberalization of trade policies worldwide. It was further enhanced by the tremendous progress of information technologies, the development of numerous means of international communication, and the growth of international commerce. Globalization opened new doors, new possibilities and new horizons for companies and businesses. It broke down the limits and allowed investors to diversify global-

ly. In the modern ages of internationalization, companies could source materials, assets and talent globally, while reducing costs and improving quality of products and services. In the next few decades, the globalization processes intensified to unprecedented levels and speed, shaping today's globalized economy. This new economic order brought also unprecedented benefits to individuals as well. Consumers could benefit from the wider choice of products on the market, and the better prices due to increased competition and cheaper production abroad. Nowadays, people also have the chance to work for international organizations, without leaving their hometowns. That is due to the fact that firms also started to seek talent abroad or are opening positions on the specific market they want to target. Some scientists like Max Roser and Marian Tupy argue that humanity is currently living in the wealthiest era ever and is experiencing the highest levels of well-being. (based UNDP's 2023/24 Human Development Report).

The globalization of markets refers to the process by which markets around the world become increasingly interconnected and interdependent. This phenomenon allows businesses to sell products, services, and ideas across national borders, leading to a more integrated global economy. As communication, transportation, and technology thrive, the barriers to international trade and investment continue to diminish, enabling a global marketplace. The global marketplace includes all the systems, platforms, people, and processes involved in buying, selling, and trading goods and services across international borders. It is basically the big theatre stage where businesses, governments, and consumers from around the world interact economically and create and bring value to one another. A lot of scientists and researchers became fascinated by the idea and evaluate the current situation as a new economic order, like Thomas Friedman who quotes that "Globalization is not just a trend. It's not just a passing phenomenon. It's the international system that replaced the Cold War system." However, there are also other scientists who do not fully agree. Nevertheless, they give the necessary credit, they also criticize the new global internationalization. They admit it brings scientific progress, cultural exchange, and economic opportunity, but criticize the way globalization is managed, like Joseph Stiglitz who said that "Globalization has enriched the world scientifically and culturally – and benefited many, particularly the well-off."

Digital Strategies and Innovation in Business

The development of technologies and especially digitalization has been a wild and fascinating journey, spanning decades of innovation, breakthroughs, and why not even some lucky accidents. Starting from the invention of the binary code and computers, through the rise of microchips, the Internet era and the Mobile and Digital revolution to the new trends in the digitalization – technologies like AI, Big Data and IoT started to dominate the world stage in the recent years. Not unexpectedly companies also started to think digitally and to apply strategies related to the new digital technologies booming on the market. International expansion of business is the natural way to go when companies seek growth, increased revenues and acquisition of

new customer data base. Internationalization and digitalization became correlated, and companies started to adopt a lot of new technologies in their daily operations.

The globalization of markets has intensified the need for businesses to adopt digital strategies that foster innovation and efficiency. Internationalization strategy of companies started to increase when digital technologies allowed them easy access to other types of markets. However, not surprisingly enterprises face much strong competition when they go global. And the situation becomes much more challenging in the times of knowledge economy. This fact also reinforces the need for business to be creative, to keep innovating and to come with out-of-the-box solutions. Digital services and digital platforms become the natural means to achieve innovation, create demand and open new markets. It helps enterprises to stay on top of the open pipeline of opportunities. Digital synergies enable firms to expand their reach beyond borders, to optimize supply chains, and enhance customer engagement. Digital tools and means are used by companies, who want to promote, communicate and reach various partners across the globe. Digitalization and digital transformation are also a key focal point for companies that want to improve their overall performance. Today's economic realm is moving at a very fast pace. It is very sensitive to the adoption of new technologies, and it is very elastic to local disruptions and regional and local occurrences, or events. Digital strategies are undoubtedly the key to staying competitive in today's fast-paced business environment.

A few of the most famous scholars who contribute significantly to our understanding of how digital technologies influence international business dynamics, organizational strategies, and economic structures are Annabelle Gawer and Vili Lehdonvirta, representing the UK school and Wanda Orlikowski from MIT. *The Second Machine Age* and *Machine, Platform, Crowd*, by Erik Brynjolfsson and Andrew McAfee is one of the best research projects on this topic. The authors analyze how digital innovations transform business and society nowadays and quote that: "Now comes the second machine age. Computers and other digital advances are doing for mental power – the ability to use our brains to understand and shape our environments – what the steam engine and its descendants did for muscle power."

This paper aims to outline the best-known digital strategies organizations can adopt to drive both innovation and efficiency within organizations in their efforts to internationalize.

1. Cloud Computing

Cloud Computing and Edge Computing became widely used as terms in the mid-2000s. But the most widely accepted and foundational definitions came from the National Institute of Standards and Technology (NIST) in the United States. In 2011, NIST published a formal definition which reads: "Cloud computing is a model for enabling ubiquitous, convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction."

