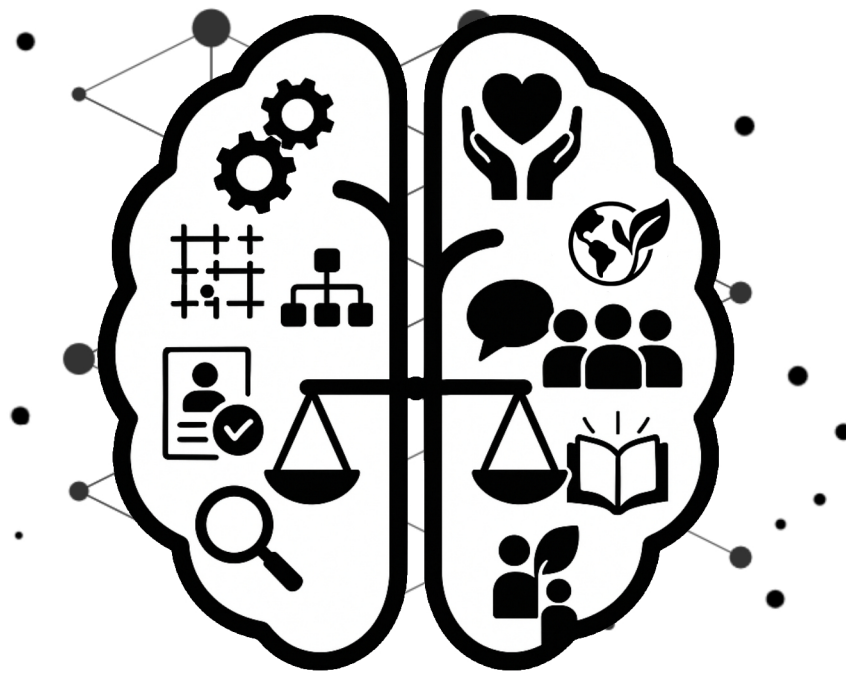


IJPSC

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VOLUME 01 • ISSUE 03



IN THIS ISSUE:

INDUSTRY COLLABORATION

GLOBAL ETHICS

INTERNATIONAL TALENT MOBILITY

MORE ON PARTNERSHIP, RESPONSIBILITY, AND SUSTAINABLE GROWTH.



THE INTERNATIONAL JOURNAL OF PSYCHOLOGY AND STRATEGIC COMMUNICATION

THIS THIRD ISSUE OF THE INTERNATIONAL JOURNAL OF PSYCHOLOGY AND STRATEGIC COMMUNICATION EXPLORES HOW ORGANISATIONS AND SOCIETIES NAVIGATE CHANGE IN TIMES OF UNCERTAINTY. THE CONTRIBUTIONS REFLECT ACADEMIC ENGAGEMENT THAT REMAINS CLOSE TO REAL-LIFE CHALLENGES AND PRACTICAL EXPERIENCE.

FOCUSING ON COOPERATION, TRUST, AND CONTINUITY, THE ARTICLES ADDRESS THEMES SUCH AS UNIVERSITY-INDUSTRY PARTNERSHIPS, DIGITAL LEADERSHIP, INTERNATIONAL HUMAN RESOURCE MANAGEMENT, AND THE ETHICAL DIMENSIONS OF ARTIFICIAL INTELLIGENCE AND GLOBAL BUSINESS STRATEGY.

DEVELOPED IN THE CONTEXT OF THE CONTINUING ACADEMIC COLLABORATION BETWEEN THE UNIVERSITY OF DNIPRO AND THE INU IN COLOGNE, THIS VOLUME HIGHLIGHTS THE VALUE OF SUSTAINED EXCHANGE AND SHARED LEARNING IN TIMES OF CHANGE.

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International Journal of Psychology and Strategic Communication

Ukraine Digital – Enhancing Education through Digitalization

The third issue of the International Journal of Psychology and Strategic Communication brings together work from researchers who are engaged in understanding how organizations and societies navigate change. The articles in this edition reflect not only analytical work, but also the commitment of people who continue to teach, research, and collaborate under conditions that are often complex and uncertain. Their contributions remind us that academic work is most meaningful when it remains connected to real challenges and lived experience.

A central idea running through this issue is that cooperation is not simply a formal arrangement, but something that grows through trust and continuity. Whether in university–industry partnerships, digital leadership, cross-border human resource practices, or ethical questions arising from artificial intelligence and global business strategies, collaboration requires patience, openness, and the willingness to learn from one another. These studies show that strategic decisions are never purely technical; they are shaped by relationships, responsibilities, and shared expectations.

This issue is also closely connected to the ongoing academic collaboration between the University of Dnipro and the INU in Cologne. In a time marked by instability and reconstruction, continuing academic dialogue is not only possible, but necessary. It supports stability, knowledge transfer, and long-term development. The work presented here contributes to maintaining this connection, and reflects the effort of many individuals who have chosen to stay engaged and to keep building together.

We hope that this issue encourages further reflection, exchange, and partnership.

Prof. Dr. Eckehard Krah, Prof. Dr. Malte Albrecht, Prof. Dr. rer. oec. Serge Velesco

Editors-in-Chief:

Prof. Dr. Eckehard Krah; Prof. Dr. Serge Velesco; Prof. Dr. Oleksii A. Dzhusov
Ms. Aliza Naz; StR Alexander Stierl

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PREFACE

Dear Reader. You are holding in your hands not just a scientific journal filled with articles requiring subject expertise. This publication serves as a bridge between Ukraine and Germany, connecting the Ukrainian scientific community with colleagues in Germany and across Europe.

For many years, Germany has been a reliable partner of Ukraine in science, technology, and innovation. Since the establishment of the Ukrainian-German Working Group on Scientific and Technological Cooperation in 1997, more than 200 joint projects have been implemented. Research networks have been built, and dozens of conferences, seminars, and forums have been organized together.

Even during Russia's full-scale war, this cooperation has not weakened – it has grown stronger. German institutions have expanded funding, created opportunities for Ukrainian students and researchers, and stood firmly at our side. New initiatives testify to this resilience.

In 2024, four Ukrainian-German Cores of Excellence began their work, pushing forward research in antibacterial compounds, twentieth-century historical traumas, plasma technologies in spintronics, and quantum materials. Launched after 2022, these initiatives embody both resilience and the pursuit of knowledge in times of crisis.

I would also like to highlight the expanding field of Ukrainian Studies in Germany. In 2024, the first two centers were established: the KIU network in Frankfurt (Oder)–Berlin and Denkraum Ukraine in Regensburg. I hope that more institutions will join the Global Coalition of Ukrainian Studies, bringing new perspectives to European and global science.

My gratitude also goes to our German partners for their help in modernizing and digitalizing Ukraine's higher education system. German universities continue to support their Ukrainian counterparts in sustaining digital learning formats, ensuring that students and researchers can carry on their academic work despite the disruptions of war.

This edition of the Journal of Psychology and Strategic Communication reflects the outcomes of the project "Digital Ukraine: Ensuring Successful Learning in Times of Crisis", carried out by Oles Honchar Dnipro National University, Odesa National Economic University, and Mittweida University of Applied Sciences in Saxony. I trust this project will continue to receive strong support from the German Government.

Finally, I welcome the decision of the Federal Ministry of Research, Technology, and Space to extend the Ukrainian-German Network of Higher Education Institutions program, which will fund 30 projects until 2029. I wish every success to all participants, many of whom will help to rebuild a strong and modern Ukraine.

Oleksii Makeiev
Ambassador of Ukraine to the Federal Republic of Germany

It is with great pleasure that I introduce the third issue of the International Journal of Psychology and Strategic Communication (IJPSC), which continues the academic journey initiated within the framework of the DAAD-funded project “Ukraine Digital: Ensuring Academic Success in Times of Crisis.”

While the previous issue highlighted the resilience and scientific dedication of Ukrainian students and educators, this new volume extends the dialogue to a wider international arena. It brings together research that connects innovation, digital transformation, and ethical responsibility – topics that resonate strongly with the global academic community and remain vital for Ukraine’s ongoing integration into the international scientific space.

The articles presented here reflect the diversity and dynamism of contemporary research: from digital leadership and corporate ethics to artificial intelligence and globalization. Together, they illustrate how knowledge exchange and collaborative learning continue to thrive even amid uncertainty and change.

The Ukraine Digital initiative has proven to be more than an emergency response – it has become a bridge between academic institutions, cultures, and ideas. This journal stands as a testament to that enduring cooperation, promoting both academic excellence and intercultural understanding.

I sincerely thank all authors, coordinators, and reviewers for their contributions, and the DAAD for its continuous support. May this issue inspire new forms of collaboration and reaffirm our shared commitment to education, innovation, and mutual respect across borders.

Prof. Dr. rer. oec. Serge Velesco
Academic Dean of International Double Degree Programs
Project Manager – Ukraine Digital
Hochschule Mittweida – University of Applied Sciences

With a great pleasure I present to readers the latest edition of the “International Journal of Psychology and Strategic Communication”, which brings together the research results of Ukrainian students and their supervisors. This collection not only demonstrates the scientific potential of Ukrainian students but also exemplifies successful international academic collaboration.

I would like to express special gratitude to our partners at Mittweida University, thanks to whom our students were given the opportunity to participate in the "Ukraine Digital " project. The project helped young researchers not only work on relevant topics in modern economics and management but also present their research results internationally and engage in international academic dialogue. This is a highly valuable experience that will undoubtedly contribute to the professional growth of each participant and the development of educational and scientific ties between our universities and our countries.

For Ukrainian universities, particularly Oles Honchar Dnipro National University and, undoubtedly, our colleagues at Odesa National University of Economics, participation in such initiatives demonstrates their openness to integration into the European educational and scientific space, as well as their commitment to creating an environment that values freedom of scientific thought, interdisciplinarity, and innovation.

I am confident that this, the third issue of the journal, will further demonstrate the scientific activity and creative potential of Ukrainian students.

Prof. Sergiy Okovytyy
Rector of Oles Honchar Dnipro National University

We are pleased to present the third issue of the International Journal of Psychology and Strategic Communication. This edition reflects the work of many people who contributed their time, expertise, and attention to detail. We would like to thank the authors for their thoughtful research, as well as the designers, layout editors, and members of the editorial team who ensured the clarity and coherence of this publication, and in particular Serge Velesco for his continuous support and coordination in the background. This issue has been shaped by a shared commitment to academic rigor, constructive collaboration, and the belief that research contributes most when it is accessible, relevant, and grounded in real-world challenges.

This issue brings together research that examines how organizations navigate strategic change in an interconnected and often uncertain global environment. The contributions address the ethical and economic implications of artificial intelligence, the management of risks in international finance, and the evolving role of corporate social responsibility across cultural contexts. A consistent thread across this issue is co-creation as a practical condition for progress. In global contexts, meaningful development rarely occurs through isolated action; it takes place through structured cooperation between institutions, markets, and communities.

A central contribution in this volume is the study by Peter Egorov and Natascha Eckert, who develop a typology of industrial collaborative ideals in the context of university-industry collaboration. Drawing on interviews with senior executives from multinational corporations, their work shows that collaboration is not a standardized process, but a strategic orientation shaped by organizational expectations, cultural dynamics, and long-term intent. Their findings offer conceptual clarity for scholars and practitioners working at the intersection of innovation systems and organizational development.

This issue also reflects the ongoing academic cooperation with the University of Dnipro and the INU in Cologne. In a time marked by instability and reconstruction, sustaining intellectual exchange is not symbolic, it is essential. The perspective shared in the foreword by Ambassador Oleksii Makeiev underscores that Ukrainian-German cooperation has not weakened under pressure, but strengthened in response to it. In this regard, Peter Egorov's earlier article *Partnering with Academia* provides a conceptual grounding: successful academic partnerships are not defined by individual outputs alone, but by indirect indicators such as trust, continuity, shared learning, and the ability to maintain dialogue over time. This framework reflects the partnership between Dnipro and Cologne. We continue this cooperation because trust, consistency, and shared responsibility matter, especially when conditions are difficult. Our aim is reliability, continuity, and mutual support. We hope that this cooperation will continue to grow and deepen in the years ahead.

Beyond this, several contributions in this rolling release deepen the journal's core interests at the intersection of strategy, communication, and global transformation. Studies on digital leadership in medical technology and co-creation in customer engagement examine how organizations reshape managerial competencies and relational strategies in digitally mediated environments. Research on AI ethics, risks in international banking, and corporate social responsibility highlights the tension between efficiency-driven innovation and the need for accountable, transparent governance. Analyses of internationalization strategies, trade barriers, and global market adaptation reflect the challenges companies face when navigating competing economic, cultural, and regulatory expectations. Together, these contributions reinforce a shared orientation: strategic decision-making today requires not only technical expertise, but the ability to align organizational goals with social responsibility, ethical reflection, and collaborative capacity.

The visual concept of this issue - two hemispheres connected by a scale - reflects the necessary balance between analytical reasoning and ethical responsibility. The iconography emphasizes industrial practice, organizational coordination, communication, sustainability, and human development: the domains in which strategic transformation unfolds, and where cooperation becomes operational.

We invite you to read, reflect, and contribute to the ongoing dialogue on strategy, communication, and transformation in global contexts.

Prof. Dr.rer.pol. Eckehard Krah
Editor-in-Chief

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FEATURES OF PERSONNEL MANAGEMENT IN TRANSNATIONAL CORPORATIONS

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Abstract

The essence of personnel management in transnational corporations (TNCs), particularly in the context of globalization, is examined. The purpose of the article is to study the features of human resource management in transnational corporations, to identify the key problems faced by international companies, and to develop recommendations for improving the efficiency of the personnel management system in TNCs. The methods of analysis, synthesis and comparison are used to achieve the formulated goals.

The role of TNCs in the global economy is defined. Examples of successful TNCs, such as Apple, Microsoft, Amazon, Saudi Aramco, Tesla, etc. are given. The concerns of expatriates before moving abroad for work are considered. The main challenges related to the management of multicultural teams are analyzed. These include difficulties in intercultural communication due to differences in values, mentalities, and approaches to decision-making. The problem of mobbing is mentioned. The importance of gender equality, particularly in leadership positions, is outlined.

The necessity of implementing cross-cultural management and continuous training programs for the effective work of international teams is emphasized. These approaches allow for better communication between employees of different cultures and the creation of work standards. The role of coaching and motivation systems in increasing employee productivity is highlighted. The practical significance of the study is to provide recommendations for TNCs to improve the personnel management system based on the identified problems and best practices.

Keywords

Personnel management, Transnational corporations (TNCs), Personnel, Multiculturalism, Expatriates, Staff training, Globalization, Adaptation.

Problem statement

Transnational corporations (TNCs) play a key role in the global economy. Their activities cover numerous countries, so human resource management in such a global context becomes a significant challenge for them due to the cultural characteristics of the workforce, the diverse legal systems of the countries where TNCs operate, and the need to maintain a balance between corporate goals and local conditions. These issues require updating approaches to ensure the efficiency and competitiveness of TNCs in the international arena.

Relevance of the chosen topic

In the modern world, TNCs have a significant impact on global economic processes, as they employ millions of people in different countries. The success of such companies largely depends on effective personnel management, particularly in conditions of constant changes in the labor market, the strengthening of the role of social initiatives, and the growth of requirements for ensuring equality. In this regard, the need to improve approaches to personnel management and adapt to new global trends determines the importance of this study for understanding how TNCs can optimize their strategies to achieve better results.

Analysis of recent research and publications

Many foreign and domestic scientists were engaged in the study of this topic. They believe that personnel management in TNCs is a complex and multifaceted process that requires innovative methods. For example, according to O. Pashchenko and O. Borushchak (Pashchenko & Borushchak, 2020), personnel management in transnational corporations requires an adaptive approach that takes into account the conditions of different countries, as well as a holistic approach that is focused on the constant development of human resources. Similar views are shared by I. Tarnovska (Tarnovska, 2022), who also emphasizes that the key challenge for TNCs is the coordination of activities between the head office and branches located in different parts of the world.

According to the point of view of K. Hiurdzhian and O. Bulyk (Hiurdzhian & Bulyk, 2021), the effective management of multicultural teams is an important component of the successful activities of TNCs. These authors point out that cultural differences can affect communication, decision-making, and employee motivation. As noted by O. Zharikova and K. Cherkesenko (Zharikova & Cherkesenko, 2021), expatriates in TNCs ensure the transfer of corporate values and standards to international branches. However, the authors also draw attention to the problems of their adaptation to new cultural and legal realities, which can lead to conflicts and reduced work efficiency. Also, according to the research of D. Shushpanov and M. Lifanova (Shushpanov & Lifanova, 2019), modern TNCs are actively implementing personnel development strategies focused on training and improving the professional skills of employees in a global environment. They include the use of the latest technologies in educational processes and the development of leadership qualities.

Purpose of the article

The purpose of the article is to study the features of human resource management in transnational corporations, to identify the key problems faced by international companies, and to develop recommendations for improving the efficiency of the personnel management system in TNCs.

Achieving this goal involves solving many specific tasks:

- analysis of the role of TNCs in the world economy;
- study of the features of personnel management in TNCs;
- identification of the main problems faced by TNCs in the field of managing multicultural teams;
- development of recommendations for improving the personnel management system in TNCs based on identified problems and best practices.

Presentation of the main research material and results obtained

The modern economy is increasingly integrated into the global space, where transnational corporations play a key role. TNCs are large business structures that operate in many countries, have complex management structures, and occupy leadership positions in various industries. Due to their size and global reach, TNCs not only influence the economic development of individual countries but also set new standards, in the field of personnel management.

According to the official definition of the United Nations Conference on Trade and Development (UNCTAD), a transnational corporation is a company that unites legal entities of various organizational and legal forms and activities in two or more countries, guided by a single policy and an overall strategy determined by one or more decision-making centers (UNCTAD, 2003). Thus, TNCs are enterprises that operate in several countries at the same time, having a parent company in the home country and subsidiaries in the host countries.

The world's leading TNCs include such companies as Apple, Microsoft, Amazon, Saudi Aramco, Tesla, Walmart, Eli Lilly, etc. To begin with, Apple, with a market capitalization of \$3.3 trillion as of 09.16.2024, is the largest technology company specializing in electronic devices production and software. Microsoft (\$3.2 trillion) remains a key player in the software, cloud technologies, and artificial intelligence markets. Amazon (\$1.9 trillion) dominates e-commerce and cloud computing. Saudi Aramco (\$1,8 trillion) is a company that provides a huge share of world oil production. Eli Lilly (\$832 billion) retains its leading position in the pharmaceutical industry. This company is engaged in innovative healthcare solutions. Tesla (\$723 billion) is an innovator of electric vehicle production and solutions for renewable energy. And finally, Walmart (\$648 billion) is the largest retailer in the world (Ventura, 2024).

Due to their resources and global presence, TNCs play an important role in the global economy and influence (Shevchenko & Shevchenko, 2023, p. 375-376):

- formation of global trends in the structure, dynamics, and level of competitiveness of the economy in the international market of goods and services;
- control over international capital flows and foreign direct investment, because TNCs are the main investors in developing countries, significantly affecting their economic development;
- acceleration the processes of creating and transferring innovations due to their concentration in their own research centers and production facilities. With their financial and production resources, TNCs hold leading positions in high-tech industries, manufacturing products with advanced characteristics that contribute to technological development;
- expansion and intensification of international labor migration, promoting the dissemination of professional knowledge and exchange of experience between employees from different countries. As a result, the international labor market is being formed, the key feature of which is the unification of professional training standards.

Human resources management in TNCs is a more complex process compared to national companies because of their global presence, large number of business processes, diversity of cultures, legislative systems, and economic conditions in different countries. One of the most important characteristics of TNCs is the need to align global corporate strategies with local specifics. The headquarters of the corporation sets general management standards, policies, and goals, but subsidiaries in different countries often have the freedom to make decisions. This approach allows them to take into account the specifics of the local labor market.

In accordance with this, the management of TNCs is organized according to a multi-level hierarchy that reflects the general structure, as well as the distribution of power and responsibility in the company and its divisions. The main hierarchical levels are shown in Figure 1.

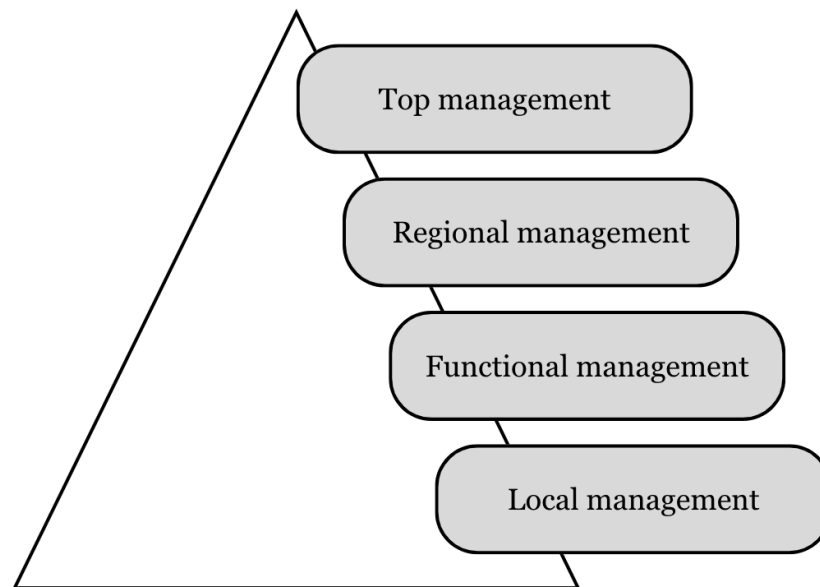


Fig. 1: Fig. 1. Hierarchical levels of the TNC management structure.
Source: Compiled by the authors based on (Privarnikova & Holey, 2024)

At the top of the structure is the top management, i.e., the CEO, the board of directors, and other senior officials. They form the overall development strategy of the corporation, and its global goals and make key decisions. The next level is regional management, which is responsible for the company's activities in specific geographical regions, adapting the overall strategy to local conditions. The functional leadership level is responsible for managing individual functional areas of the company, such as finance, marketing, production, logistics, or research and development. These managers provide coordination between the regional offices and the central office. They also perform the functions that are necessary to achieve the strategic goals of the corporation. Local management is responsible for operations directly at the level of individual divisions of the corporation in specific countries. Their main role is to manage day-to-day operations and implement all the decisions made at higher levels.

It can be seen that the hierarchical structure of TNC management is designed to ensure effective coordination of activities at all its levels, i.e., from global to local. This allows companies to simultaneously remain competitive in the global market and take into account the regional features of their activities.

In addition, TNCs use various models of corporate governance to optimize their operations on a global scale. The choice of a particular model largely depends on factors such as the size of the corporation, the diversity of its markets, and the required degree of control over subsidiaries. The most common models are centralized, decentralized, matrix, and combined (Privarnikova & Holey, 2024, p. 421). Each of them has its characteristics that allow managers to effectively manage operations in different regions, depending on the specifics of the business and strategic goals of the company.

The centralized model of management assumes that all major decisions are made at the head office or headquarters of the corporation. That way, the unity of the strategic vision and standardization of business processes can be maintained on a global scale. For example, Samsung, one of the world's leading electronics companies, uses this management model. While all major decisions on products and strategy are made at the headquarters located in South Korea, the regional divisions operate under the strict control of the central office.

The decentralized management model, on the contrary, means that the divisions of a TNC can make most decisions independently. As a result, the company's strategies can be better adapted to local conditions. This approach is particularly effective in companies operating in different cultural and economic environments where greater flexibility is required. An example is the pharmaceutical and medical company Johnson & Johnson. It gives its regional divisions considerable autonomy, which allows each of them to make decisions depending on the specifics of local markets and needs.

The matrix management model of involves a combination of functional and regional units in the decision-making process. Thus, both strategic control by the central office and flexibility at the local level are ensured. The matrix model is used by the American company Procter & Gamble to organize the interaction between its functional areas and regional offices. This solution allows us to quickly adapt to the requirements and specifics of each market and coordinate global strategies.

Finally, the combined governance model is an option that includes elements of centralized and decentralized management. This approach is often used by organizations with global presence but seeks to take into account local features. For instance, McDonald's uses a combined model, where the overall strategy and service standards are formed at the head office in the United States, but regional franchises have the autonomy to adapt the menu to local conditions.

Multinational companies usually attract workers from three main types of countries (Zharikova & Cherkesenko, 2021, p. 48):

- from the home country, where the headquarters is located;
- from host countries, where branches are located;
- from countries that are sources of labor or finance

Such a diverse workforce creates additional responsibilities and many challenges for companies in the field of management and staff support. For example, expatriates are employees who are relocated by TNCs from one country to another. They play a key role in coordinating global strategies and sharing knowledge between branches. However, international rotations are often accompanied by various difficulties, as well as psychological and social challenges. These include culture shock, the need to adapt to new conditions and deal with differences in quality of life between countries. According to the study, the results of which are depicted in Figure 2, expatriates are also concerned about loneliness, career prospects, the resettlement process, the quality and accessibility of healthcare and education for their children, and safety in the host country in general.

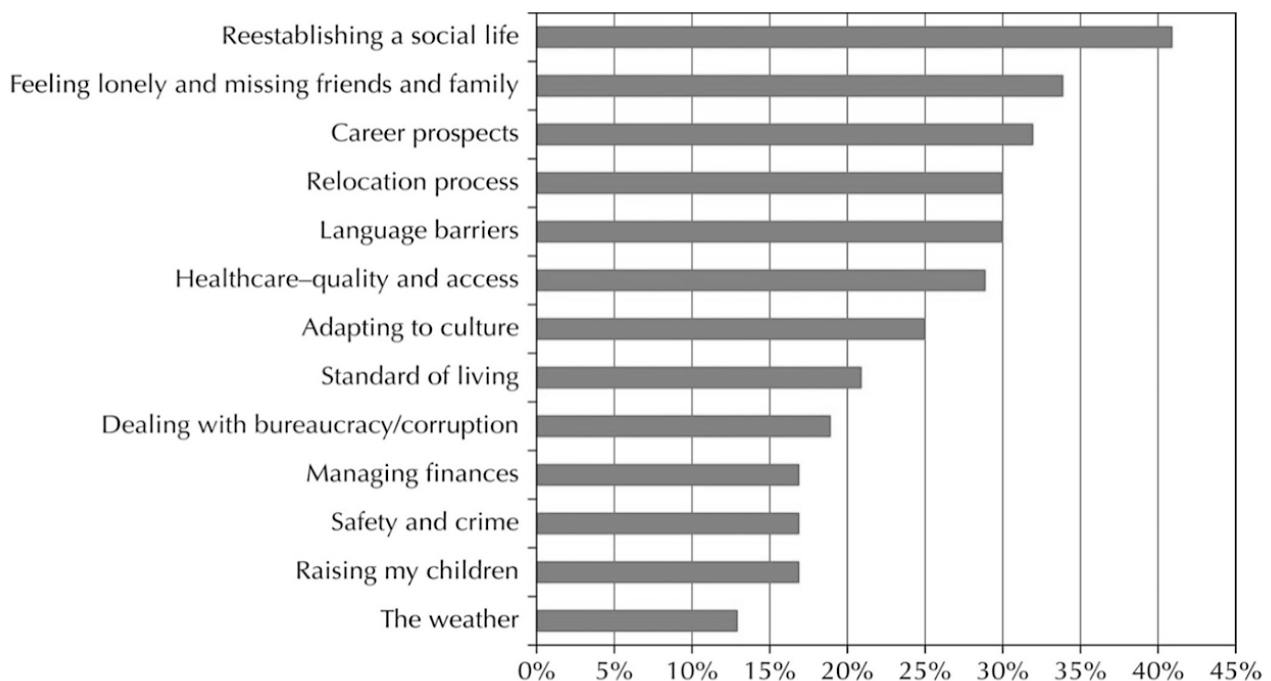


Fig. 2: Concerns of expatriates before moving abroad for work.

Source: (Daniels, Radebaugh, & Sullivan, 2013)

This graph demonstrates that successfully integration into a new environment, TNCs should provide employees and their families with comprehensive support, including housing, education, and adaptation to the local culture. This will allow expatriates to minimize the possible stress levels and reduce the risks of unsuccessful rotations, which, in turn, will increase the productivity and efficiency of the international activities of the corporation.

Thus, the presence of various nationalities and social groups in the teams of TNCs can lead to several types of personnel risks, as shown in Figure 3.



Fig. 3: Multinational risks of TNCs.
Source: (Zharikova & Cherkesenko, 2021)

Managing multicultural teams is one of the most important tasks of TNCs, because differences in cultures and mentalities have an impact on management style, work expectations and communication between employees. In particular, European and Asian approaches to management differ significantly. In Europe, human resources management is often based on the principles of a horizontal organizational structure. Employees are given more freedom in decision-making and individual contributions are taken into account. Meanwhile, in Asian countries, there is a clearer hierarchy and stricter rules of subordination, because respect for elders and superiors plays a considerable role. Accordingly, TNCs should implement strategies that take these cultural differences into account in order to avoid conflicts and improve work efficiency.

In addition to cultural differences, mobbing is also a common problem. Mobbing is the humiliation of the dignity of employees and their professional reputation through psychological and economic pressure. The ways of its manifestation can be unequal wages, uneven distribution of workload, ignoring an employee, ridiculing him or her, etc. According to the research, at least 1 person out of 5 has been bullied in the workplace. Surveys also show that 70% of bullies are men and 30% are women. In addition, more than 60% of victims are women. Approximately 61% of bullying comes from bosses or people in authority, and 33% comes from coworkers (Mujtaba & Senathip, 2020, p. 19). TNCs should actively address such situations by implementing policies to combat discrimination and mobbing in the workplace.

In this context, gender equality is an important aspect, since the imbalance in the representation of men and women at different levels of TNC management remains an acute problem. As already mentioned, women are more likely to be victims of infringement of their rights in the workplace, including such manifestations as unequal pay and limited access to leadership positions. Studies show that in many international companies, senior management positions are predominantly occupied by men. This leads to gender inequality in management. In response the TNCs should implement gender diversity strategies that promote equal opportunities for career development, access to training, and professional development for all employees, regardless of gender.

IKEA is an excellent example of the successful implementation of a gender equality strategy among TNCs. They strive to achieve a 50/50 gender balance at all levels of management, including executive positions, boards of directors, and committees within the entire Ingka Group. IKEA is also a member of the Equal Pay International Coalition (EPIC). Since 2019, it has implemented a system that guarantees equal pay for men and women in all positions. This strategic decision is confirmed by the company's data for 2020 (IKEA, n.d.-b): women accounted for 49.5% of all managers and 54.7% of the company's employees in general.

One of the initiatives of IKEA was also the development of an interactive game called «FiftyFifty» (IKEA, n.d.-a). It aims to draw attention to the problem of gender inequality and raise awareness among employees and customers about the importance of equal distribution of opportunities in all areas. The game allows participants to see how inequality can manifest itself in different situations at work and everyday life. It once again emphasizes the need for balance and equality.

To reduce the impact of the personnel risks described above and improve the human resources management system in TNCs, it is necessary to use comprehensive strategies. They will ensure effective interaction between employees of different cultures, increase their motivation, and promote the development of professional qualities.

One of the key recommendations is to introduce continuous training programs. Regular development allows employees to remain competitive and adapt quickly to new business requirements. These programs should include technical and soft skills development, such as cross-cultural communication, conflict management, and

the ability to work in international teams. Leadership development is important for managers. In addition, they must have a deep understanding of cultural differences to manage human resources in TNCs effectively. Leadership competencies are usually combined into a group of meta-skills, the main ones are shown in Figure 4.

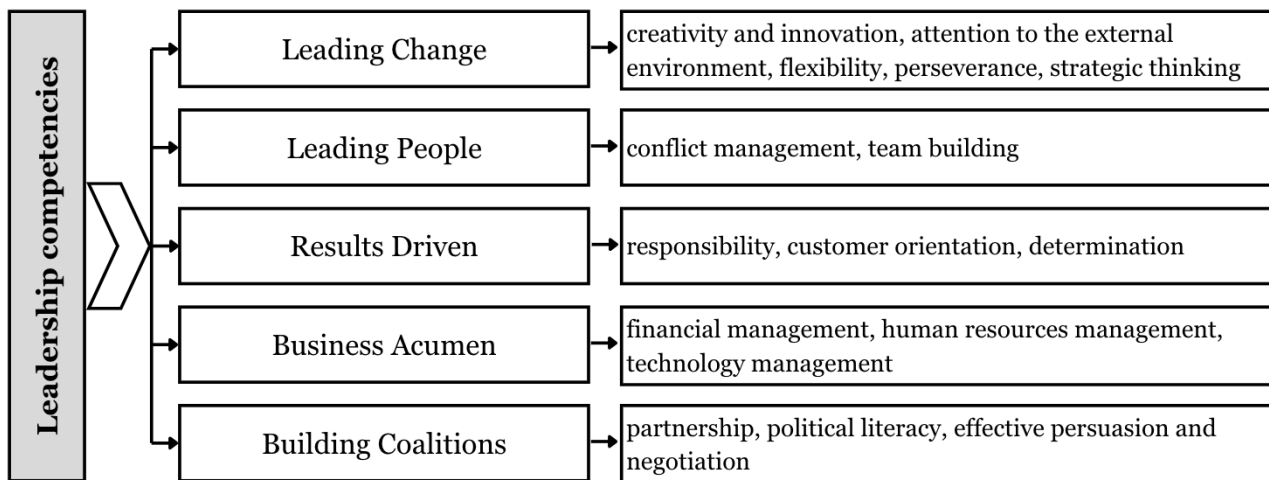


Fig. 4: Leadership competencies of the manager.

Source: Compiled by the authors based on (Shushpanov & Lifanova, 2019)

Another effective tool for staff development is coaching. It differs from mentoring in that a coach does not provide ready-made solutions but helps employees find answers to questions and solve problems on their own. The main goal of the coach is to stimulate critical thinking and develop the independence of the employee in decision-making. This creates a synergistic effect when the employee and the manager work as partners, focusing on achieving common goals. Such an approach helps to increase the responsibility of the employees for their actions, broaden their vision, and more effectively complete their plans due to the professionalism of the manager. Through coaching, employees can make better decisions, set more ambitious goals, and better structure their activities, which leads to maximum productivity and job satisfaction. The advantages of implementing coaching in TNCs are reflected in Figure 5.