Alongside this, the term also includes the delivery of computing power and services over the internet (“the cloud”). It allows users to access and use these computing resources on-demand without the need to own or manage physical hardware. All required resources such as servers, storage, databases, networking, software, analytics, and AI are hosted in the Internet. The powerful computing resources remain isolated from the complicated hardware and software infrastructures, which need heavy investments. Cloud computing is a paradigm that involves storing information on internet servers. Enterprises and people can access it through various devices like desktops, tablets, and smartphones. With the help of cloud computing people perform all complex computational tasks over the Internet by using virtualization techniques. Users do not invest in building and maintaining their own infrastructure and resources. Instead, they pay a flexible recurring fee for usage, making it a cost-effective solution for computing and information needs.

In the era of booming start-ups, and small and medium-sized enterprises seeking international expansion and new markets, the possibilities that cloud computing gives are unprecedented. They allow companies to expand their reach globally by spending only OPEX. Further, OPEX can also be optimized in case of need. SMEs are generally limited in their resources and international experience therefore cloud computing gives them the needed expertise and professional experience. In the global liberalized market, the demand also creates supply. Therefore, in these times new providers of such cloud computing services appear and spread globally with rapid speed. Companies such as Amazon, Google, and Microsoft became the leading names in this field. And currently rank among the top-performing global companies. The technological innovation and progress allowed these companies to build and expand their networks globally, whilst carrying terabytes of information and data. Cloud computing and digitalization allow the establishment of strategies that increase the internationalization of companies. Innovative companies take advantage of new technology and scientific progress to drive their business globally, to reach new partners and to increase their profits.

2. Automation and AI Integration

The first formal definition of Artificial Intelligence (AI) is widely credited to John McCarthy. In 1955 he described the term artificial intelligence as “The study is to proceed on the basis of the conjecture that every aspect of learning or any other feature of intelligence can in principle be so precisely described that a machine can be made to simulate it.” In other words, “AI is the science and engineering of making intelligent machines, especially intelligent computer programs.” a quote also attributed to John McCarthy. The focus of this innovation is on systems learning automatically from experience instead of being programmed. AI is nowadays very widely used, especially in image recognition, speech recognition, and the creation of chatbots.

In general, AI and automation can help the innovation processes like supporting the invention of new products and launching new services. They also facilitate the

work related to the creation and analysis of the business models. They help automate processes, generate insights, and in general support companies to take informed decisions, based on predictable data. AI-powered solutions improve decision-making and enhance automation. AI facilitates predictive analytics. It enables businesses to anticipate, predict and react with knowledge to market trends. Automation optimizes supply chains and is also used in financial matters to assess and minimize business risks. One of the most popular uses of AI is the chatbots companies use to communicate and interact with their customers and business partners. Therefore, it personalizes customer experience. Machine learning algorithms enhance customer interactions through chatbots, recommendation systems, and natural language processing. In international trade, AI-driven automation streamlines compliance checks and helps identify and detect fraud. Logistics management also take advantage of automation, making cross-border transactions more efficient and secure. It is considered that automating repetitive tasks reduces human error and frees up valuable time for employees to focus on higher-value work, improving overall productivity

AI applications appear widely and are spreading quickly among different businesses. One of the most famous virtual assistants are Siri, Alexa, Google Assistant. They can understand voice commands and perform different tasks, based on Natural Language Processing (NLP), Machine Learning and Speech Recognition. They can answer questions, send messages, play music, control smart home devices, convert speech and words into text, so that the system can process it, and even do automatic translations.

AI and automation play a huge role in helping businesses grow internationally and compete in the new realm of the knowledge economy. They help enterprises operate more efficiently across borders. AI can be used to analyze big data gathered from different countries (reviewing social media, following and analyzing market trends). It also helps companies to understand foreign markets, to get knowledge on consumer behavior, and to acquaint the company with the cultural preferences in the new markets. Based on that companies can create personalized marketing, or tailor country-specific, or region-specific marketing campaigns. The automation processes consider the local languages, the local culture, and the buying habits of the people who inhabit the country the company targets. Supply-chain and logistics also benefit in terms of predicting shipping delays, choosing the most efficient routes for delivery, and managing inventory. AI helps companies manage their complex global supply chain and subcontractor relationships.

One of the most widely recognized uses of AI applications is the Netflix recommendation system, which recommends TV shows and films based on a person's viewing history and tastes and preferences. It further analyzes information, sorts out interests and recommends things which similar users also watched.

3. Blockchain and Smart Contracts

Blockchain and smart contracts are other very powerful tools that helps digitalization of international business and not only. Blockchain technology first appeared

in 2008, with the release of the white paper titled “Bitcoin: A Peer-to-Peer Electronic Cash System” by Satoshi Nakamoto. A blockchain is a decentralized digital ledger that records transactions across many computers. Key characteristics include decentralization, immutability, transparency, and security. Decentralization means that blockchain technology does not depend on single authority. It spreads across a vast network of computers, located in remote nodes globally. This network and technology run completely independently and does not face authority or legislation restrictions. Data based on blockchain is managed easier and there is no need for an appointed organization to approve transactions. Transactions are approved collectively and by consensus. Once written, data cannot be easily changed. Therefore, it provides full transparency on past transactions. After a transaction is added and confirmed in the blockchain, it becomes a permanent record. Therefore, every single action can easily be tracked even to the very beginning. This ensures trust and data integrity. All transactions are visible to the whole world, therefore public blockchain like Ethereum or Bitcoin, became so popular and are constantly increasing their value over time. Blockchain is secured by cryptography and consensus algorithms. Cryptography ensures the data is secure and private, and consensus algorithms act in such a way that transactions need to be agreed upon collectively. A smart contract is a self-executing program stored on a blockchain that runs when predefined conditions are met.