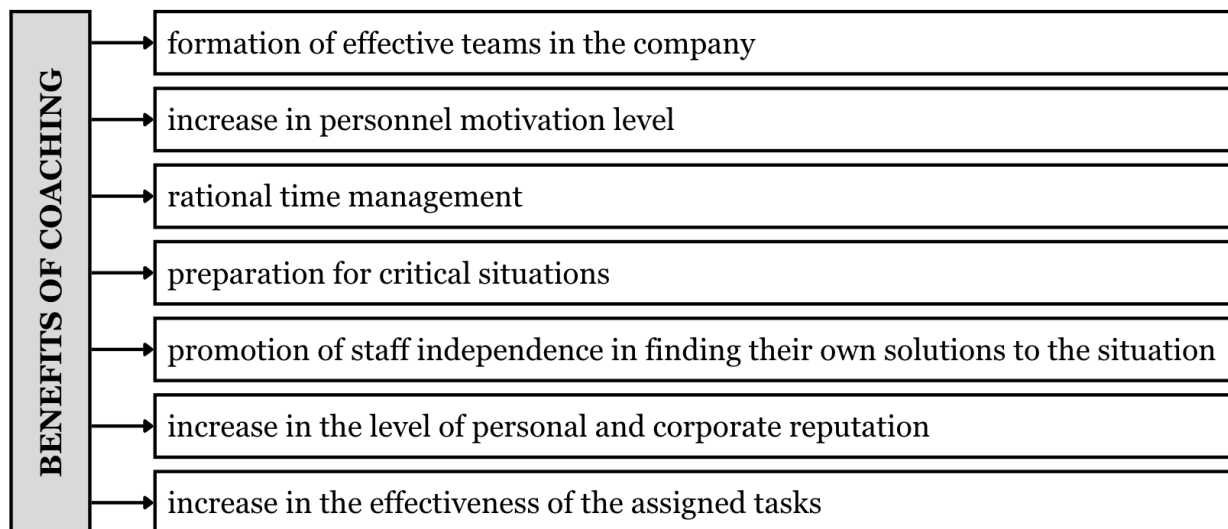


Fig. 5: Benefits of implementing coaching.

Source: Compiled by the authors based on (Shushpanov & Lifanova, 2019).

Cross-cultural management is an equally important strategic element of effective management in a TNC. This approach is optimizing cooperation between employees from different cultural, religious, and ethnic groups. It is especially relevant for international teams and projects. The main goal of cross-cultural management is to understand and use existing cultural differences to achieve the highest level of communication and management in a multicultural environment (Privarnikova & Holey, 2024, p. 422). Flexibility in conflict resolution and the

search for compromises are central aspects of the approach. This helps to reduce cultural barriers and increase the effectiveness of company cooperation.

In addition to the above recommendations, TNCs should also implement motivational programs. They are encouraging employees to achieve great results and increase their loyalty and involvement in the company's processes. In the context of international companies, incentive programs should take into account the multicultural environment and the different needs of employees. It can be either material motivation in the form of salary increases or additional bonuses, or non-material (flexible schedule, extra days off, opportunities for professional development and career growth).

Motivation systems should be transparent and accessible to all employees, regardless of their position in the company or geographic location. For example, the creation of internal platforms for sharing experiences, successes, and achievements promotes collective recognition of each employee's contribution, which increases their motivation (Pysarevskyi & Kiriienko, 2024). It is also important to have a system of regular feedback. It allows not only to identify problems in time but also to maintain a high level of communication between staff and management. Feedback should be constructive, aimed at developing and improving work processes, and not at punishing or criticizing. This system must operate at all levels of the organization, ensuring effective communication between employees of different cultures and regions.

Thus, a combination of motivational programs and feedback systems will help to form an involved, motivated and productive team in a TNC. This will contribute to the faster achievement of the company's strategic goals in the global market.

Conclusions

In summary, it should be noted that globalization in personnel management requires constant adaptation of strategies and approaches to the conditions of a multicultural environment. In modern transnational corporations, the key challenge is to ensure effective communication between employees from various countries. It is necessary to develop flexible management mechanisms that take into account cultural, religious, and social differences. To successfully integrate human resources into the global business environment, continuous training programs are needed, as well as the implementation of coaching and cross-cultural management. The former approach will facilitate quicker adaptation of employees to new market challenges, while the latter will contribute to leadership skills company and increase their company-level motivation.

Effective personnel management in TNCs is based on a constant search for new approaches and solutions. They allow to increase the level of competitiveness of companies at the global level. Prospects for further research are to study the impact of innovative digital technologies on human resources management processes, as well as to develop new approaches to motivation and training.

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INTERNATIONAL RECRUITMENT STRATEGIES IN INTERNATIONAL COMPANIES: EXPATRIATE RECRUITMENT EXPERIENCE AND ITS IMPACT ON ORGANIZATIONAL PERFORMANCE

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Abstract

The article discusses the essence and peculiarities of international recruitment, the importance of expatriates in an international company, as well as their place in each of the recruitment approaches. The article analyzes international recruitment strategies and expatriate hiring practices in the international food company Nestle, and assesses their impact on organizational efficiency. The relevance of the research is due to the growing globalization of business and the need for effective management of international teams in a competitive market.

The research methodology is based on an integrated approach, including an analysis of scientific literature on international marketing and expatriation, study of internal documents and official reports of Nestlé, as well as the use of comparative analysis and expert evaluation methods.

The research found that effective international recruitment strategies and professional recruitment of expatriates have a positive impact on the organizational efficiency of Nestlé. In particular, this is manifested in increased productivity, stimulation of innovation, and improved intercultural communication. The results of the research can be used by international companies in Ukraine to improve the HR management processes and develop recommendations for optimizing international recruitment strategies.

Keywords

International recruitment, Expatriates, International company, Recruitment strategy, Human resources management, Organizational effectiveness.

Problem statement

In today's globalized and integrated world economy, international business is becoming an integral part of the development of companies of all sizes. Global companies are expanding their presence in foreign markets, which requires effective management of international teams and adaptation to different cultural, economic and legal environments. One of the key aspects of the successful functioning of such companies is international recruitment, in particular the hiring of expatriates - employees who work outside their country of origin.

The problem is that traditional HR models are not always effective in the international context. Companies face numerous challenges: cultural and language barriers, different legal requirements, peculiarities of local labor markets and the need for intercultural competence. A poor choice of an international recruitment strategy can lead to lower productivity, higher HR costs, team conflicts, and even a loss of competitive advantage in the global market. Hiring expatriates is often associated with high costs and risks, such as unsuccessful adaptation or early return of an employee, which negatively affects organizational efficiency.

Relevance of the chosen topic

The relevance is driven by the need to develop and implement effective international recruitment strategies that will allow global companies to successfully attract, select and retain talented expatriates. In today's world, where competition for highly skilled personnel is becoming increasingly fierce, the ability to manage international staff is becoming critical. The experience of leading international companies shows that successful expatriate recruitment contributes to the transfer of knowledge and innovation, market expansion, and strengthening of global positions.

The research of international recruitment strategies and expatriate hiring experience is of great practical and theoretical importance. It allows to identify effective approaches to international personnel management, to reveal the factors that influence the success of expatriation, and to develop recommendations for improving organizational efficiency. The results of the study can be used by HR managers, executives of international companies in Ukraine and researchers in the field of international management to optimize recruitment and development of global human resources.

Analysis of recent research and publications

The topic of international recruitment and expatriate management has been the subject of numerous scientific research and publications in recent years. Considerable attention is paid to how multinational companies attract and integrate specialists from different countries, as well as what strategies they use to manage expatriates.

The problem of choosing a competitive strategy has been widely researched by both domestic and foreign scholars, including Thompson A.A., Strickland A.J., Porter M., Aaker D., Johnson J., Sholes C., Whittington R., Gunther R., Lishchynska V.V. and others. However, the problem of choosing a competitive strategy by a company in the field of search and selection of personnel has not been sufficiently studied by domestic scientists, although it has received wide attention in the research of foreign scientists, for example, Hemley L., McCutchen Ph., Sullivan J. and others.

The experience of international companies such as Nestle emphasizes the importance of creating flexible and adaptive expatriate management strategies. This experience can be used to study the organizational effectiveness of the company and be taken as an example for implementation in practice by domestic enterprises.

Researchers also pay special attention to the issue of managing diversity and cultural differences in the context of international recruitment. The works of Hofstede and other experts in the field of intercultural management demonstrate that successful management of cultural differences is a key factor in the effective integration of expats. Their research emphasizes the need for further study of international recruitment strategies, including the involvement of expatriates and their impact on corporate culture and team performance.

Thus, current research and publications point to the importance of a comprehensive approach to international recruitment and expatriate management that includes technological innovation, cultural integration, and flexibility in human resource management strategies.

Purpose of the article

The purpose of the research is to analyze international recruitment strategies and expatriate hiring practices in the international food company Nestle and assess their impact on organizational efficiency.

Achieving this goal necessitated the following tasks:

- To consider the theoretical foundations of international marketing and expatriation.
- To analyze the strategies of international recruitment in Nestle.
- Describe the impact of expatriate recruitment on Nestle's organizational performance.

Presentation of the main research material and results obtained

International recruitment is a key element of human resource management in the context of business globalization. It involves the process of searching, selecting and registration qualified specialists from different countries to work in international companies or their divisions abroad. The essence of international recruitment is not only to fill vacant positions, but also to provide the company with diverse talent that can adapt to a multicultural environment and contribute to the achievement of the organization's strategic goals in the global market.

International recruitment is characterized by its complexity and multifaceted nature. First, it requires taking into account various cultural, linguistic and social aspects. Recruiters need to be aware of the cultural norms and values of the countries from which they are attracting candidates to ensure effective communication and avoid possible misunderstandings. Secondly, international recruitment involves legal and administrative issues such as immigration laws, obtaining visas and work permits, tax issues and labor laws of different countries. Thirdly, the process of adaptation of expatriates to the new environment requires additional resources, including orientation programs, cultural training and support for employees' families (Borysiuk & Sagan, 2014, p. 138).

International recruitment covers the global labor market and involves attracting candidates from different countries and regions. This expands the pool of talent available to the company, but at the same time complicates the selection process due to the need to take into account language barriers, cultural differences and different time zones. International recruitment requires a deeper understanding of the international business environment, global labor market trends, and the specifics of different countries.

When entering new markets, one of the main tasks of an international company is to study market needs, local characteristics, and cultural traditions. It is important to have employees with different perspectives, experiences, and familiarity with the rules of doing business, which makes it possible to adapt to regional expectations faster. This ensures a strong brand position in new markets.

Thanks to international hiring, the company provides a higher level of protection in the event of political unrest and natural disasters. Creating a team of employees from other countries allows you to maintain uninterrupted operations, thereby increasing efficiency and productivity, and reducing the time it takes to complete tasks. Also, an international organization that engages employees from other countries improves its employer brand internationally by providing opportunities to work in other countries. A positive employer brand attracts qualified and unique specialists, which improves the company's overall brand in the international market.

Foreign employees working remotely and perform their duties outside the company do not need to maintain a workplace. This reduces the cost of rent, utilities, and other administrative expenses associated with maintaining an office worker ("Top 5 Benefits of Recruiting Internationally," 2023).

Thus, we can identify 5 advantages of international recruitment, which are shown in Fig. 1.

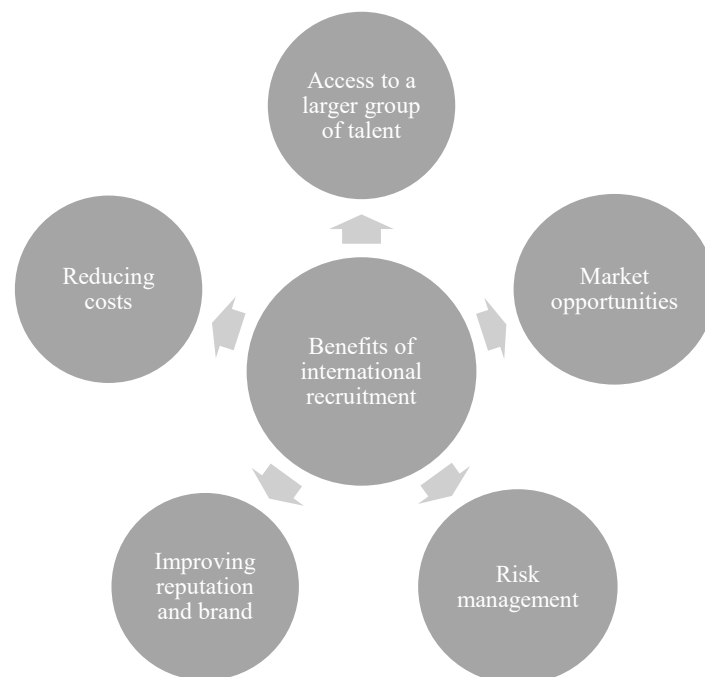


Fig. 1: Advantages of international recruitment.

Source: ("Top 5 Benefits of Recruiting Internationally," 2023).

The strategic importance of international recruitment for companies lies in the ability to attract highly qualified specialists from all over the world who have unique knowledge, skills and experience. This is especially important for companies seeking to strengthen their positions in international markets, expand their business scope, or introduce innovative approaches. International recruitment helps to create multicultural teams that can work effectively in a global environment and respond to the challenges of different markets.

Expatriates play a key role in the functioning and development of global companies, acting as a bridge between different cultures and business environments. They help to implement corporate culture and values, which contributes to the unity of the organization at the global level (Zlenko, Isaikina, & Miroshnichenko, 2018). Fig. 2 shows the key competencies of expatriates, which are used to select foreign candidates for an international company.

The impact of expatriates on international business is significant, as they help to expand markets and strengthen the company's position on the global stage. They are able to adapt global strategies to local conditions, taking into account the specifics of the local market, legislation, and cultural peculiarities. This allows the company to be flexible and competitive, to respond quickly to changes and customer needs in different regions. It is worth noting that successful expatriate management requires a company to take into account many factors, such as adaptation to a new cultural environment, support for expatriate families, and provision of competitive working conditions and social guarantees (Oparina & Kovalska, 2015). Failure in these aspects can lead to reduced motivation, productivity, and even early return of the expatriate, which will entail additional costs for the company.

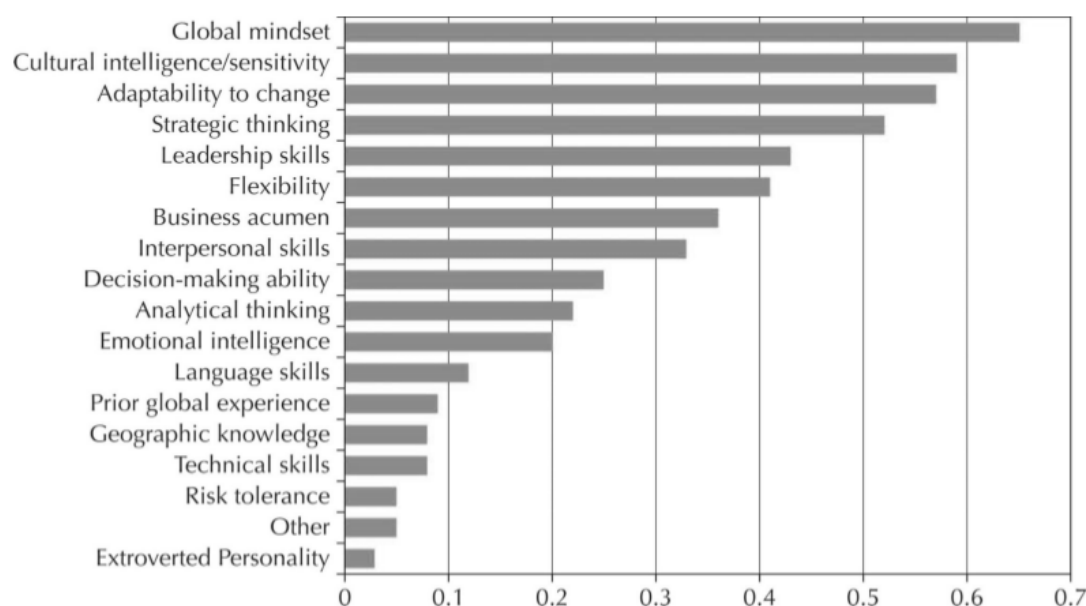


Fig. 2: Key competencies of expatriates.

Source: Materials of presentations of the University of Applied Sciences Mittweid (Germany) in the discipline "International Management, 2024.

Human resource management in international companies is a complex process that requires taking into account the cultural, economic and legal peculiarities of different countries. There are four main models of human resource management in the international context: ethnocentric, polycentric, region-centric and geocentric. Each of these models has its own peculiarities and approaches to the use of expatriates, which affects the company's strategy and its success in the global market.

The ethnocentric model implies that key positions in the company's foreign branches are held by employees from the country of origin of the head office. The company believes that its culture, policies and practices are the most effective and should be implemented in all units regardless of local conditions. Expatriates play a central role in this model, as they are responsible for implementing corporate standards, overseeing branch operations, and ensuring consistency between the head office and overseas operations. The use of expatriates helps the company maintain a unified corporate culture and facilitates communication between different levels of management.

The polycentric model is based on the principle that each country is unique, and local managers have a better understanding of the specifics of the market, culture, and legislation. In this model, management positions in foreign branches are held by local specialists, which allows the company to adapt to local conditions and meet

customer needs more effectively. Expatriates are hired in limited numbers and mostly provide support in highly specialized areas or act as a link between the head office and the branches. This approach helps to strengthen relations with local communities and authorities and increases employee loyalty.

The region-based model involves managing personnel at the regional level, bringing together countries with similar cultural, economic or geographical characteristics. The company considers the region as a single strategic unit and appoints managers from any country in the region to senior positions. This allows the company to optimize the use of resources, take into account regional trends and ensure more coherent management. Expatriates in this model can come from different countries of the region, which facilitates the exchange of experience and a better understanding of the regional market (Shulgina & Pavlenko, 2017). This approach enhances regional integration and allows the company to respond more quickly to changes in the regional environment.

The geocentric model is characterized by a global approach to human resource management, when the company considers the whole world as a single market without distinguishing national borders. Recruitment is based on the competencies and potential of candidates regardless of their nationality. Management positions can be held by employees from any country, which contributes to the formation of a global corporate culture and the maximum use of talent from around the world. Expatriates in this model are global managers who can be assigned to positions in different countries depending on business needs. This increases the company's flexibility and its ability to adapt to changes in the global environment.

The place of expatriation in each of these models has its own peculiarities. In the ethnocentric model, expatriates are the key figures who ensure the implementation of corporate standards and control the activities of branches. In the polycentric model, the role of expatriates is limited, as the company relies on local managers and recognizes the importance of local expertise. The region-centered model uses expatriates to strengthen regional integration and develop a common strategy within the region. In the geocentric model, expatriates are carriers of the company's global culture and can be appointed to any position regardless of geographic location (Materials of presentations of the Mittweida University of Applied Sciences (Germany) in the discipline of International Management, 2024).

The choice of a human resource management model depends on the company's strategic goals, corporate culture, stage of internationalization, and the specifics of the markets in which it operates. Companies can combine elements of different models to ensure optimal HR management and achieve competitive advantages in the international market. Understanding the role of expatriation in these models allows companies to plan their HR policies more effectively, develop talent, and ensure successful integration on a global scale.

Nestlé is one of the world's largest food companies, operating in more than 190 countries and employing more than 270,000 people. Nestlé's international recruitment strategy is based on attracting highly qualified individuals from around the world who can contribute to the company's global success. Recruitment approaches are a key component of the global talent management strategy aimed at developing a multicultural workforce and ensuring effective knowledge sharing between different business units (Galai & Kasatka, 2019).

The company uses a geocentric model of human resource management, which involves attracting the best talent regardless of nationality or location. This allows us to create a global corporate culture and ensure consistency of business processes around the world.

Recruitment strategies include a combination of internal and external recruitment channels. Nestlé actively promotes internal career development opportunities by encouraging employees to participate in international rotation and development programs. This helps to increase staff loyalty and preserve corporate knowledge. External recruitment is carried out through global career portals, cooperation with leading universities and business schools, the use of professional social networks such as LinkedIn, and the involvement of specialized recruitment agencies to find highly qualified specialists.

The international food giant actively uses modern technologies in recruiting, applying talent management systems that allow it to effectively track the hiring process, analyze data, and make informed decisions. This ensures transparency and efficiency of the recruitment process and improves the candidate experience.

The selection process consists of several stages, as shown in Fig. 3. For senior positions, Assessment Centers may be held where candidates complete group and individual tasks aimed at assessing leadership and interpersonal skills.



Fig. 3: Stages of recruitment in Nestlé.

Source: (Nestlé, 2025).

The selection criteria and requirements for candidates are strict and aimed at ensuring a high professional level of expatriates. The main requirements include professional competence, intercultural competence, multilingualism, leadership skills and flexibility (Table 1).

Table 1: Main criteria for selecting expatriates in Nestlé.

Criterion	Description
Professional competence	High level of knowledge and experience in the professional field
Intercultural competence	Ability to work effectively in a multicultural environment
Knowledge of languages	Fluency in the world's leading languages (English, Chinese, Spanish and others)
Leadership skills	Ability to lead a team, make decisions and take initiative
Flexibility and adaptability	Readiness for changes (business trips, relocation) and adaptability to new conditions

Source: (Nestlé, 2025).

Nestlé pays considerable attention to developing the leadership potential of expatriates. The company offers training and development programs aimed at improving skills and preparing for more responsible positions. This includes participation in international projects, specialized trainings and opportunities for continuous learning. This policy is aimed at developing the company's human potential and improving the existing business model.

Nestlé's approach to hiring expatriates is based on the principles of equal opportunity and diversity. The company strives to create an inclusive work environment where different perspectives and experiences are valued. The presence of employees from different backgrounds and cultures enhances the company's innovation level by generating different opinions and judgments.

The company implements special measures to support expatriates. These include adaptation programs that include cultural trainings, language courses, and information sessions about the destination country. Nestlé supports expatriate families by helping them find housing, schools for their children, and employment opportunities for their partners (Tsybalyuk, 2019). Upon arrival, foreigners receive mentoring support from experienced employees, which helps them quickly integrate into the new environment.

Nestlé pays special attention to the successful training and adaptation of expatriates, realizing that the effective integration of employees into a new cultural and work environment is a key factor in achieving strategic goals. To this end, the company implements comprehensive programs aimed at cross-cultural training and support for expatriate families.

In the area of cross-cultural training, Nestlé organizes specialized trainings and seminars to help employees better understand the cultural characteristics of the destination country. These programs include learning about local traditions, social norms, business etiquette, and legal aspects that affect business processes (Hemley, 2014). When it comes to supporting expatriate families, Nestlé recognizes that family well-being is an important factor in successful expatriation. The company offers assistance in organizing the move, including logistical support and preparation of the necessary documents. Nestlé helps to find suitable housing, taking into account the needs and preferences of the family. The company provides information and support to children of expatriates in choosing educational institutions, helping them to enroll in local or international schools. Employees' partners are offered career counseling and resources to help them find a job or continue their education in a new country. Social events and support networks organized by the company allow families to establish new contacts, share experiences and adapt to life abroad more quickly (Nestlé, 2025).

Nestlé recognizes that successful integration of expatriates into the corporate culture is a key factor in

ensuring their effective performance and long-term engagement. One of the main integration strategies is to create an environment where expatriates can feel part of the company, understand its values, mission and principles, and quickly adapt to new working conditions. To this end, the company develops integration programs that cover several important areas. These programs are summarized in Table 2.

Table 2: Integration strategies for managing expatriates in Nestle.

Strategy	The essence of the strategy
Orientation programs	Familiarization with the company's history, mission, ethical standards, business goals and employee expectations. Foreigners have the opportunity to take part in specialized seminars aimed at deepening their understanding of key aspects of the company's culture, such as leadership, responsibility, innovation and sustainable development.
Mentoring and coaching programs	Mentoring involves supporting a new employee in the adaptation process, while coaching aims to develop the professional and leadership skills of expatriates. This helps expatriates integrate into the corporate culture faster and creates a sense of belonging to the team.
Participation in projects	Mentoring involves supporting a new employee in the adaptation process, while coaching aims to develop the professional and leadership skills of expatriates. This helps expatriates integrate into the corporate culture faster and creates a sense of belonging to the team.
Continuous feedback	Regular meetings with HR managers allow us to evaluate the onboarding process, discuss possible challenges, and adjust integration strategies as needed. This helps to respond to problems in a timely manner and ensures a smooth adaptation to the corporate culture.

Source: (Nestlé, 2025)

Through such programs and events, Nestle not only ensures the successful integration of expatriates into the corporate culture, but also promotes their professional career development, creating conditions for continuous growth and interaction in a global context (McCutchen, 2014).

Expatriate recruitment is an important strategic tool for global companies like Nestle to ensure international growth and efficient management of overseas operations. However, the process of expatriation involves significant financial costs, which a company must carefully plan and evaluate to ensure an effective return on investment (ROI). Nestle, as a global food leader, conducts a detailed analysis of expatriation costs and the economic impact of hiring international specialists to minimize risks and maximize results. For this purpose, quantitative and qualitative indicators are used, including sales growth in international branches, increased efficiency of production processes, and improved customer satisfaction in new markets. An important aspect of ROI assessment is the transfer of knowledge and innovations to local employees. Expatriates help to implement advanced technologies and best practices, which contributes to the overall increase in productivity and innovation in the company.

Nestle uses strategies to minimize expatriation costs by optimizing the recruitment and management of expatriates. For example, the company implements short-term rotational programs where expatriates work abroad for a limited time to transfer knowledge and experience, which reduces the cost of retaining them. This approach preserves the main benefits of expatriation while significantly reducing the financial burden on the company.

The company pays attention to optimizing costs by using local talent after transferring the necessary knowledge. Nestlé actively develops local teams in different countries and strives to transfer management functions to local employees as soon as possible after expatriates complete their mission. This ensures the stability and continuous development of international units, while reducing the need for long-term expatriate involvement.

Nestlé is actively developing a multicultural environment, recognizing that a corporate culture based on diversity and inclusiveness contributes to its competitiveness in the global marketplace. Hiring expatriates is an important tool for creating a multicultural environment, as they bring unique experience, knowledge and perspectives from different countries, which enriches the company's internal culture.

The multicultural environment at Nestle is shaped by the constant interaction between employees from different countries and regions. The company encourages international mobility and staff rotation, which allows employees to work in different cultural contexts and adopt best practices. This process helps to integrate different approaches to doing business, increase the creativity and innovation of teams. Expatriates play a key role in creating such a multicultural atmosphere, as they help to reduce cultural barriers and build mutual understanding

with local employees.

One of the main tools for improving intercultural communication is regular cross-cultural training, which helps employees learn to better understand and interact with people from other cultures. Nestle organizes such trainings for both expatriates and local teams, which promotes mutual respect and knowledge sharing. The company supports the creation of multicultural teams that work on joint projects on a global scale, which increases the efficiency of communication between different departments.

Promoting a multicultural environment and improving communication between departments at Nestle has a positive impact on the corporate culture. The company creates an atmosphere in which diversity is considered an advantage and all employees have equal opportunities for career growth (Sullivan, 2013). This helps Nestle to create a team of talented people who help the company move towards sustainable development and success in the international arena.

Conclusions

Nestle successfully uses expatriation to transfer knowledge, introduce new technologies, and strengthen corporate culture in international markets. This allows the company to adapt its strategies to local market conditions, which increases its competitiveness. For example, Nestle implements successful strategies for hiring and managing expatriates. Ukrainian food companies can develop similar programs by creating conditions for increasing team productivity. By engaging foreign workers, domestic companies have the opportunity to create diverse teams with innovative perspectives and experience in dealing with non-standard situations.

Ukrainian companies should implement an expatriate management system too, which should include the following mandatory components: creating conditions for rotation, developing adaptation programs, leadership development, supporting expatriate families, and cost planning. Nestle focuses on inclusiveness in the hiring process, ensuring that candidates from different cultures and nationalities are attracted. Ukrainian companies can use Nestlé's diversity practices in recruiting, which will allow them to attract candidates with international experience and deepen cultural diversity in their teams.

Implementation of these strategies will allow Ukrainian companies to attract talent from different countries and gain access to international experience, innovations, and best practices. The implementation of best practices will help Ukrainian businesses maintain competitiveness and develop their brand in the international labor market, as well as improve their reputation. Finally, the integration of foreign specialists will facilitate the exchange of knowledge, which will lead to an increase in the professional level and development of human capital within the country.

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GLOBAL EXPANSION STRATEGY OF TESLA: CHALLENGES AND OPPORTUNITIES

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Abstract

This article examines Tesla's global expansion strategy, focusing on the challenges and opportunities the company faces during the process of internationalization. The relevance of the topic lies in the rapid growth of demand for electric vehicles and the shift of many countries towards carbon emission reduction policies. The aim of this study is to analyze the key aspects of Tesla's strategy at the international level and identify the main factors contributing to the company's success in entering new markets.

The article analyzes Tesla's current international presence, examines product and service adaptation to the demands of various countries, and explores the management of the global supply chain and cross-cultural challenges. The research methodology is based on the analysis of scientific literature, publications, and real case studies of Tesla's development in European, Chinese, and U.S. markets.

The main findings indicate that Tesla employs a strategy of gradual expansion, taking into account local conditions, with an innovative approach to technology and vertical integration to optimize supply chains. However, the company also faces significant competition, the need for adaptation to cultural differences, and regulatory constraints.

Keywords

Global expansion, Tesla, electric vehicles, International management, Supply chain, Cross-cultural challenges.

Problem statement

Tesla's global expansion strategy is one of the key factors in its success in the global market. Having become a leader in innovative technologies and electric vehicle production, Tesla continues to actively expand its international presence, seeking to capture new markets and strengthen its positions in existing ones. However, this process is accompanied by a number of challenges, including the need to adapt to various cultural, regulatory, and economic conditions. For instance, Tesla must account for differences in environmental standards and electric vehicle regulations across different countries, adapt its supply chain to global challenges, and overcome cultural barriers when managing international teams.

One of the primary challenges for the company is the high level of competition in the global automotive market. Traditional automakers, who have long established their presence internationally, are also actively adopting electric technologies, forcing Tesla to continuously seek new ways to maintain its competitiveness. At

the same time, expansion into new markets, especially in countries with distinct economic and social conditions, requires a flexible and well-thought-out localization strategy for products, marketing, and management.

Thus, the main issue addressed in this article is finding an optimal global expansion strategy for Tesla that will enable the company not only to successfully penetrate new markets but also to remain a leader in the face of intense international competition and dynamically changing regulatory requirements.

Relevance of the chosen topic

Expanding international presence and developing global strategies have become crucial for modern companies, especially those involved in high-tech products and operating in competitive markets. Tesla, founded by Elon Musk, is a pioneer in the field of electric vehicles and innovative technologies such as autopilot systems, battery solutions, and solar energy products. However, to ensure long-term success on a global scale, Tesla must develop comprehensive strategies that take into account various external factors, including global markets, regulatory conditions, cultural specifics, and supply chains.

The topic of Tesla's global expansion is relevant for several reasons. Firstly, the company is in a phase of active growth and entry into new markets, which presents significant challenges. Expanding into Asian and European markets, particularly China and Germany, where there are strong local competitors and high entry barriers, requires Tesla to adopt a strategic approach and a deep understanding of local specifics. Secondly, the relevance of this topic is driven by the global rise in interest in clean technologies and the transition of many countries to policies aimed at reducing carbon emissions, opening up new opportunities for Tesla.

At the 2021 COP26 climate conference, many countries announced plans to gradually phase out internal combustion engine vehicles, promoting the growth of the electric vehicle market. As a global leader in this field, Tesla has a unique opportunity to capitalize on these changes and secure a foothold in new markets. However, this also necessitates the company's compliance with international regulatory requirements and strict environmental standards, which may complicate its expansion efforts.

Moreover, the issue of cultural adaptation and managing international teams is also crucial in the context of Tesla's global strategy. Cultural differences, regional customer preferences, and the challenges associated with product localization and marketing strategies directly affect the company's success in international markets.

Thus, the development and implementation of a global expansion strategy for Tesla is an important topic both from the standpoint of theoretical research in international management and the practical implementation of strategic decisions in global conditions. In this context, it is essential to analyze not only the opportunities but also the challenges Tesla faces when entering new markets to develop effective models for overcoming barriers and maximizing the company's potential on the global stage.

Analysis of recent research and publications

The global expansion of innovative companies like Tesla has garnered significant attention in both academic and business circles (Bach, Pisani, & Duke, 2021). Tesla has been the subject of numerous studies analyzing its market entry strategies, product adaptation, supply chain management, and cultural and regulatory challenges.

Research by Lee and Cheng (2020) highlights that Tesla adopts a gradual expansion strategy, focusing on markets with high demand for eco-friendly technologies. The company initially entered the Scandinavian EU markets, which offer strong support for green transportation. Greenwood's (2021) study examines Tesla's entry into the Chinese market, where the company localized production by building a factory in Shanghai to reduce costs and overcome customs barriers. This marked a turning point for Tesla in China, where it competes with players like BYD and NIO ("Why the BYD vs Tesla competition is so important for the global auto industry," 2024).

Product adaptation to regional requirements is a key theme in the research of Johnson and Wright (2019), particularly regarding compliance with safety and environmental standards in Europe. For example, models sold in the European market have technical differences from their American counterparts. Martinez and Gomez (2020) also emphasize that Tesla tailors its marketing strategies to meet the needs of consumers in different countries—focusing on performance in the U.S., while highlighting sustainability in Europe.

Supply chain management presents another challenge for Tesla. Gupta and Brown (2018) analyze the complexities arising from reliance on the supply of raw materials for batteries, particularly lithium and cobalt, whose demand is increasing. Tesla is investing in vertical integration to reduce dependency on suppliers, signing deals, for instance, with Australian companies for raw material supply.

Managing international teams and overcoming cross-cultural barriers are also subjects of study. Black and Kim (2020) note that Tesla adapts its management style to local cultures, while Smith and Chan (2021)

examine talent recruitment strategies in markets where skilled labor is scarce, particularly in China and Europe.

Purpose of the article

The aim of this paper is to conduct an in-depth analysis of Tesla's global expansion strategy, specifically identifying the main challenges and opportunities that arise when entering new markets. The study examines how Tesla adapts its products and services to regional legislative and cultural requirements, as well as how the company manages its global supply chain, taking into account geopolitical risks and increasing competition. Special attention is given to analyzing how Tesla addresses cross-cultural issues in personnel management and marketing, and how the company responds to regulatory demands and local market specifics in Europe, China, and the United States. The research also covers the topics of localization strategy, international team management, and competitive challenges in the context of globalization.

Presentation of the main research material and results obtained

Tesla is implementing an ambitious global expansion strategy aimed at sustainable development and reducing reliance on traditional energy sources. The company has an active presence in the markets of the U.S., Europe, China, and Japan, continually expanding its reach. Tesla's largest production facilities are concentrated in the U.S., home to the Gigafactory in Nevada, as well as in China and Germany, which are key markets for the company. These factories not only manufacture cars and batteries for local markets but also help Tesla optimize logistics by reducing transportation costs and minimizing the impact of regional tariff barriers.

A key aspect of Tesla's global strategy is its ability to adapt its products to meet the demands of different markets (Ghar, 2024). For example, in China, the company has had to modify its vehicles to suit local preferences and cultural nuances. This includes changes in interior design to meet high comfort standards for local consumers, as well as implementing charging stations that consider the country's population density and infrastructure. In Europe, on the other hand, Tesla focuses more on environmental aspects, a critical factor for success in a market where strict environmental standards are mandatory for all automotive companies.

Entering the Chinese market has become an essential part of Tesla's strategy. China is the world's largest electric vehicle market, and the construction of the Gigafactory in Shanghai has helped Tesla cut costs and bypass tariff restrictions. This has allowed the company to maintain its competitive advantage over local manufacturers like NIO, BYD, and Xpeng. However, this market also poses a significant challenge due to stiff competition from Chinese companies that are rapidly developing their own electric vehicle technologies and offering competitive prices. Notably, local players enjoy substantial government support, which creates additional difficulties for Tesla.