All in all, this new technology which has appeared on the market is also very important for international business. It ensures security, trust and transparency, especially in cross-border transactions. This gives additional benefits to the enterprises, who try to develop and run internationally. Blockchain technology enhances trust by reducing the risk of fraud and providing immutable transaction records, which are crucial in international trade agreements. Smart contracts enable automated execution of trade agreements, reducing delays and disputes in supply chain management. Furthermore, blockchain facilitates decentralized finance (DeFi) solutions, allowing businesses to access alternative financing options in global markets.

4. Big Data and Analytics

Big Data is another digital instrument, which enables data-driven strategies for market expansion globally. It is also very much related to risk management, when evaluating new opportunities and entry into new markets. Big data appeared as term which describes extremely large and complex data volumes and data sets which cannot be handled effectively by the traditional data processing tools. These datasets come in high volume, with high velocity (speed of generation), and high variety (structured, unstructured, etc.). These are often called the 3 Vs of Big Data. The progress and advance of computing power and resources allowed the emergence of the supercomputers or the Peta-scale computers. These ultra-fast machines handle extremely complex and large-scale computations. They are widely used nowadays in scientific research, engineering and in business stimulations, big data analysis and evaluation of risks. Analytics additionally supports the process of examining this

data to uncover patterns, correlations, trends, and insights. It includes techniques like descriptive, predictive, and prescriptive analytics to support decision-making based on big data. Big data increases the predictability of events and patterns and enhances credibility to outcomes and results. Advanced analytics tools allow enterprises to extract actionable insights from vast amounts of consumer and market data. Predictive analytics helps forecasting. And supports businesses to tailor supply processes and inventory management across the vast field of international markets. Additionally, in finance, big data enhances fraud detection mechanisms in financial transactions and ensures compliance with international regulatory standards.

Big data and analytics are used in international business to perform market simulations and to predict trends in the company's revenue and cost budgets. They are an important tool in corporate finance and are used in global financial risk modeling. Supply chain and logistics optimization are benefitting a lot from these digital instruments, especially when we speak for businesses that run on a global scale.

A solid example of how these digital instruments is used in reality is Amazon. An e-commerce company that currently operates in more than 100 countries and uses cloud computing in almost every aspect of their operations. Based on this they do customer personalization, use dynamic pricing based on supply-demand correlation and optimize their supply chain organization. Big Data allows international businesses like Amazon to understand local markets deeply, respond faster, and operate more efficiently globally. Thanks to the power of the supercomputers, international businesses can research the new markets easily and effectively. They can study the local consumer behavior and derive informed decisions. They also get fair knowledge on the local laws and legal frameworks. They can get knowledge on the existing infrastructure and get to know their competition on the targeted market in advance. Apart from that firms can study the trends in social media and can use and benefit from search engine queries. They can also follow all economic indicators per market and summarize global economic data. The availability and use of this information prepares firms for the entry into the new markets and helps them create effective sales and marketing strategies, that would lead to the expected results and a quicker return on investment.

5. Augmented and Virtual Reality

Augmented Reality (AR) is a technology, with the help of which digital elements can be added to the real world through devices like smartphones, tablets, or AR glasses. These digital elements include images, sounds, or other types of data. Virtual Reality (VR) creates a fully immersive digital environment that totally replaces the real world. This is usually done through a VR headset, and the mind is immersed into a totally different reality. For example, this is very often used in situations where you can walk around a virtual environment, building or location. These two technologies – AR and VR, also transform international business in several ways. Although AR and VR are very much associated with gaming or the entertainment industry, a lot of companies are using them for remote training and team collaboration. For

example, some companies from the heavy industry can use these techniques to train employees in different countries using VR simulations. That could be for example safety drills, or training on use of machinery or other instruments. Global retail and e-commerce use AR and VR to improve customer experience, boosts customer engagement, and help personalize customer preferences. A good example of this is IKEA, whose mobile application allows customers around the world to see how furniture fits in their home using only their phone. One of the most common uses of these digital technologies is in product design and prototyping. International teams can collaborate in virtual environments, they can test and inspect digital prototypes overlaid on different physical spaces. This speeds up innovation and reduces costs and shortens time to market for new products.

Both AR and VR help international businesses by improving team collaborations and internal communication. It aids cutting costs for research and development and shorten time for launching new products. Additionally, they enhance customer experience and boost customer satisfaction. And all this results in accelerating global operations and deepens the globalization processes.

Globalization also allows firms to create strategic digital synergies in their international operations. Companies run businesses globally and multinational corporations are increasingly leveraging integrated digital ecosystems to enhance efficiency and connectivity across global markets. These ecosystems involve interconnected platforms, digital supply chains, and seamless data exchange to drive innovation. Cloud-based infrastructure and IoT-enabled systems allow businesses to operate in multiple regions without significant operational friction. Additionally, companies collaborate with technology providers, fintech solutions, and logistics firms to build adaptive networks that support scalability. Examples include Amazon's global fulfillment network, which utilizes AI and robotics to streamline logistics, and Alibaba's digital trade ecosystem, which connects businesses through cloud-based e-commerce platforms. Such ecosystems also rely on regulatory compliance frameworks and cybersecurity measures to ensure smooth international operations while mitigating risks associated with data breaches and cyber threats.