Tesla's strategy in Europe, particularly in Germany, is also illustrative. Germany is one of the most influential countries in the automotive industry, where traditional players like Volkswagen, BMW, and Mercedes-Benz are actively rolling out their own electric vehicle lines. Building the Gigafactory in Berlin enables Tesla not only to supply European consumers with locally produced goods but also to meet the stringent requirements of European regulatory bodies. Moreover, reducing logistics costs and shortening delivery times are crucial factors for Tesla's competitiveness in this market.

One of the key challenges for Tesla is managing its global supply chain, particularly in the production of electric vehicle batteries. Batteries are a central component of electric cars, so ensuring a stable supply of raw materials such as lithium and cobalt is critically important for the company. Tesla is actively investing in vertical integration by collaborating with mining companies in Australia and other countries to reduce its dependence on suppliers from politically unstable regions, such as Africa. This approach helps the company minimize risks associated with fluctuations in the raw materials market and geopolitical factors (Zhang, 2024).

The COVID-19 pandemic exposed the vulnerabilities of global supply chains. Tesla experienced production and component delivery disruptions, forcing the company to seek new supply sources and optimize its manufacturing processes. For instance, Tesla revised its plans to scale up battery production and signed new agreements with raw material suppliers, which helped stabilize the situation.

Cultural challenges are another important aspect of Tesla's strategy in international markets. The company faces the need to adapt its marketing campaigns to the cultural differences and preferences of consumers in different regions. In China, Tesla emphasizes the prestige of the brand, innovation, and technological excellence, which appeals to affluent consumers who value status and environmental friendliness. In Europe, the company focuses on the environmental benefits of its vehicles, aligning with local regulations aimed at reducing carbon emissions and combating climate change.

Tesla continues to introduce new technologies, particularly in the field of autonomous driving, giving it a competitive edge in the global market. Tesla's Autopilot is one of the key technological innovations that is being

actively developed and implemented across various markets (mind, 2024). However, this also creates additional challenges in terms of regulatory requirements, as countries have different approaches to regulating autonomous vehicles.

Tesla also faces regulatory challenges in different countries. In Europe and China, regulators enforce strict environmental standards, requiring the company to constantly update its products to meet these demands. For example, many European countries plan to ban the sale of internal combustion engine vehicles by 2030, which stimulates demand for electric vehicles but also requires Tesla to increase the energy efficiency of its cars.

It is important to note that one of the key elements of Tesla's international success is its vertical integration strategy. This approach allows the company not only to control most production processes but also to optimize its supply chain. For example, Tesla manages the entire battery production cycle—from sourcing the necessary materials to manufacturing the final product. This approach minimizes dependence on external suppliers, which is particularly crucial in times of global instability.

Tesla is also actively investing in the development of new technologies that improve production efficiency and enhance competitiveness in the market. For instance, the company is developing new types of batteries that will not only be more powerful but also cheaper to produce. This is especially relevant against the backdrop of rising raw material prices, particularly lithium and cobalt, which are key components in battery production.

Another critical aspect of Tesla's strategy is the continuous expansion of its network of charging stations, essential for the growth of the electric vehicle market. The company is investing heavily in building charging infrastructure in Europe, the U.S., and China, enabling electric vehicle owners to use their cars more conveniently over long distances. In China and Europe, this strategy helps increase trust in the brand, as consumers highly value the availability of infrastructure to support electric vehicle usage.

Overall, Tesla's global expansion strategy is highly dynamic and multifaceted. It involves not only technological innovations and control over production processes but also a deep understanding of the cultural and regulatory nuances of each market (Reuters, 2023). This allows the company to adapt its strategies to changing conditions and maintain competitiveness across various regions.

An important component of Tesla's global strategy is its innovative approach to research and development (R&D). The company not only integrates cutting-edge technologies into its products but also actively explores opportunities for further process improvements, particularly through automation. Tesla's Gigafactory is an example of next-generation manufacturing, where automation and artificial intelligence help optimize processes, reducing costs and increasing efficiency. This approach allows the company to remain competitive even as resource and labor costs rise in different countries.

In addition, Tesla actively utilizes data and artificial intelligence to improve its products and services. For example, the autopilot system implemented in Tesla models is continuously enhanced through data collection from vehicles worldwide. This strategy helps the company stay at the forefront of autonomous driving technology, which is a key competitive advantage in all regions where Tesla vehicles are sold. The implementation of these technologies presents both opportunities and challenges, as regulatory bodies in different countries take varying approaches to certifying such systems.

Another important aspect of Tesla's strategy is its increasing focus on environmental initiatives, which extends beyond electric vehicle production. The company is actively expanding its business in renewable energy, including solar panels and energy storage systems such as Tesla Powerwall and Powerpack. This allows Tesla to offer comprehensive ecological solutions not only to individual consumers but also to businesses and governments globally. This business diversification provides new opportunities for Tesla in international markets, where demand for "green" energy is growing amid the global shift toward reducing carbon emissions.

Notably, Tesla actively engages with local governments and regulatory authorities to meet environmental and safety standards. For instance, in Europe, the company closely collaborates with national regulators to adapt its vehicles to local standards and participate in developing programs that encourage the transition to electric vehicles. In China, Tesla takes advantage of government subsidies for electric vehicles, providing the company with a significant competitive edge.

Tesla also emphasizes the sustainable development of its products. In addition to transitioning to renewable energy, the company is exploring opportunities for battery recycling and creating a closed-loop production system. This initiative is crucial not only for improving environmental performance but also for reducing the cost of raw materials, which are becoming increasingly expensive. Implementing such initiatives could significantly alter global approaches to managing production chains in the electric vehicle industry.

Another key element of Tesla's international management is its global employment strategy, which takes into account the specific characteristics of different regions and markets. Tesla focuses on recruiting highly qualified personnel in countries where the company is expanding its presence. This allows it not only to meet

local requirements but also to better adapt to the cultural and economic conditions of these regions. For example, in South American countries where Tesla plans to expand its presence by developing infrastructure and selling electric vehicles, the company faces a shortage of qualified professionals in high-tech fields. In response, Tesla has partnered with local educational institutions to offer specialized training programs for preparing experts in engineering, electric vehicle maintenance, and supply chain management. This approach enables the company to quickly adapt to the market without relying solely on attracting foreign specialists.

In the Southeast Asia region, Tesla faces different employment challenges, as competition for technological talent is high due to the rapid growth of local tech companies. To ensure its success in these markets, Tesla implements corporate culture programs that are aligned with local values and traditions. For instance, in some countries in this region, collective work and collaboration are highly valued, so the company adapts its internal communication strategies to emphasize the importance of teamwork and interaction between employees from various departments.

Moreover, Tesla has introduced global employee rotation programs, allowing workers from different countries to gain experience in international settings. This fosters the development of a global corporate culture and facilitates the exchange of best practices between regional teams (Gërguri, 2024). These programs are typically aimed at young professionals and mid-level managers who can move to new markets and support the company's global strategy. For example, engineers from the U.S. divisions may be sent to work in Asia or Latin America to support local teams and share knowledge.

Another significant aspect of Tesla's international management is its global leadership development program. This initiative is focused on creating local management teams capable of not only overseeing the company's operations in new markets but also promoting Tesla's corporate values, such as innovation, sustainability, and customer-centricity. Through this approach, Tesla attracts talented managers from local markets, which helps the company better integrate into the unique conditions of each country and support sustainable growth.

Tesla also places particular emphasis on flexible employment practices, allowing the company to adapt to workforce changes and labor market demands in different regions. For example, in Australia, where the demand for electric vehicles is growing, Tesla is developing remote work models for engineers and technical specialists, allowing them to work from anywhere in the country, reducing dependence on local offices. This not only expands recruitment opportunities but also enables Tesla to manage employment and employee relocation costs more efficiently.

Conclusions

Tesla's global expansion strategy demonstrates how an innovative company can successfully integrate into international markets, despite challenges such as competition, cultural differences, regulatory restrictions, and logistical difficulties. Tesla is actively expanding its presence in various regions by employing strategies of localized production, product adaptation, and technological advancements.

Key success factors for the company include opening factories in strategic regions such as China and Europe, which helps reduce costs and meet local requirements; developing innovations such as autonomous driving and efficient batteries; maintaining flexibility in supply chains, particularly through vertical integration, which minimizes supply risks; and adapting marketing campaigns to local markets, with a focus on environmental sustainability and technological superiority.

However, Tesla faces challenges such as increasing competition from both traditional and emerging automakers, the need to adapt to cross-cultural differences in international management and marketing, and regulatory constraints that require continuous product adaptation to local standards.

Future research opportunities include analyzing the impact of new technologies on Tesla's expansion, exploring the company's potential in emerging markets, evaluating the strategies of key competitors, and examining Tesla's role in sustainable development and environmental initiatives. Tesla's global strategy serves as a prime example of successful internationalization, highlighting how innovation fosters sustainable growth in an ever-changing market environment.

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Corporate Social Responsibility (CSR) in an International Aspect

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Abstract

This study examines Corporate Social Responsibility (CSR) from an international perspective, exploring how integrating CSR into business strategies varies across different countries and industries in the global market. The main topics covered in this article are fundamental principles of CSR, international variations in CSR practices, and global frameworks of CSR. The research highlights how cultural, regulatory, and economic factors influence CSR practices across the globe. Additionally, international standards and frameworks like ISO 26000, UN Global Compact, and Global Reporting Initiative are examined to assess their influence on standardizing CSR practices.

Keywords

Corporate social responsibility (CSR), Business strategy, Multinational corporations, Sustainable development, International enterprises, Reporting, Core value, CSR standards.

Problem statement

Companies are expected to do more than generate profits and address social and environmental issues in a globalised world. However, corporate social responsibility (CSR) implementation varies significantly across regions due to cultural, legal, and economic circumstances. This inconsistency makes it difficult for multinational companies to maintain ethical standards and promote sustainable practices globally. To overcome these challenges and meet the growing expectations of stakeholders, it is necessary to understand CSR from an international perspective.

Relevance of the chosen topic

CSR is becoming increasingly urgent as companies face global issues such as climate change, labour rights, and sustainable development. As consumers, investors, and governments increasingly demand responsible business practices, companies must ensure that their CSR strategies meet global standards while adapting to local needs.

Analysis of recent research and publications

In preparing this paper, a wide range of recent research, articles, and publications on CSR were analyzed to gather insights. Recent research highlights the importance of global CSR frameworks such as the UN Global Compact,

ISO 26000, and GRI in guiding responsible business practices. The challenges multinational companies face in meeting these standards, especially in weak regulation areas, were considered.

Purpose of the article

This article aims to provide a comprehensive understanding of CSR in an international context by exploring how global companies approach CSR differently across countries while complying with international standards.

The main objectives are:

- The role of a global CSR framework is significant, as it shapes multinational companies' approach towards social responsibility. This article will analyze this role and its implications for business operations.
- Explore the challenges and opportunities presented by differences in cultural, legal, and regulatory environments across countries.
- Provide ideas on how companies can better align their global CSR strategies with the needs of local communities to maximize social impact and business value.

Presentation of the main research material and results obtained

To understand the role of Corporate Social Responsibility (CSR) internationally, it is first necessary to familiarize yourself with the basis of this term. The concept of CSR has evolved, and it is not easy to attribute it to a single inventor. However, the modern understanding of CSR emerged in the mid-20th century, particularly in the 1950s and 1960s, when scholars and business leaders began to discuss the ethical responsibilities of corporations beyond profit (Agudelo, Jóhannsdóttir, & Davídsdóttir, 2019).

Howard R. Bowen – often referred to as the "Father of CSR", is credited with the earliest formal definition of CSR in his 1953 book "Social Responsibilities of the Businessman". He argued that businesses should consider the social consequences of their actions and that business leaders have an ethical obligation to act in the best interests of society (Caulkins, 2013). By social responsibility of businessmen, (Bowen, Gond, & Bowen, 1953) meant the obligations of people in business to pursue those policies, to make those decisions, or to follow those lines of action that are desirable in terms of the objectives and values of our society.

In 1979, Archie B. Carroll, a Professor of Management at the University of Georgia, played a pivotal role in popularizing the concept of CSR. He proposed the 'Pyramid of CSR,' a model that breaks down CSR into four main components: economic, legal, ethical, and philanthropic responsibilities. Carroll's work was instrumental in bringing CSR into the mainstream, as he addressed this delicate subject and simplified the concept of CSR using a single pyramid diagram (Green Business Benchmark, 2022).



Fig. 1: The Pyramid of Corporate Social Responsibility (Carroll, 1991).

At the bottom of the pyramid, Carroll emphasizes that the primary responsibility of a company is to be profitable. This is consistent with the idea that a company must be financially viable in order to fulfill its other social responsibilities (Carroll, 1991). Without economic success, other levels of CSR cannot be achieved. Moving up, businesses have to comply with laws and regulations. Legal responsibilities reflect society's codified expectations and ensure that businesses operate within the law while striving for profitability. Beyond legal compliance, businesses are expected to act ethically. This includes not just following the law, but also taking a proactive approach to moral standards, acting in a fair, honest and just manner, even if this is not required by law. Ethical responsibility involves a proactive approach to moral standards that are not yet fully stipulated in law but are nonetheless expected by stakeholders. At the top of the pyramid is the responsibility to give back to society through charitable activities. This is considered voluntary and includes charitable giving, community involvement and contributions to the wider community. Although this is not a prerequisite for the company's economic or legal success, it enhances its reputation and promotes a positive corporate image.

The pyramid structure suggests that while economic responsibility is fundamental to the survival of a business, legal, ethical and philanthropic responsibilities become increasingly important as businesses operate on this foundation. Carroll's model has played a key role in shaping modern CSR approaches, guiding businesses to find a delicate balance between profitability and broader social contribution (Saleh, 2022).

The definition of the first researchers of corporate social responsibility gave a significant impetus to the development of this field and opportunities for further improvement and innovations by their followers. Examples of the modern definition of SCR are given below.

Corporate Social Responsibility is a management concept in which companies integrate social and environmental concerns into their business operations and interactions with their stakeholders (UNIDO, 2024, para. 1).

Corporate social responsibility (CSR) is the idea that businesses should operate according to principles and policies that positively impact society and the environment (McGrath & Jonker, 2023, para. 1).

The Commission has defined CSR as enterprises' responsibility for their impact on society, and therefore, it should be company-led (European Commission, n.d., para. 2).

In today's interconnected world, Corporate Social Responsibility is no longer a peripheral activity for companies but a core strategic necessity. Companies that actively engage in CSR initiatives create a positive brand image and reputation in the eyes of consumers, investors, employees, and other stakeholders (Gratton, Murry, & Kvilhaug, 2025). A strong CSR strategy strengthens a brand's reputation, fosters customer loyalty, and differentiates a company in a competitive marketplace (Thornberg, Selvam, & Bastons, 2024).

Implementing CSR can also enhance organizational resilience by fostering stakeholder trust, building strong relationships with local communities, and adapting to changing public expectations and regulatory requirements. Trust is one of the most valuable assets for any business, and CSR plays a critical role in building and maintaining this trust (Blowfield & Murray, 2019).

In 2015, 17 Sustainable Development Goals (SDGs), which are planned to be fulfilled by 2030, were set by the United Nations to transform our world (WHO, 2022). CSR allows any company to align with these goals, choosing the one or several that are closest to their values. By adjusting their internal processes to contribute to the achievement of these goals, businesses can be part of a global movement towards a better future, inspiring and motivating both their employees and stakeholders.

Table 1: Sustainable Development Goals (UNSDG, 2015).

	Sustainable Development Goals
1	No Poverty
2	Zero Hunger
3	Good Health and Well-being
4	Quality Education
5	Gender Equality
6	Clean Water and Sanitation
7	Affordable and Clean Energy
8	Decent Work and Economic Growth
9	Industry, Innovation and Infrastructure
10	Reduced Inequality
11	Sustainable Cities and Communities
12	Responsible Consumption and Production

13	Climate Action
14	Life Below Water
15	Life on Land
16	Peace, Justice and Strong Institutions
17	Partnerships for the Goals

Companies that use this resource to transform their businesses in a sustainable direction are expected to be competitive in the global market and remain profitable in the long run.

On a global level, multinational companies, non-profit organizations, and public organizations are increasingly integrating CSR into their core business strategies. These organizations incorporate CSR into their policies to meet the expectations of various stakeholders, increase their competitive edge, and improve access to global markets in time to respond to social needs. By doing so, they position themselves to achieve commercial success and contribute positively to society.

It is crucial for international businesses to understand that corporate social responsibility varies depending on countries or regions. Thus, it is necessary to analyze the market in detail to choose relevant influence methods in one territory or another.

The US markets for labour and capital are relatively unregulated as there are low levels of welfare state provision (Camilleri, 2017). As a result, many social issues, such as education, health care or social investment, have become central to corporate social responsibility in the American context. CSR programs and communications in charity, conservation, volunteerism, and environmental issues have different standards in the United States of America. Therefore, CSR in the USA has many forms of social involvement by companies because they are not required to carry out socially and environmentally responsible activities. American companies tend to define and interpret their vision of corporate responsibility within their corporate framework (Camilleri, 2017). Subsequently, they can measure and promote performance above their international counterparts.

The enhanced CSR strategy announced by the Government of Canada on November 14, 2014, emphasizes the importance of Canadian companies supporting Canadian values and maintaining high ethical standards in their work abroad (Global Affairs Canada, 2013). This strategy demonstrates the Government's commitment to ensuring that businesses contribute to economic growth and play an essential role in promoting responsible and sustainable business practices worldwide. Through CSR programs, Canadian companies are encouraged to create shared value by providing tangible benefits to local communities in host countries (Adamson, 2024). This can include supporting education, investing in community health programs, promoting fair labour practices, and promoting local economic development. By participating in the well-being of these communities, companies build positive relationships and gain a social license to operate, which is essential to long-term success. Canada's CSR strategy emphasizes the importance of accountability and transparency in global operations (Global Affairs Canada, 2013). Companies are expected to be open about their social and environmental impacts and ensure that stakeholders, including local communities, governments and investors, can be held accountable for their actions.

Business failures in Australia, such as HIH Australia's biggest collapse in 2001, and industry crises, such as James Hardie's plans to avoid liability for asbestos compensation from former employees, have raised questions about the nature of corporate responsibilities (Clark, 2022). Business leaders in Australia now manage CSR issues through specific business organizations such as the Global Reporting Initiative, the UN's Global Compact and the World Trade Council for Sustainable Development (NCS Australia, 2022). Scholarship on CSR comes from many areas, including management, ethics, psychology, society, finance and accounting, sustainability, public affairs, and communication. While significant progress has been made, challenges remain in fully integrating CSR into the corporate culture of many Australian businesses. There is often a conflict between pursuing short-term profit and the need for long-term prosperity (Putra, White, & Sarna, 2018). Companies may need more stakeholder support to provide financial returns, sometimes conflicting with broader CSR goals. However, there are also significant opportunities for businesses that embrace CSR as a means of innovation and sustainable growth. By adopting effective practices, companies can open new markets, attract socially savvy customers and build resilience in a rapidly changing landscape.

Corporate Social Responsibility in the United Arab Emirates is uniquely rooted in Islamic values and traditions. Established in Islamic times, this foundation is evident in the philanthropic activities and Sharia-compliant business practices of individuals and organizations in Dubai and the UAE (Elsonbaty, 2023). The region's rapid urbanization is a unique approach that involves developing green building practices and energy-efficient infrastructure (UAE Government, n.d.). Architectural marvels like Emirates, Masdar City, and

Sustainable City reflect the UAE's commitment to eco-UAE's urban planning and sustainable living (Centre for Public Impact, 2018). Many UAE-based companies actively engage in philanthropic efforts, supporting education, healthcare, and cultural heritage projects (Commitbiz, 2021). Initiatives such as Emirates Foundation and Dubai Cares are examples of how corporations contribute to social welfare by funding programs that aim to improve the lives of underprivileged communities, both within the UAE and globally (Dubai Cares, 2023). As the UAE diversifies its economy away from oil dependency, clean energy has become a key focus of CSR. Projects such as the Mohammed Bin Rashid Al Maktoum Solar Park are at the forefront of UAE's push into renewable energy and show how the private sector is working to tackle climate change (Government of Dubai, 2022). Despite progress, there are challenges in fully embedding CSR across all sectors. Many companies still view CSR as a public relations exercise rather than an integral part of their business strategy. In perspective, companies in the UAE can enhance their reputation on the global stage and contribute to sustainable development.

European countries have a rich tradition of corporate social responsibility, shaped by a long tradition of social responsibility, environmental awareness, and ethical business practices. Rooted in Europe's social market economy and progressive regulatory framework, CSR in this region goes beyond philanthropy and integrates sustainability and social responsibility into the core strategies of companies in various industries (Müller, 2017). Over time, European businesses have paid more attention to sustainable development, environmental management, and the well-being of their employees and local communities. European businesses have embraced CSR as a competitive advantage and integrated it into their operations and business strategies. From multinational corporations to small and medium-sized enterprises (SMEs), European companies strive to meet stakeholders' expectations on social and environmental issues. Leading European companies such as Unilever, Ikea, and Siemens have introduced themselves as sustainability pioneers and have incorporated social responsibility into their corporate activities and used it as a driver for innovation and value creation (Reuters Events Sustainable Business, 2017). Looking ahead, CSR in Europe will be increasingly integrated into corporate strategy with a continued focus on sustainability, social impact, and ethical management. The future of CSR in Europe is marked by the move towards climate neutrality, the rise of social entrepreneurship, and increased investment, ensuring that businesses not only contribute to economic growth but also to a more equitable and sustainable world. These future trends of CSR in Europe provide a forward-looking perspective, helping the reader anticipate the future of CSR in the region (European Commission, n.d.).

In many Asian countries, governments have played an essential role in promoting CSR by introducing legal and policy frameworks that encourage businesses to adopt responsible practices (Chapple & Moon, 2022). Countries like Japan, South Korea, India, and China have laws and guidelines that promote sustainability, environmental protection, and corporate governance.

India became the first country to make CSR mandatory for certain companies under the Companies Act of 2013. This legislation requires businesses to allocate 2% of their net profits to CSR activities, such as education, health care, and environmental issues (Acharya, 2013). This landmark legislation has pushed Indian businesses to participate in social projects and address important social issues.

China has introduced several policies to promote sustainable development and improve environmental standards. The Chinese government's five-year plans have increasingly focused on green growth, encouraging companies to reduce carbon emissions and embrace clean energy technologies (Wang, 2022). The Belt and Road Initiative (BRI) also includes CSR goals encouraging Chinese companies to adhere to environmental and social standards in their overseas investments (McBride, Berman, & Chatzky, 2023).

In Japan and South Korea, CSR is often associated with corporate governance and sustainability. Both countries value responsible citizenship and expect businesses to contribute to the social well-being of their communities and operate in an environmentally responsible manner (Kim, 2018). Japanese companies are known for their kaizen (continuous improvement) approach, which incorporates sustainability into product design, manufacturing processes and supply chain management (Kim, 2018).

Asia is also a global hub for manufacturing, and companies are taking more responsibility for their supply chain operations, especially regarding labour rights and environmental impacts. Many multinational companies operating in Asia are under pressure to ensure that their suppliers adhere to fair labour standards, such as fair wages, safe working practices and the prevention of child labour. For example, Nike and Adidas have implemented CSR programs to ensure accountability in Bangladesh, Vietnam and Cambodia (SneakerAddict, 2024).

Many international standards and frameworks have been developed to ensure companies follow cross-border CSR practices. These frameworks guide businesses in managing their social responsibilities and adapting their operations to global sustainability goals. The most influential are ISO 26000, the UN Global Compact, and the Global Reporting Initiative (GRI), which has played an essential role in shaping CSR practices worldwide.

Introduced by the International Organization for Standardization (ISO) in 2010, ISO 26000 is a global standard that guides social responsibility for organizations (ISO, 2010). Unlike other ISO standards, ISO 26000 is not certifiable, meaning it serves as a framework rather than a set of specific requirements (Pojasek, 2011). This standard provides comprehensive guidance on how businesses can operate in a socially responsible manner and covers critical areas such as human rights, labour practices, environmental protection, ethical business practices, and consumer and community involvement.

ISO 26000 guides all types of organizations, regardless of their size or location (Pojasek, 2011, , p. 6):

1. Concepts, terms and definitions related to social responsibility
2. Background, trends and characteristics of social responsibility
3. Principles and practices relating to social responsibility
4. Core subjects and issues of social responsibility
5. Integrating, implementing and promoting socially responsible behaviour throughout the organization and, through its policies and practices, within its sphere of influence
6. Identifying and engaging with stakeholders
7. Communicating commitments, performance and other information related to social responsibility

The primary purpose of ISO 26000 is to help companies understand their responsibility to society and the environment and ensure that they contribute to sustainable development (ISO, 2010). By following these guidelines, businesses can strengthen their ethical governance, improve stakeholder relationships, and create long-term value.

Moving forward, the UN's Global Compact, launched in 2000, is the world's largest corporate sustainability initiative, encouraging businesses worldwide to adopt sustainable and socially responsible policies (Leisinger, 2003).

The United Nations Global Compact is uniquely positioned to support companies as they align their practices for a sustainable and inclusive future (UN Global Compact, 2023). The Global Compact provides a universal framework for businesses to integrate corporate responsibility into their global operations and support UN goals, such as the Sustainable Development Goals (SDGs). Participating companies commit to making annual progress reports on their CSR activities, known as Communication on Progress (COP) reports, which are publicly available. This transparency enhances stakeholder trust and holds companies accountable for their CSR performance. By joining the Global Compact, businesses signal their commitment to ethical practices and sustainability, which can improve their reputation and strengthen their relationships with customers, investors, and employees (UN Global Compact, 2023). Moreover, the initiative fosters collaboration between businesses, governments, and civil society to tackle global challenges such as climate change, inequality, and resource scarcity.

At the heart of the UN Global Compact are ten principles based on internationally accepted standards such as the Universal Declaration of Human Rights, the International Labour Organization's (ILO) Declaration on Fundamental Principles and Rights at Work, the Rio Declaration on Environment and Development, and the United Nations Convention Against corruption (UN Global Compact, 2023). These principles form the foundation for businesses to build ethical and sustainable practices.

Although the UN Global Compact provides a comprehensive framework for sustainable business practices, companies may have difficulty consistently implementing the principles, especially in regions with weak legal frameworks and widespread corruption. Companies operating in countries that need more enforcement of human rights and environmental standards may find it challenging to adhere to ethical standards everywhere.

The Global Reporting Initiative (GRI) is a widely recognized framework that not only enables businesses to report on their sustainability performance but also fosters a future of transparency and open dialogue about impacts. The GRI's vision is one where reporting on impacts is a common practice by all organizations around the world, paving the way for a more sustainable future (GRI, 2022).

The GRI provides a structured way for companies to measure and report their CSR activities, significantly enhancing the reliability and trustworthiness of their sustainability data. This structured approach makes it easier for stakeholders to assess the company's impact on society and the environment (GRI, 2022). The framework covers a wide range of sustainability issues, from carbon emissions and water use to work practices and social investments. By using the GRI standard approach, companies can ensure the transparency and comparability of their sustainability data, which is crucial for building trust with investors, customers, and managers (IBM, 2021).

Authorities and regulatory bodies worldwide are increasingly demanding Environmental, Social, and Governance (ESG) reporting. The GRI standards are common and often used by companies, demonstrating global compliance with international best practices. For example, the EU has introduced the Corporate Sustainability Reporting Directive (CSRD), which requires many companies to report their ESG activities. The GRI framework

conforms to this type of regulation and helps businesses prepare for mandatory disclosures.

Although it was established in 1997, the GRI has proven its relevance for several vital reasons (GRI, 2022):

1. The GRI, established in 1997, has proven its relevance by continuously updating its standards to reflect emerging issues like climate change, human rights, and the UN Sustainable Development Goals. This adaptability ensures that the GRI remains a relevant and reliable framework for sustainability reporting.
2. GRI is flexible and standardized, enabling companies of all sizes and sectors worldwide to disclose their sustainability performance comparably.
3. The GRI's materiality principle ensures that companies report on issues most relevant to their business and stakeholders. This focus keeps reports concise and impactful, making the efforts put into reporting worthwhile.
4. GRI fosters transparency by encouraging companies to engage with stakeholders, building trust and accountability.
5. Covering environmental, social, and governance (ESG) dimensions, GRI provides a holistic view of a company's sustainability footprint.

The Global Reporting Initiative remains one of the most accessible and consistent frameworks for corporate sustainability reporting, providing companies with the tools to openly disclose their impact across various ESG areas. As it evolves to meet the needs of new businesses while maintaining its core principles of transparency, stakeholder engagement, and accountability, the GRI maintains its position as a framework key to sustainable business management.

Conclusions

As businesses operate in an increasingly interconnected global market, CSR is not a mere right but a strategic objective. Companies that embrace CSR are more likely to build a positive brand reputation, attract top talent, encourage innovation, and reduce risk. In addition, CSR contributes to the long-term sustainability of companies by addressing social challenges, such as climate change, working conditions and social development, and creating shared value for companies and society. In today's world, consumers, investors, employees and regulators demand more ethical, transparent, and sustainable business practices, and companies that do not pay enough attention to CSR risk.

Corporate Social Responsibility is an evolving and increasingly vital aspect of modern business practice, shaping the way companies interact with their stakeholders and contribute to the broader social and environmental fabric of the world. By integrating CSR into their core business strategies and aligning with global frameworks such as ISO 26000, the UN Global Compact, and GRI, companies not only drive business value but also play a crucial role in shaping the future of CSR. The future of CSR will depend on businesses' ability to balance global standards with regional adaptability, ensuring that CSR efforts address the most pressing challenges faced by society, while fostering long-term sustainability and resilience.

For CSR to continue evolving, stronger global regulations, enhanced transparency, and a more profound commitment to local engagement will be essential. In this interconnected world, companies have a responsibility to maximize profit and positive impact, leaving a lasting legacy of sustainability and responsibility for future generations.

Suggestions for improvements:

1. Strong international laws are needed to guide accountability and resolve CSR activities worldwide.
2. Companies should increase the transparency of their CSR activities by adopting comprehensive reporting standards such as GRI and conducting third-party audits.
3. Companies need to deepen their involvement in local communities and adapt their global CSR strategies to local needs for maximum benefit. This local adaptation is not just a strategic move but a demonstration of empathy and a commitment to community well-being.

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ADAPTATION OF THE MARKETING MIX AS A COMPONENT OF THE STRATEGY OF ENTERING A NEW MARKET

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Abstract

The article examines the strategic significance and specific features of adapting the marketing mix in international markets. The relevance of the chosen topic is driven by the spread of globalization processes and companies' desire to expand beyond national boundaries. There is a need to reach an international consumer audience and ensure competitiveness, which requires companies to put additional effort into researching and organizing a marketing mix that aligns with market characteristics, leading to the necessity of its adaptation.

The article explores the marketing mix's adaptation as a vital component of a company's international expansion strategy. The primary tasks of the study include analyzing the marketing mix, approaching its formation, and examining the specific features of adapting its elements. To achieve the goal, methods of analysis, systematization, synthesis, and graphic methods of information presentation were used. In this way, the composition and essence of the marketing mix elements have been considered. The methodology for assessing a company's marketing strategy, which highlights the need for adapting the marketing mix, is presented and analyzed. The advantages and disadvantages of adapting individual elements of the mix are identified, and the specifics of their formation according to general market trends are clarified.

Keywords

Marketing mix, International markets, Marketing adaptation, Marketing strategy, Elements of marketing, Enterprise.

Problem statement

The spread of globalization processes increasingly pushes businesses to enter international markets every year. Regardless of the industry, foreign economic relations now play a crucial role in conducting business, and international expansion allows companies to boost profits and fully realize their entrepreneurial potential. Business owners may have various reasons for expanding beyond the national economy, but achieving this goal invariably requires a strategic approach. This strategic approach, in addition to performing management functions, involves developing a marketing strategy that strengthens the company's competitive position.

The specific characteristics of markets, the influence of uncontrollable factors, and differences in consumer behavior necessitate a reassessment of the 7P elements that form the foundation of a marketing strategy. This raises the issue of adapting the marketing mix or its elements to the company's new operational conditions.

Relevance of the chosen topic

The topic's relevance is driven by the intensification of globalization processes and businesses' desire to expand beyond national capabilities. The distinctive characteristics of regions and consumers, along with their unique cultures, create the need for a thorough analysis of the marketing mix adaptation requirements and the identification of key aspects to consider when shaping its elements.

Analysis of recent research and publications

The issue of the formation of a marketing strategy in an international aspect was considered in the works of many domestic and foreign scientists, such as S. Gioko, E. Kihonge, I. Havrylyuk, N. Struk, O. Kapral, L. Kvasova, L. Kurbatska, D. Lozovoj, A. Lialiuk and so on. Many scientists also study the theoretical and practical aspects of adapting the marketing mix or its elements. In particular, H. Anjani, I. Irham, L. Waluyati, F. Eze, I. Inyang, E. James, C. Eke, U. Udond, T. Hulyk, A. Naydovska, V. Zabihay, O. Khryniuk, S. Hanich, F. Sudirjo, etc. However, research on the given topic is limited and requires further consideration due to each market's political, economic, technological and socio-cultural features.

Purpose of the article

The study aims to analyze the adaptation of marketing as a component of the company's general strategy for entering the international market.

In connection with the defined goal, the following tasks are solved in the work:

- comprehensive research of the elements of the enterprise's marketing mix and approaches to its formation when entering new national markets;
- consideration of the main stages of marketing strategy evaluation, which determine the need to adapt the marketing mix;
- analysis of the advantages and disadvantages of adaptation of the marketing mix;
- determination of the features of forming 7P elements on international markets.

Presentation of the main research material and results obtained

Developing a marketing mix in the international market is more complex than creating one in the national territory. It is based on the formation of elements of the mix and their coordination among themselves in such a way as to ensure the competitiveness of the enterprise. Scientists distinguish four main mix components (4P), covering the parameters necessary to stimulate consumer interest in products or a company.

They include:

1. **Product.** A product is not just a commodity but a solution offered to the market to satisfy a need or desire. It may include physical goods, services, or even ideas. Within this element, the product range, product quality, packaging, names, and all other properties of the product that are of value to the consumer are considered.
2. **Price.** The price is the product's value or the value embedded in it. The company needs to establish a price range that will be acceptable to consumers, cover the costs of production and sale of products, and allow them to make a profit.
3. **Place (distribution).** Distribution is the element responsible for delivering products to the consumer. The main tasks of the distribution policy are creating product sales systems and selecting channels, intermediaries, and places of sale for the product or service that will be the most optimal for consumers to see and purchase them.
4. **Promotion** is communication with consumers that can take different forms depending on the tools and media used. Promotion allows the company to inform, remind, and convince the enterprise's target audience about its market offer (Gioko, 2015, pp. 222-226).