Cybersecurity is a big concern of firms and individuals in the increasing digitalization of contemporary life. On top of that, in some territories companies also face regulatory challenges. They are associated with and address data privacy concerns and compliance issues. Cyber threats such as data breaches, ransomware attacks, and intellectual property theft pose risks to businesses operating in multiple jurisdictions. The complexity of global cybersecurity regulations, such as the General Data Protection Regulation (GDPR) in the EU and the California Consumer Privacy Act (CCPA), necessitates compliance strategies to protect consumer data and prevent legal repercussions. Businesses must invest in advanced cybersecurity measures, such as encryption, multi-factor authentication, and AI-driven threat detection, to safeguard sensitive information. Additionally, regulatory frameworks governing cross-border data transfers and digital taxation continue to evolve, requiring companies to adapt to shifting compliance requirements. The growing em-

phasis on data sovereignty further complicates international business operations, as governments impose restrictions on data storage and processing within national borders. Addressing these challenges requires a collaborative approach between businesses, regulators, and cybersecurity experts to establish global standards that balance security, privacy, and innovation.

CONCLUSION

The rise of digital marketplaces has significantly transformed international business by lowering entry barriers and expanding market reach. Platform-based IT solutions have boomed in recent years and help internationalization. Platform-based business models enable firms to operate across borders with minimal physical presence, leveraging digital infrastructure to connect buyers and sellers worldwide. Companies like Amazon, eBay, Alibaba, provide merchants with the necessary tools to reach global customers while streamlining logistics, payment processing, and customer service. The success of platform economies is driven by network effects, where increased participation enhances the value of the ecosystem. E-commerce platforms also enable small and medium-sized enterprises (SMEs) to enter international markets without extensive capital investment, fostering economic growth and innovation. Furthermore, advancements in AI, big data, and blockchain have enhanced personalization, fraud prevention, and supply chain efficiency in global e-commerce. However, regulatory complexities, cybersecurity risks, and digital taxation remain challenges that businesses must navigate to ensure sustainable growth in platform economies.

Digital synergies are reshaping the landscape of international business, fostering efficiency, innovation, and global interconnectedness. Firms that strategically integrate digital technologies will continue to thrive in an increasingly digitalized global economy.

Digital progress and technologies facilitate seamless international collaboration and scalability. Cloud platforms provide businesses with scalable infrastructure, enabling global teams to work remotely with real-time data access. Edge computing enhances data processing efficiency by reducing latency, improving operational responsiveness for multinational corporations operating in diverse locations. The combination of cloud and edge computing optimizes business continuity planning by ensuring data redundancy and resilience against cyber threats.

The digital era in which we are now undoubtedly reshapes the international landscape and not only. No-one can imagine the world anymore without the Internet, computers and digital technologies. Digitalization has embedded itself in our daily lives. What will come next is a topic on which futurists, technologists, and sociologists love to theorize about. But all scientists agree that digitalization and internationalization have both changed our lives and there is no turning point. So, the future will certainly offer us new ways to use the digital tools we all know today. What exactly these ways will be, remains for us to discover.

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MUNICIPAL FISCAL POLICY: IMPACT-ORIENTED OUTPUT CONTROL IN THE NEW BUDGET LAW

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Abstract: *The development of a continuous fulfilment of tasks requires a sound financial management based on efficient administrative processes. A financial policy can only be sustainably successful if the municipalities succeed in linking and implementing their goals and the necessary strategic and operational orientation. Holistic control requires efficient management of administrative processes. Only then is it possible to ensure the quality of services. This requires structured and meaningful data collection and processing. The profitability of the performance of municipal tasks can be measured and assessed primarily on the basis of key performance indicators. They are indispensable if the range of services offered by the municipality is to be discussed in a qualified manner and if the municipal councils are no longer to determine their political priorities only on the basis of input on the expenditure or cost side. With regard to the outcome, the performance targets are the basis for the impact targets. This allows citizens to see what a municipality is using its financial resources for. Only in combination with the other instruments and modern technologies can an administration be transformed into a modern service company.*

Keywords: *Efficient administration processes; key performance indicators; impact targets*

INTRODUCTION

Results-oriented management can only be successful if each management clearly formulates the objectives, the monitoring of progress and the achievement of goals. Progress monitoring is important for the definition of indicators. Goals can only be achieved if everyone involved knows what needs to be done. Therefore, the goals must be assigned to the individual control levels and agreed. In addition to the definition of the target term, the goal-setting process is also decisive.