Depending on the company's field of activity, an expanded version of the marketing mix (7P) can be developed, which is supplemented with such elements as «people», «process» and «physical evidence». This variation of the mix is particularly crucial for companies in the service sector. The «people» element underscores the pivotal role of employees in providing services, their professionalism, communication skills and the ability to find an individual approach to the consumer. The «process» describes the method and sequence of providing a service, due to which its value is created. And «physical evidence» characterizes the environment in which services are provided: atmosphere, interior design, cleanliness, equipment (Anjani, Irham, & Waluyati, 2018, p. 264). Graphically, the marketing mix is presented in **Fehler! Verweisquelle konnte nicht gefunden werden.**

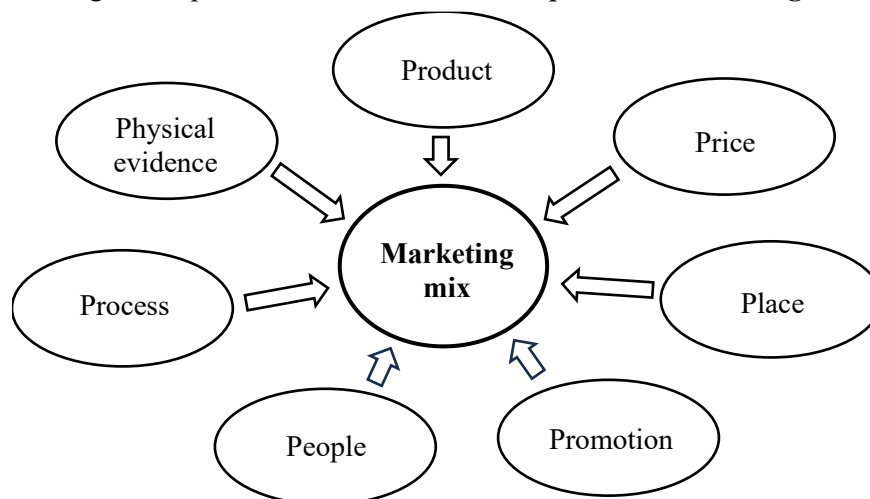


Fig. 1: Marketing mix and its components.

Source: Compiled by the author based on materials (Anjani et al., 2018)

There are two main approaches to forming the marketing mix when the enterprise enters international markets: standardization and adaptation. The first approach involves creating a single marketing strategy for the company in all markets where it is present. This allows the company to achieve the effect of scale, thanks to the same products, a single pricing strategy, distribution channel structures, and a standardized promotion system, through the creation of a universal communication message. Within this approach, the market is assumed to be homogeneous.

Adaptation, in turn, adjusts the marketing mix to each market. This approach requires orientation to characteristic features, which allows the company to create a unique approach to positioning and interaction with

consumers (Eze, Inyang, & James, 2024, p. 1194).

Global experience demonstrates that it is challenging for a company to gain consumer acceptance in a new country without adjusting its marketing mix. This is particularly true for markets that differ significantly in culture and legal framework from the company's home country. Such markets demand extensive research to mitigate potential risks. However, it is essential to note that neither approach is inherently superior. Despite their differences, both are practical and require substantial effort to develop and implement.

To more accurately determine the need for adaptation, it is necessary to conduct a comprehensive assessment of the company's marketing strategy.

Its main stages are as follows (Gavrilyuk, 2023; Struk & Kapral, 2023):

1. Determine the direction of the company's development, form strategic goals, and coordinate them with the enterprise's general goals.
2. Analyze the current state of the enterprise, including an assessment of internal reporting, financial capabilities, labour, and other resources that may be needed to achieve the set goals.
3. Conduct a SWOT analysis to determine possible strategies for further company development.
4. Organization of market marketing research under consideration or evaluation of possible alternatives. Different groups of external factors can be considered within the limits of the company's needs. These may include economic, political and legal, sociocultural, technological, environmental, business factors, and others. At the same time, a special role should be given to considering tax, legal, and political barriers to entering the market since these create the greatest challenges and determine market accessibility.
5. Analysis of the competitive environment in the market. Research of the market volume and prospects for its growth, the level of competition, which determines the further development potential (Kvasova, Kurbatska, & Lozovy, 2023).
6. Analysis of consumers, their needs, desires, behaviour characteristics, and use of products that are similar to those distributed by the company.
7. Choice of the market and the way to be present in it.
8. Formation of marketing strategy and 4P mix. All elements of the mix must meet the market goals, which, in turn, are subordinated to the enterprise's general marketing and strategic goals.
9. Determination of projects and activities that are necessary for the implementation of the marketing strategy.
10. Plan the activities for the implementation of the marketing strategy.
11. Support and monitor the implementation of the marketing strategy. This phase should be continuous, comprehensive, and flexible to prevent the emergence of possible risks

Thus, the company collects data that is necessary for making strategic decisions. Based on the information obtained from the first to seventh stages of the assessment, the company determines the necessary degree of adaptation of the marketing mix to the selected market. Our focus on risk reduction through preliminary analysis allows us to eliminate unrealistic and ineffective options for the development of the enterprise. This is achieved through a thorough comparison of market information, consumer insights, available resources, opportunities, and experience. At the same time, a special attention should be given to the choice of a general exit strategy, or presence in a new market and further orientation to it when forming elements of the marketing mix.

Based on the above, a conceptual model for adapting marketing mix elements in international markets (Fig. 2) can be presented.

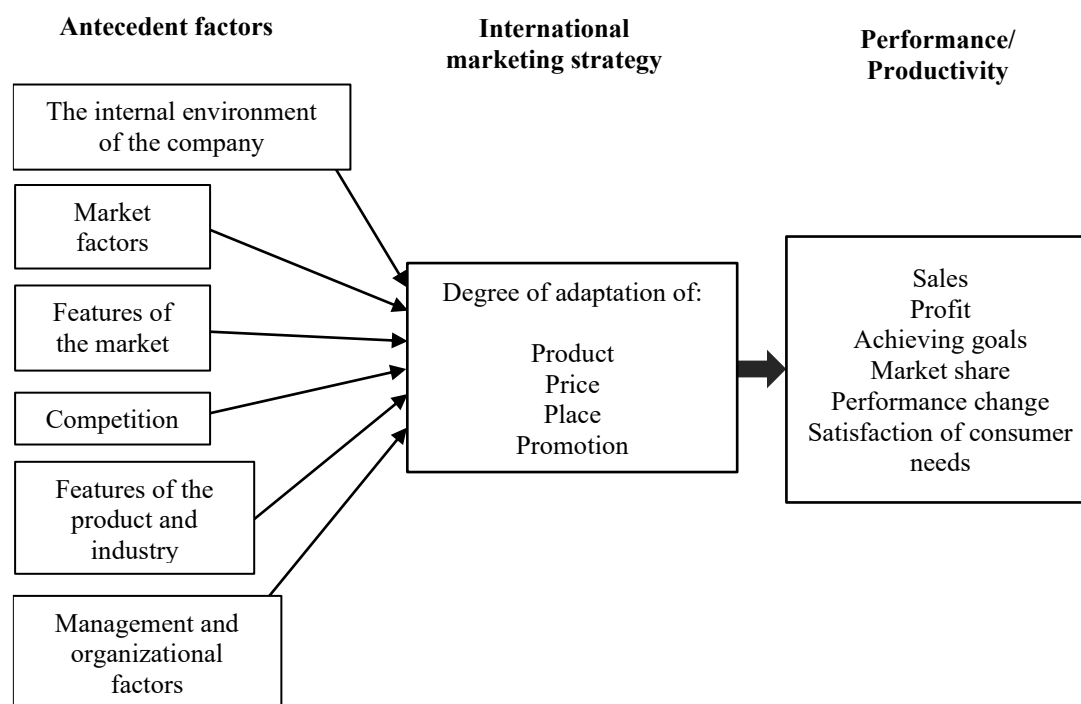


Fig. 2: Conceptual model of adaptation of marketing mix elements in international markets.

Source: Compiled by the author based on materials (Gavrilyuk, 2023); Eke & Udonde, 2023)

Thus, the impact of these factors plays a crucial role in adapting the marketing mix, influencing the effectiveness of the company's operations. Critical indicators of marketing strategy effectiveness include sales levels, profit, achievement of set goals, market share growth, labour productivity, and customer satisfaction. All these indicators generally depend on consumer response and the company's efforts invested in executing the marketing strategy. Depending on the tools the company uses, various criteria of effectiveness can be evaluated, allowing for the creation of a tailored system of metrics that will require ongoing monitoring.

When considering the need to adapt the marketing mix, it is essential to consider the general advantages and disadvantages of adaptation versus standardisation. Table 1 details the main ones.

Table 1: Advantages and disadvantages of adapting the 4P mix.

Features Component	Advantages	Disadvantages
Product	The most excellent correspondence to consumers' needs, increasing product competitiveness, and growing consumer loyalty.	The need to make greater efforts to comply with state and legal regulations, the increase in monetary costs and time for the development and production of new products, and the loss of economies of scale.
Price	Profit maximization through matching needs and creating price differentiation in different markets, considering the population's solvency.	The risk of reduced profitability, the difficulty of managing prices due to inflation, changes in currency exchange rates, and tax levels impact the company's overall image.
Place	Creating production facilities in a new market will reduce sales costs, increase response speed, and improve access to regions through local partners.	Cooperation with local intermediaries without a good reputation is difficult, as are high logistics costs when exporting products, increasing costs for creating sales systems, and supply chain management complications.
Promotion	Building a strong connection with consumers and trust through cultural and linguistic features in communication messages, risk	The high cost of creating advertising, the need for a thorough study of cultural features, the risk of losing the integrity of the brand, the need for time for the enterprise to appear in the eyes of

	reduction through cultural understanding, and the ability to build a new image for transnational clients.	consumers who may distrust foreign businesses, and dependence on local media.
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Source: Compiled by the author based on materials (Akgün, Keskin, & Ayar, 2014; Lialiu, 2020; Khryniuk & Ganich, 2022).

From the information provided in Table 1, it can be concluded that adapting the marketing mix requires more effort, time, and investment than standardisation, which are the main drawbacks of this approach. Depending on the product type and chosen market entry strategy, the company may face the challenge of a short product life cycle, creating the need for constant updates in line with market trends. There is also a risk of losing brand recognition and image due to using different positioning strategies.

The general advantages of adaptation include increasing the company's growth potential when the domestic market is limited and unpromising, as well as reducing risks through geographic diversification. Understanding and tailoring the product to the characteristics of consumers is a crucial aspect of this strategy, as it reduces misunderstandings with them, which is especially important when developing product and promotion policies. In practice, it is in the development of these elements of the mix that companies often make mistakes, which are related to sociocultural factors and create a negative impression of the brand.

Product adaptation can be performed in technical, aesthetic, ergonomic and taste-related aspects. Researchers distinguish several levels of product adaptation: unchanged product, necessary adaptation (adapting the product to the legal standards of the country), an adaptation of individual product elements, and the creation of an entirely new product. In practice, the most common types are necessary adaptation and the adaptation of individual elements, such as changing the packaging shape, taste, and colour or updating one or several technical characteristics (Khryniuk & Ganich, 2022).

For example, car manufacturers often adapt to road requirements by positioning the driver's seat on the left or right side. At the same time, food companies create unique flavours tailored to the preferences of different countries. A striking example is the saturation of the Asian market with snacks from global brands featuring unique flavours that are hard to find in European or American stores. For instance, Lay's produces chips with sakura, nori seaweed, Japanese plum, and wasabi. Moreover, the world-famous fast food brand McDonald's chain introduces menu items in various countries corresponding to national food characteristics. This is because the company already had a negative experience with product standardisation. In India, offering regular beef burgers caused public outrage, as cows are considered sacred animals. Due to this mistake, McDonald's experienced a decline in sales and damaged its brand perception. The examples demonstrate product adaptation's impact on consumer demand, which is extremely important.

It is also important to note that packaging, particularly the localisation of language on labels and packaging design, is crucial in building a successful product policy. The design must meet local standards and preferences in terms of colours, images, symbols, and environmental requirements and play a significant role in consumer perception and acceptance of the product.

To adapt pricing policies, it is essential to consider the country's economic situation, the purchasing power of local consumers, and competitors' prices. Depending on the chosen market positioning, the company selects its target price segment.

At the same time, it is essential to consider consumer expectations, which are often based on the price levels they are accustomed to from similar products in their own country. Companies targeting the mass market often need to set lower prices than local competitors to attract the audience.

The development of a distribution policy involves selecting channels for product distribution. Companies that sell products through their own sales department in the domestic market often need more resources to sell directly to customers in international markets. While adapting products to local needs is important, it can be time-consuming. Therefore, to accelerate market entry, intermediary structures, including outsourcing companies, can be used. However, it is essential to note that collaboration with local distributors and agents is not just about distribution, but also about their ability to provide valuable market information, making it easier for the company to conduct market research (Gulyk, Naidovska, & Zabiha, 2021). This support can be decisive for success and significantly accelerate the strengthening of positions in the market.

The promotion element also involves collaboration with local companies that can help better understand and adapt to market needs. These may include marketing agencies and various organisations managing advertising platforms.

Advertising plays a crucial role in adapting communication strategies. It is the most common tool for

promoting a company in international markets due to its ability to reach a broad audience and the possibility of reusing communication messages. Table 2 highlights the most critical aspects to consider when developing advertising for internationalising a company's activities.

Table 2: Features of advertising on international markets.

Aspect	Characteristic
Translation of the text	Adapting text requires a thorough analysis of each market's linguistic characteristics and collaboration with professional translators. They can localize the message without causing misunderstandings or losing the core idea.
Understanding the slogan	The slogan should reflect the central concept of the advertisement and the company's positioning. When choosing different positioning strategies in international markets, a company may encounter the issue of not all consumers understanding the idea conveyed in the slogan.
Consideration of visual and aesthetic preferences	Different cultures perceive colours, shapes, and other attributes used in advertising. The choice of these elements forms the foundation for creating a visual message and enhancing its appeal.
The correctness of the depiction of cultural features	Some cultures have a negative attitude toward representatives of other cultures using their national attributes. Also, a common mistake is to ignore the external characteristics of consumers to whom advertising is directed. This complicates the target audience's perception of the product.
Taking into account the context of current events	The enterprise cannot influence external factors but adapt to them. This involves avoiding hot topics, following trends, and responding appropriately to conflict situations.
Cooperation with local influencers	It is recommended that local stars, opinion leaders, and industry experts be involved in creating advertising to strengthen the company's trust in the new market.
Technicality of advertising	Advertising and the media used for its distribution must correspond to the technological and technical trends of the region where it is used.

Source: Compiled by the author based on materials (Gulyk et al., 2021; N.I., I.M., & N.V., 2014).

The visual image and textual message in advertising primarily attract consumers' attention. Unsuccessful translations of messages or slogans can cause communication problems and even conflicts. So, for example, Pepsi faced an adverse reaction to the inappropriate translation of the slogan «Come Alive with Pepsi», which in the adaptation for the Chinese market read «Pepsi will bring your ancestors back from the dead.» In addition, an essential role in advertising is played by the correspondence of the idea of the message to the company's positioning, since in different markets, the same product can be both a premium product and a product of general use. That is why advertising texts and slogans need a specific localization.

The visual design of advertising is not just about surface appeal, but also about deep-level perception. The external attractiveness of a video clip, banner, or any other advertising medium is what initially draws consumers' attention to the main content of the advertisement and the company behind it. However, the role of colour perception in different cultures must be balanced. For instance, rich and contrasting colours are often preferred in Latin American countries, while in Scandinavian countries, more subdued shades and minimalist images are popular. This underscores the importance of visual design in advertising and its impact on consumer perception.

At a deep level, consumers evaluate the ethics of advertising, its compliance with the cultural and moral requirements of the market, and the context. People are very picky about information and are ready to react to any shortcomings and violently invent additional subtexts. That is why, when creating advertising, the company should anticipate any possible reactions. The use of sensitive topics such as race, gender identity, sexuality, and religion can be controversial. Some nations negatively perceive when a representative of another nationality uses their external attributes, which is considered cultural appropriation. That is why there is now a trend in the fashion industry to involve models with different skin colours and body types – this allows the consumer to associate himself with advertising images and more easily perceive the product.

Involving stars in an advertising campaign is also an effective way to increase the attractiveness of the communication message and the brand's credibility. A clear example is Nike's advertising strategy. The brand is designed for a wide range of consumers and, therefore, advertises stars from various fields of activity: athletes, models, actors, bloggers and so on. Influencers share the experience of using Nike products, subconsciously creating an emotional connection between the company and customers. At the same time, it is crucial to consider

each individual's reputation to avoid a negative attitude towards the entire brand (Allahverdiyeva, Aghayeva, & Tavakkulova, 2024, p. 22).

In turn, technology makes it possible to draw more attention to the message and choose the relevant advertising medium to reach the necessary audience. These two aspects reinforce each other and allow information to reach its recipient. In some regions, advertising on television will be more effective. In others, it will be a banner which forces enterprises to combine an analytical and creative approach in creating and implementing advertising. The use of innovations and the involvement of technologies significantly strengthen the promotion of the brand in developed countries (Sudirjo, 2023, p. 66).

Adapting the elements of the extended marketing mix 7P to local markets is crucial for strengthening brand loyalty. The practical significance of 'people', 'process', and 'physical evidence' in service marketing, which often involves a customized approach, underscores the need for local adaptation. This approach, tailored to the characteristics of local consumers, is particularly beneficial for enterprises aiming to make an emotional impact on their customers.

Conclusions

Based on the conducted research, it can be asserted that in the modern business environment, the development of the marketing mix is an integral part of a company's overall strategy for entering international markets. Its creation involves a preliminary analysis of all potential factors affecting the company's operations in the chosen market and the development of a marketing mix that aligns with the company's capabilities and goals, as well as consumer needs. All mix elements (product, price, place, promotion, people, process, physical evidence) must be coordinated to ensure the desired effectiveness.

The study also identifies two approaches to developing the marketing mix: standardization and adaptation. The company independently determines the need and degree of adaptation, as both approaches have practical significance. Further analysis of adaptation shows that its main drawbacks compared to standardization are the greater need for time, effort, and investment in marketing development. In contrast, its main advantages are better alignment with consumer needs, profit maximization, and increased customer loyalty to the brand.