Management requires results-oriented objectives and a link to strategic planning. Costs play a role in this process because they limit the possibilities of setting goals at all due to the limited financial resources available. The municipality can therefore only set goals that it can achieve on the one hand and finance on the other. The political leaders are primarily concerned with ensuring the appropriate effectiveness of their actions (effectiveness) and only secondarily with economic efficiency (efficiency), (Hafner 2019). Ineffective actions cannot be economic from the outset. For this reason, it is essential to review the efficiency of the individual administrative processes. The basis for this is controlling, which is structured in such a way that the information can be processed in a targeted manner. For the tasks to be fulfilled by a municipality, the question arises as to what possibilities there are for impact-oriented administrative control. The decisive factors are the effects, which depend on what the politicians want to achieve in the individual municipality. The impact goals

already described are the first choice for the municipal council, (Beck 2015).

In order to ensure that goals are achieved, it is necessary to distinguish between several levels of control and to assign the right measures to them. There is the strategic and operational control level. The strategic control level (long-term time horizon, longer than four years) has the task of selecting and determining suitable measures that are necessary to achieve the jointly defined goals (overarching, intermediate, sub-goals) (Hafner 2019). The focus of strategic management is therefore on selecting those measures from possible measures that are particularly suitable. In addition, these must be bundled in such a way that they can actually be used to achieve the goals set. This centre is the municipal council's field of action. In contrast, the operational control level is the lowest level of control. The operational level is about actions and measures that can be formulated in concrete and detailed terms. They are predominantly short-term, i.e. they last less than one year and relate to the current calendar year, (Hafner 2019).

Since a municipality wants to meet several goals, the use of target systems becomes indispensable. The goals must define the output to be achieved. The first central point is therefore the formulation of goals. The second central point concerns the networking of the goals into a system that logically links the goals down to the operational level (Wöhe 2023).

RESEARCH METHODOLOGY

Goal hierarchy Interviews with practitioners and articles in commentaries were reviewed, specialist journals and textbooks show that the diversity of municipal tasks can only ensure the sustainable and viable development of a municipality in the future if local authorities succeed in reviewing and modernizing administrative processes internally. Those involved can and should open up to digital transformation processes and “back up” the administration manager (mayor) during implementation. Schenk and Schneider aptly describe this process and the associated challenges in the book “Mit Dem Digitalen Reifegradmodell Zur Digitalen Transformation der Verwaltung: Leitfaden Für Die Organisationsgestaltung Auf Dem Weg Zur Smart City” (Schenk/Schneider 2019). Promoting the well-being of residents in the long term requires a structured system of objectives with regard to setting and achieving goals.

RESULTS

In order to achieve their goals, i.e. to be able to work in a goal-oriented and purposeful manner, the municipalities need not only the mission statement and the target system, but also strategies to optimise the distribution of resources, to make it more effective and to coordinate and manage the decision-making flows of the individual individuals. This process will become all the more important in the future, as new technologies, especially artificial intelligence, will lead to decision-makers having to come up with a justification for the decision-making options supported and created by AI. The justifications must then be valid and convincing.

A strategy is not a detailed plan or program with instructions, rather it is “a path” that provides the context and direction for actions and decisions of a person or an organization. They are primarily concerned with concepts, systems and techniques that are important for the advancement of people and organizations (Ritz/Thom 2019).

Strategies are the hierarchical aggregation of actions or actions. Measures that can be assigned to the target system. At the operational level, the sub-objectives are achieved with the measures defined as necessary. While the achievement of the sub-goals automatically leads to the achievement of the intermediate goals or overarching goals, individual measures together result in the strategies (Ritz/Thom 2019). Therefore, a division into strategic and operational goals is not helpful for practical implementation.

In a first step, strategies can be assigned to the overarching goals. Because the actual achievement of the defined overall goals is important to the municipal council, it also determines the appropriate strategies for this. This also follows, among other things, from § 24.1 sentence 2 GemO. The municipal council “lays down the principles for the administration of the municipality and decides on all matters of the municipality”. It is clear from this provision that the municipal council lays down principles that result from the mission statement and, above all, correspond to the overall goals. It can determine suitable strategies for achieving these goals, but it can also leave this to the mayor. The mayor takes on a double role. On the one hand, he is obliged to provide the municipal council with the necessary information based on data. On this basis, the municipal council decides on the resolutions. As manager, the mayor is responsible for internal administrative operations. In this function, he has to coordinate and be responsible for the economic efficiency of the processes.

Where the interface between the municipal council and the mayor is located must be decided in the individual municipality according to its situation. The municipal council can concentrate on the overall goals and delegate the determination of the intermediate goals to the mayor, but it can also determine the level of the intermediate goals itself, (Wöhe 2023).

Target term

The term “goal” refers to a state that lies in the future and is generally changed, desirable and aspired to compared to the present, (Vahs 2023). If one considers the target term of the European Union, the target term is interpreted differently in Article 3 TEU (Treaty on European Union). According to the preamble of the Vertrag über die Europäische Union (EUV), the EU is designed for further development (Streinz 2018). In terms of integration, an objective is defined “of prospects for overall development”, (Classen 2014). In summary, an objective can be interpreted as a “standing order” with a development of the respective current situation. This standing order can be understood as a continuous “process” with the achievement of success, which takes place within laws and regulations.

A goal is thus first and foremost a defined and desired end point of a process,

usually a human action. In other words, goals are the intended effects of actions. The goal often marks the success of a project or a more or less elaborate work. Without goals, it is not possible to steer, neither the pursuit of success nor economic or efficient action is possible. If no goal is set, it is possible to determine the starting location, but not to determine the target location and consequently no target-actual comparison.

It is therefore important to be careful when setting and defining goals, because wrong or exaggerated goals are counterproductive. Unattainable goals demotivate even more than no goals. Therefore, goals must be realistic and achievable. In addition, they must be specified in terms of content, degree of fulfilment and time. They should be simple, clear and impressionable (Beck 2015).

Goal setting process

Just as the goals in a company are hierarchically arranged, municipalities should also define and structure goals. In doing so, they must observe the legal framework. Just as productivity management in a private company aims to achieve productivity goals through analysis, planning, control, improvement and monitoring, municipalities must review their services in this regard as part of the fulfilment of their tasks, (Eisele et al. 2020).

In contrast to the economy, municipalities generally aim to develop the fulfilment of the community tasks assumed by the public sector in the public interest (e.g. education, transport, energy supply, climate protection, all-day care in primary schools, etc.), i.e. municipal activities are not primarily carried out with the intention of making a profit, but for the sake of the public purpose. For example, a distinction can be made between performance targets, demand management targets and load targets. The performance targets deal with meeting needs. They determine what type of service is to be offered in what quantity and quality and in what time and place. Demand management controls demand; in this case, the price policy, the quality offered or the forced influence of the compulsory connection or a restriction come into consideration. Conflicts with financial objectives can arise, especially in the management of demand, (Schmid 2002).

Key figures

Key figures are intended to provide fast, concise and condensed information about the achievement of goals, for which there is usually a lot of significant individual information, (Wöhe 2023). In this respect, the new control with goals can work by naming sub-goals at the lower level of the goal hierarchy and assigning key figures to them. However, defining key figures is not enough. Rather, the indicators must be identified and implemented so that the processes are optimized and run smoothly. The basis for this is a well-developed and structured data culture.

Goal determination

Goals must be measurable. They are measurable if they can be described using

key figures and a target key figure value is specified for each individual goal. It is important to recognize that the impact goals play a decisive role before the financial goals (input). The “outcome” is the result of effective processes. The effectiveness of processes is also used to assess the achievement of goals (Beck 2015).

The aim of output-oriented management is the permanent, economical, sustainable and efficient development of the performance of the tasks of the municipalities in the interest of a high level of citizen and customer orientation. The most important prerequisite for the successful implementation of reforms is the formation of strategies and the decision to implement them. A further requirement is the definition of clear, influenceable and achievable goals from which the service to be provided is defined. The central point is the formulation of goals. The prerequisite for achieving the goals is the development of controlling, which in turn is based on data. In order for the achievement or deviation from the agreed output targets to be transparent, the degree of target achievement must be measured. From the measurement results, the controlling department derives its recommendation to administrative management and politics (Gerhardt 2003).

Target Types

Basically, goals can be divided into factual and formal goals. Factual goals have an instrumental character. They are in the service of achieving formal goals, e.g. to provide services of a certain type, quantity and quality at a certain time. This makes it clear that objective objectives specify the content of target parameters. They are about what should be done in what quantities, in what quality and in what period of time.

Formal goals, on the other hand, are the economic goals of an administration. Formal objectives describe how the substantive objectives are to be achieved. This includes, for example, legality, thriftiness and economic efficiency. In the context of economic efficiency, the efficiency of the administration and its processes will first have to be examined and optimised. New technologies can and should be used so that municipalities can fulfil their tasks for the common good in the long term, (Wöhe 2023).

CONCLUSIONS

Ideally, a community-specific mission statement serves as the basis for all goals based on it. This mission statement should guide action.

A mission statement to “live” is possible if local politics sets goals oriented towards the ideals and aligns its actions accordingly. While the mission statement only has to be adapted to developments at longer intervals, the discussion about goals and measures and the achievement of the defined goals is an “ongoing business” of municipal politics. The targets must be constantly adjusted: overarching targets at longer intervals beyond the financial planning, intermediate and sub-targets in the period of financial planning or for the financial year. All measures for which funds are to be made available in the budget must be selected from the point of view of

how they can contribute to the achievement of the objectives set. This leads the municipality to maximise the welfare of its citizens with a given input. From a wide range of measures that may be suitable, those will be selected, taking into account the financial possibilities, which will have a reasonable balance between effort and impact, i.e. which will be particularly efficient, for example. And this is where the management of process flows in the internal operations of a municipality comes in. Based on a structured and organized data culture, controlling can provide the necessary information to provide decision-makers with a basis for making decisions. The measures selected in this way are combined into strategies for the municipal areas of responsibility. The lack of the data and target structures and strategies described above leads to considerable difficulties in fulfilling the tasks at the local and global level, especially in times of crisis. Especially in difficult times, it is important to act thoughtfully and purposefully.

The interaction between mission statement, target structure, strategies, data and budget does not always work ideally in practice. Ultimately, at the end of the entire restructuring process, there will be a coordinated and functioning system for achieving the local and global UNESCO goals.

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REVIEW

OF A PROCEEDINGS WITH SCIENTIFIC PAPERS FROM THE ROUNDTABLE HELD IN QATAR ON THE TOPIC: “SYNERGIES IN THE DIGITAL WORLD – PATHWAYS OF INNOVATION” WHICH INCLUDES SCIENTIFIC WORKS (PAPERS, ARTICLES, SCIENTIFIC COMMUNICATIONS) REPRESENTING VARIOUS ASPECTS RELATED TO INTERNATIONAL BUSINESS, SOCIALIZATION OF CULTURAL HERITAGE, CULTURAL TOURISM, INNOVATIONS, NEW TECHNOLOGIES, ASPECTS OF NATIONAL SECURITY IN THE CONTEXT OF GLOBALIZATION

The proceedings with scientific papers from the roundtable held in Qatar on the topic: “Synergies in the Digital World – Pathways of Innovation” includes scientific works (papers, articles, scientific communications) that present various aspects related to international business, socialization of cultural heritage, cultural tourism, innovations, new technologies, aspects of national security in the context of globalization. The views of leading specialists and experts are presented in the field of digitalization of processes and innovations in modern technologies related to business, the socialization of cultural heritage, cultural tourism and some trends in national security in the globalizing world. The scientists participating in the roundtable are from different specialties but seek synergies that they find in the interdisciplinary approach of both the roundtable and the challenges of the modern world, which requires innovative solutions from technology. Also, digitalization specialists find the algorithms by which these solutions acquire a finished form, ready for application in business. The project emerged under the new scientific paradigm: A Model for Academic Cooperation in the Field of Science, Strategic Planning, and Innovation, aiming at the preservation of cultural identity and capacity development, contract KPI-06-H85/5 – 05.12.2024, funded by the “Scientific Research Fund” – Bulgaria.

The very selection of the topic for the round table in Qatar, although quite extensive, is left open to practically all topics and ideas that can be taken out of their individual focus and appropriately connected in the amalgam of the scientific experiment in a healthy mixture, which can find its appropriate place in the order of modern society. The scientific problems raised in the papers show a wide variety of topics and are a good basis for a dialogue that does not impose, but rather suggests for discussion, topics and ideas related to contemporary societal pursuits. The experience in the field of education of the famous Bulgarian scientist and President of the Board of Trustees of the University of Library Studies and Information Technologies prof. Stoyan Denchev and his paper “International Business and Education: A Converging Paradigm” examines the relationship between international business (including international tourism) and education, exploring how business schools, universities, and corporate training programs are adapting to meet the challenges of a globalized economy. The study highlights the role of international student mobility, digital education, and interdisciplinary approaches in fostering a globally compe-

tent workforce. Additionally, it analyzes the implications of international business education on economic development and global cooperation. The paper concludes by recommending strategies to enhance the synergy between education and international business. Prof. Hristina Hristova, who is the dean of the Faculty of Library Studies and Cultural Heritage, and Gunay Husmen, PhD candidate, made a great contribution to the round table discussion “Online Communication and Communication Policy – Theoretical and Methodological Aspect”. This article examines the theoretical and methodological aspects of online communication and communication policy, analyzing their basic principles and challenges. Another great specialist in the field of cultural heritage prof. Vanya Dobрева discusses topic of “Cultural Contacts and Interactions on the Basis of Literary Tourism”. The author states that literary tourism is a field in which imaginative and artistic elements are beginning to be used for the purposes of tourism service, and it has increasingly come to the fore in scientific developments in recent decades. The researcher highlights the wide possibilities of literary tourism both for the cultural knowledge of peoples, for the understanding of values, ways of thinking and lifestyles, and for raising the level of education through the reading and reception of artistic works. “The Role of Education for Implementing the UNESCO Convention for Safeguarding Intangible Cultural Heritage” was the topic of discussion held by Prof. Sofia Vasileva. The aim of this paper is to present key aspects of the application of the UNESCO Convention for the Safeguarding of Intangible Cultural Heritage through the expansion of educational and training opportunities. It showcases good practices from the experience of the University of Library Studies and Information Technologies (ULSIT) in implementing innovative educational models that create a cycle of interaction between education, research by young scholars, engagement with the cultural and natural environment, conferences and seminars, exhibitions, communication, international cooperation, and exchange. Prof. Rumen Draganov has developed his idea on “Artificial Intelligence in Tour Guiding Practices in Educational Tourism” and discusses on the connection of AI with the tour guide talk and the subsequent expansion of the scope of information from students in educational tourism opening new layers of knowledge that support the learning process. The paper states that tour guide talk and communication skills for providing educational information through AI should be the basis of the methodology used. Prof. Ventzislav Velev discusses on searching of innovative models aimed at preserving “Cultural Identity and Developing Capacity”. The study examines good practices from Bulgaria, highlighting how new technologies and interdisciplinary approaches can improve the effectiveness of cultural institutions identifying key factors and mechanisms for capacity building and offer practical guidelines for sustainable preservation of cultural identity. “Techniques For Ancient Manuscript Analysis” is the discussion by Prof. Georgi Dimitrov and Dr. Inna Dimitrova. The research centers on palimpsests – historical manuscripts where the original text was erased and replaced with new content, presenting unique challenges for researchers and conservators. Through detailed examination of contemporary methods of image preprocessing using AI,

the authors demonstrate how modern technology enables the restoration and improved readability of hidden texts.

The discussion on “The Modern University Information Environment as a Basis for the Development of Tourism and Preservation of Cultural heritage” held by Assoc. Prof. Diana Stoyanova, Assoc. Prof. Ralitsa Yotova and Assist. Prof. Stoyan Boyanov, highlights the key role of universities as drivers of sustainable development in the fields of tourism and cultural heritage. Higher education and scientific research provide the necessary theoretical foundation and practical tools for effectively integrating sustainability principles into tourism policies and strategies. The authors state that Universities not only prepare highly qualified professionals, but also create innovative solutions through interdisciplinary research and international collaboration contribute to economic development and the preservation of cultural resources. Prof. Grudi Angelov and Assoc. Prof. Steliana Yordanova have developed an idea of “Nation and National Identity as the Basis for the Formation of the State and Statehood”. The discussion explores the fundamental concepts related to the building of the state and the process of constructing the nation’s identity. These concepts encompass not only the history and culture of the people but also their values, beliefs, and social structures, which form the foundation of modern statehood. On the other hand, a nation represents a united group of people connected by shared cultural, ethnic, historical, and social characteristics. National identity is the internal sense of belonging to a particular nation, based on shared experiences, traditions, language, symbols, and history. Assoc. Prof. Nina Debruyne discusses the “Socialization of Cultural Heritage (A Theoretical Model Proposal)”. The topic of the socialization of cultural heritage has been the subject of research for several decades. This author presents a brief scientific discourse on the topic and presents a proposal for a model of socialization of cultural heritage. “Epigraphic Monuments as Part of the Cultural Heritage from Roman Times in Bulgaria” is the topic offered by Assoc. Prof. Kalin Stoev, who states that the integration and popularization of work with these databases will give the study of cultural and historical heritage a social dimension and will provide an additional incentive for understanding the ancient culture and society in the Bulgarian lands.

Another topic of discussion is the study based on “Military Monuments in the Modern Information Environment” by Assist. Prof. Antoniy Stanimirov and Assist. Prof. Arsini Kolev. The paper examines the list of created monuments dedicated to the Balkan Wars in Southeastern Bulgaria and their implementation in the modern information system. Special attention is paid to the modern understanding and appreciation of the dedication of Bulgarian heroes to their lives in the name of the motherland. Information technologies offer great opportunities for the protection, preservation, and promotion of cultural memory in the context of globalization and the spread of cultural memory. “Mentoring as a Bridge: Knowledge Transfer in the Context of Digitalization and Demographic Change” is the topic of Ali Sanci – PhD student. The discussion examines mentoring as a strategic tool for knowledge transfer in the context of digitalization and demographic change. Based on existing

and current literature, the results show that mentoring promotes intergenerational learning, transfers both implicit and explicit knowledge, and supports cultural adaptation processes in the digital transformation. Sophie Volberg – PhD student discusses on “Communication between Tax Advisor and Client In the Digital Age: Opportunities and Challenges of the Use of Artificial Intelligence in Tax Law”. The study is based on a combination of practical experience in a tax firm and an extensive literature search. It was found that the integration of AI into tax consulting brings numerous benefits, especially in the areas of automation of routine tasks, error reduction, personalized advice, and more efficient communication. An interesting discussion is held by PhD student Daniel Schwarts on the digitalization in the restaurant industry in connection with staff perspectives on sustainability, efficiency, and training in operational practices; Claudia Kristin Felke-Theben and her topic “Peer Counseling and generation Z – A perfect match?”; Karim Jillab with his topic on “The Digital Turn in Higher Education: Challenges and Opportunities in the Post-Covid Era”; Sam Amory with “Synergies In The Digital World – A Pathway of Innovation”; Ilona Hofmann with her “Survey Results on the Suitability of Fields of Action and Frameworks for Digitalization in Connection with Cyber-physical Systems”; Stefan Wiche with his paper: “The Impact of Digital Transformation on a Company’s HR Management – An Analysis with a Special Focus on Social Media”; Zrinka Lorch discusses on “Focusing on People: Leadership Strategies for Effective Project Management in the Railway Sector”; Tanya Tzigrularova talks about “Synergies in the Digital World: Pathways of Innovation In International Business”; Andreea Herre presents her paper “Municipal Fiscal Policy: Impact-Oriented Output Control in The New Budget Law”.

“Synergies in the Digital World – Pathways of Innovation” is a proceedings that contains and implies a scientific dialogue. The papers fully meet the criterion for high level of preparation of papers, articles, scientific communications and specialists in international business, socialization of cultural heritage, cultural tourism, innovations, new technologies, aspects of national security in the context of globalization, and to the interests of students in the related studies.

Based on the reasons I have stated, I recommend this collection book of scientific papers from the roundtable held in Qatar on the topic: “Synergies in the Digital World – Pathways of Innovation” including developments (papers, articles, scientific communications) that present various aspects related to international business, socialization of cultural heritage, cultural tourism, innovations, new technologies, aspects of national security in the context of globalization for publication in a stand-alone book.

Sofia, 1st September 2025

Prof. Rumen Draganov PhD. MEng.

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