Given the influence of external factors, competition, strategic goals, and company specifics, each marketing element may necessitate individual adaptation. The complexity of market research and the dynamic nature of market development underscore the need for continuous monitoring and enhancement of the company's strategy, including its marketing component, to ensure competitiveness in selected segments.

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TRADE BARRIERS AND STRATEGIES FOR OVERCOMING THEM BY ENTERPRISES IN INTERNATIONAL TRADE

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Abstract

The article explores the multifaceted process of overcoming trade barriers faced by enterprises aiming to enter foreign markets. Trade barriers encompass various dimensions, including legal, economic, social, and administrative restrictions, which significantly complicate the process of internationalization. The key motives driving enterprises to internationalize, such as market expansion, cost reduction, and risk diversification, are discussed. Special attention is given to strategies for overcoming barriers in foreign markets, which enhance the competitiveness of enterprises. Porter's Five Forces model and PESTLE analysis are employed to assess the competitive environment and the factors influencing successful entry into international markets.

Keywords

Trade barriers, Enterprise internationalization, Overcoming strategies, Competitiveness, Porter's five forces model, International trade, PESTLE analysis, Foreign markets.

Problem statement

The process of entering foreign markets is a complex and risky task for enterprises due to the presence of numerous trade barriers. These barriers may include tariff restrictions, non-tariff measures, and legal and administrative requirements, which complicate market entry. For enterprises, especially small and medium-sized ones, trade barriers present a significant obstacle, requiring substantial financial resources, organizational efforts, and time to overcome. This raises the need for developing strategies that effectively address these barriers, ensuring competitiveness and successful market entry.

Relevance of the chosen topic

The need to expand market presence and diversify risks is a critical challenge for enterprises in the context of globalization and increasing competition. Entering foreign markets is a key strategic decision for enterprises seeking to expand their operations, increase profitability, and mitigate risks associated with limited national markets. Trade barriers represent the primary obstacle for businesses aiming to integrate into international trade, making the development of strategies to overcome them critically important. This research will assist enterprises

in understanding how to leverage internal resources and external opportunities to overcome these barriers and ensure a stable presence in international markets.

Analysis of recent research and publications

The issue of trade barriers and their impact on the internationalization process of enterprises has been thoroughly explored in the works of scholars such as M. Porter, who developed the Five Forces model that defines the level of competition in the industry. A. Olivier, A. Dayan, and R. Urse contributed significantly to the concept of competitiveness, presenting the competitiveness polygon that considers additional influencing factors. The Institute of Management and Development, Fatkhutdinov F., Belarus O., Maceiko Y., and Sayenko M.G. have also made important contributions to the study of competitive advantages of enterprises in international markets. The analysis of trade barriers, particularly legal, administrative, economic, and social aspects, has been the subject of numerous studies, highlighting the importance of forming strategies to overcome them.

Purpose of the article

The article aims to develop effective approaches and strategies for overcoming trade barriers faced by enterprises seeking to enter foreign markets.

Achieving this goal requires addressing the following objectives:

- analyze the key trade barriers that hinder the internationalization of enterprises;
- explore the factors of the competitive environment through the application of Porter's Five Forces model and PESTLE analysis;
- develop strategies to overcome barriers and strengthen the competitiveness of enterprises in international markets.

Presentation of the main research material and results obtained

Entering foreign markets is a complex and lengthy process for enterprises, involving multiple stages and accompanied by significant financial expenditures. In today's economy, such activity is essential for ensuring the long-term development of the enterprise and strengthening its competitive position.

According to Ivanov M.V., the main reason for enterprises to enter foreign markets is the desire to increase profitability. However, this is not the only motivation, as there are several other factors that drive such strategic decisions.

The key reasons include (Didkivskyi, 2006, pp. 462; Andriichuk & Bauer, 1998, pp. 117-130):

1. Limited domestic market. National markets are often characterized by saturation or limited growth potential, encouraging enterprises to seek new opportunities to sell their products abroad.
2. Internal government policies and domestic market specifics. Government regulations, particularly in the areas of taxation and competition support, may stimulate enterprises to enter foreign markets where business conditions may be more favorable.
3. Overcoming reliance on the domestic market. Seasonal demand fluctuations, domestic market limitations, and the need to reduce risks drive enterprises to explore foreign markets for risk diversification and to secure a more stable demand.
4. Cost reduction. Entering foreign markets can allow for the reduction of production costs through more efficient use of production capacities, lowering tax payments, and the opportunity to organize production abroad.
5. Extending the product lifecycle. When the domestic market is already saturated with a particular product, entering foreign markets allows for the extension of the product's lifecycle by finding new consumer segments.
6. Utilization of state export support programs. Government support programs may encourage enterprises to expand their activities abroad by providing financial assistance, preferential loans, or facilitating market entry.
7. Improving sales efficiency. Access to foreign markets enables enterprises to strengthen their market positions by creating new distribution channels, branches, subsidiaries, and expanding their service network.
8. Currency exchange rate instability. Currency fluctuations can stimulate enterprises to seek new sales markets, helping to diversify currency risks.
9. Enhancing enterprise prestige. Entering foreign markets enhances the company's prestige as a participant in international economic relations, which can positively impact its domestic reputation.
10. Need for foreign currency. Enterprises may enter foreign markets to generate foreign currency revenue, which is necessary for purchasing imported equipment or resources (Didkivskyi, 2006, pp. 462; Andriichuk & Bauer, 1998, pp. 117-130).

To succeed in the international market, an enterprise must ensure the high competitiveness of its products. Competitiveness is a market category that determines the enterprise's ability to successfully promote its products among other similar goods available in the market. It is shaped by factors such as product quality, price, customer service, and other elements that influence consumer perception. For a more detailed understanding, the concept of competitiveness is presented in Table 1.

The founder of modern competitiveness theory is M. Porter, who developed the "Five Forces" model that defines the level of competition within an industry. In 1993, French scientists A. Olivier, A. Dayan, and R. Urse refined Porter's approach by proposing the "competitiveness polygon" concept, which considers eight key factors influencing an enterprise's ability to compete in the international market (Taranych, Omelchenko, Kuznetsov, & Gromenkova, 2017, pp. 279).

Table 1: Content of the Concept of "Competitiveness" in Various Studies.

Author	Definition Content
Institute for Management and Development (IMD)	Competitiveness is the real and potential ability of firms, under existing conditions, to design, produce, and sell goods that are more attractive to consumers in terms of price and non-price characteristics than those of their competitors ("IMD Business School for Management and Leadership Courses," n.d.).
Fathutdinov, F.	Competitiveness is a property of an object characterized by the degree of real or potential satisfaction of a specific need compared to similar objects

	available in the market (Holda & Dubyk, 2009, pp. 138).
Bilorus, O., Matseiko, Yu.	Competitiveness is a dynamic process where each one competes with each other (Bilorus & Matseiko, 2002, pp. 7-11).
Saienko, M.G.	Competitiveness is a comprehensive comparative characteristic that reflects the degree of advantages over competing enterprises based on a set of performance indicators in specific markets over a certain period (Saienko, 2006, pp. 390).

Source: Compiled based on (Bilorus & Matseiko, 2002, pp. 7-11; Holda & Dubyk, 2009, pp. 138; Saienko, 2006, pp. 390).

At the micro-level, competitiveness is the primary factor shaping an enterprise's strategy. It is determined by the export potential of the company, which includes its production, technological, and organizational capabilities for entering foreign markets. Additionally, competitiveness is influenced by trade barriers, which may restrict access to certain markets. Successfully overcoming these barriers requires not only adapting products to meet the requirements of the new market but also developing an effective promotion strategy.

Thus, entering foreign markets is a multifaceted process that demands thorough preparation and analysis of market conditions, competitors, the regulatory environment, and the formation of a long-term strategy. To succeed, the enterprise must ensure the competitiveness of its products and take into account the specific characteristics of foreign markets, including trade barriers and government support.

Theoretical generalization of existing scientific approaches to the definition of the concept of "trade barriers" allows for several important conclusions about the nature of this phenomenon. Trade barriers are a crucial tool in regulating international trade, used to achieve certain economic goals, such as protecting domestic producers, balancing trade, and managing external market processes.

The main approaches to the nature and structure of trade barriers, as noted by (Vlasova, 2022, pp. 115-116), are as follows:

1. Legal understanding of trade barriers. In the legal field, there is a clear definition of the nature and structure of trade barriers. In general, trade barriers are viewed as measures of tariff, non-tariff, and administrative restrictions on the exchange of goods and services, which are established in the legal systems of the countries involved in trade relations or at the level of international (collective) agreements. These measures may include tariffs, quotas, licensing, currency control, and various administrative procedures.
2. Market and socio-cultural barriers. In the system of trade relations, obstacles may arise due to market forces, trade practices, informal rules of conduct, as well as cultural and religious preferences of consumers. The nature of these barriers encompasses both economic phenomena (competition, prices, demand, supply) and socio-cultural factors, which can significantly complicate a company's entry into foreign markets. These barriers often lack a clear legal basis but still greatly affect the ability of enterprises to adapt to the specifics of foreign markets.
3. Economic aspect of trade barriers. The economic aspect of trade barriers lies in the costs associated with overcoming them. The expenses required to meet trade barrier requirements can be substantial and impact the enterprise's decision to enter a market. For example, overcoming tariff barriers may require paying duties, while administrative barriers often involve obtaining various certificates and other permits.

Through this, trade barriers that stand in the way of companies wishing to enter foreign markets require (Vlasova, 2022, pp. 115-116):

1. Additional costs to meet the requirements and overcome the barriers, which can be substantial, especially for small and medium-sized enterprises. The expenses related to obtaining certificates, licenses, paying customs duties or taxes can reduce the profitability of exports and affect the competitive position of the company.
2. Costs arising from import bans on certain products. For example, some countries impose temporary or permanent bans on importing products from specific countries due to reasons such as protecting domestic producers or complying with environmental regulations.

Thus, considering the costs associated with overcoming trade barriers, economic literature defines trade barriers as economic and technical factors that prevent or complicate the market entry of new companies.

Based on the synthesis of definitions of the term "trade barriers" in economic literature, they can be considered as a set of legal norms, market tools, regularities, rules, and traditions, the fulfillment of which when importing products increases access costs or limits the volume of supplies (Porter, 2019, pp. 624; Baker Tilly, 2024). The system of trade barriers is revealed through a set of classification features that allow them to be

identified and categorized by type (economic, legal, administrative, marketing, etc.).

Porter's Five Forces Model is an effective tool for analyzing the competitive environment for companies entering foreign markets or facing trade barriers. This model helps to identify the key factors affecting the level of competition in an industry and assess the opportunities and risks that a company faces during internationalization. Let's consider how Porter's Five Forces Model can be applied to analyze companies' entry into foreign markets and overcoming trade barriers (Porter, 2019, pp. 624, pp. 624; Baker Tilly, 2024).

Porter's model emphasizes five forces of competition (see Fig. 1):

1. The threat of new entrants. When a company decides to enter a foreign market, its success largely depends on entry barriers in the industry.

These barriers include:

- Trade barriers existing for the exporter's country of origin. For example, high certification and product standardization requirements necessary to enter the EU market can significantly complicate the entry of new players.
- Economies of scale, where existing players may have significant advantages due to the scale of their production, allowing them to reduce costs. For new companies, this means they need to invest substantial resources to compete with established firms.
- Licenses, quotas, and administrative requirements, where legal regulations create additional costs that must be overcome to enter the market.

2. Threat of substitute goods. Substitute goods pose a threat to companies as they can offer consumers alternative solutions to their needs.

Businesses entering new markets must consider the following aspects:

- Adaptability of the product to local consumption conditions. If consumers have the option to choose substitutes that better align with their cultural or economic circumstances, this could become a challenge.
- Pricing policy, where products that can be offered as substitutes are often more affordable because they are not burdened by additional costs related to overcoming trade barriers.

3. Bargaining power of suppliers. Suppliers play a crucial role in shaping the competitive strategy of a company entering a foreign market:

- Access to raw materials. If the country to which the company is exporting imposes high quality requirements for components or raw materials, this may increase dependence on suppliers (e.g., the EU sets high safety standards for products and components, forcing companies to use more expensive but certified resources).
- Supplier monopoly in the country where the company operates. If there is a limited number of suppliers for specific raw materials or components, they can impose their conditions, affecting the cost structure of products and overall competitiveness.

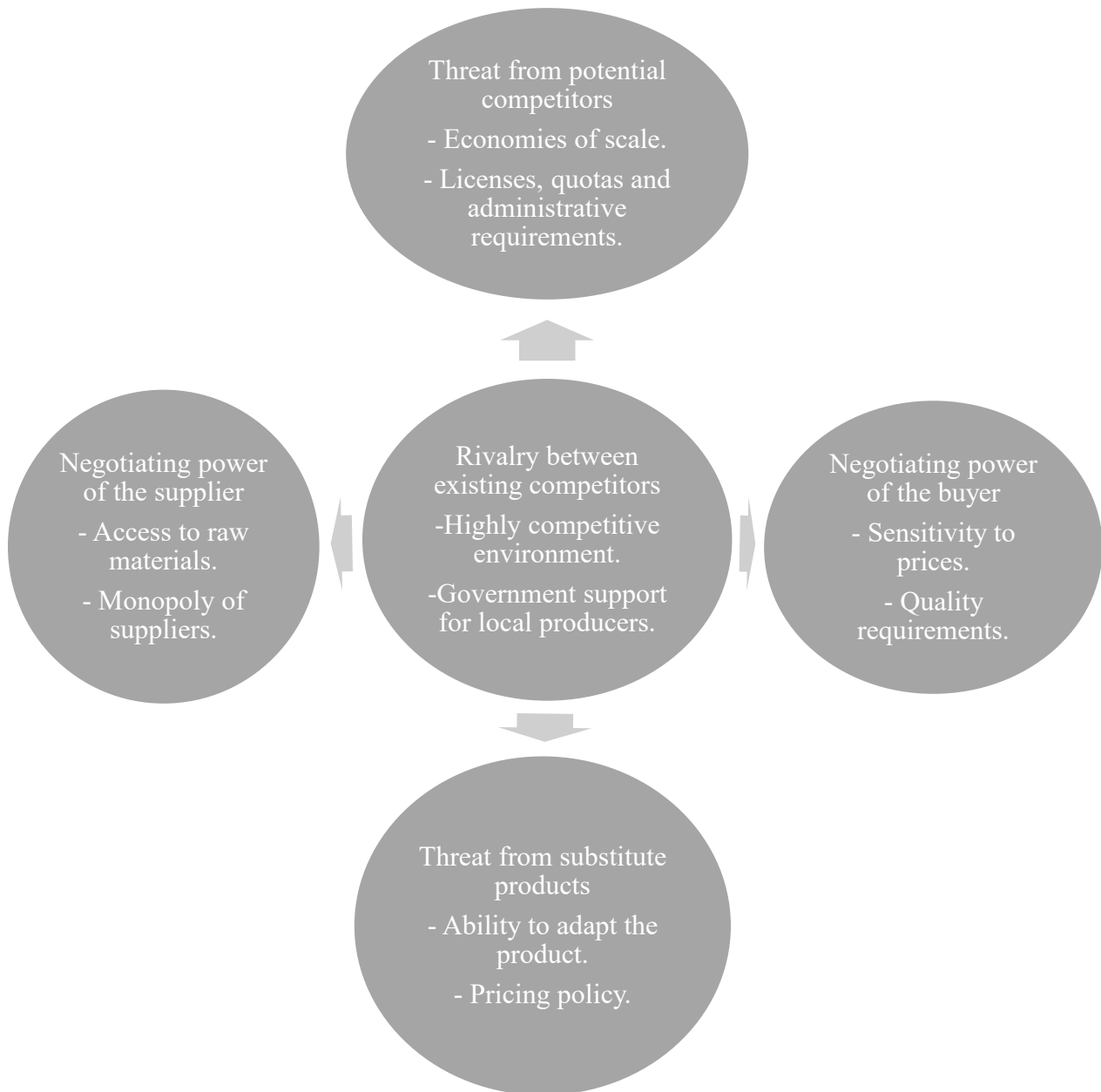


Fig. 1: Porter's five competitive forces model of threat analysis.

Source: Compiled on the basis of (Porter, 2019, pp. 624; Baker Tilly, 2024).

4. Bargaining power of buyers. The bargaining power of buyers or consumers depends on their ability to influence price and quality demands:
 - Price sensitivity. If buyers in the importing country are price-sensitive, trade barriers such as tariffs and additional certification costs can significantly reduce the company's competitiveness.
 - Quality demands. Depending on the market, buyers may have varying bargaining power, which can sometimes force companies to improve product quality, leading to additional costs.
5. Intensity of competition among existing competitors. This determines how difficult it will be for a company to compete with others in the foreign market:
 - Highly competitive environment. For example, the EU market is highly competitive due to the large number of players offering high-quality products. To establish a niche, a company must either be innovative or offer prices lower than competitors, which is often challenging.
 - Government support for local producers. Support for domestic producers creates uneven conditions for foreign companies.

Porter's Five Forces Model enables a company entering foreign markets to comprehensively assess the industry structure and level of competition. It helps to understand how trade barriers, demand and supply features, supplier and buyer power influence a company's ability to compete in foreign markets.

Understanding these five forces aids in developing effective strategies for entering new markets and maintaining competitive positions (Porter, 2019, pp. 624; Baker Tilly, 2024):

- the company can determine whether to use a differentiation strategy (e.g., improving product quality), a pricing strategy (reducing costs), or a niche strategy (choosing a narrow market segment with less competition).
- the model also helps identify the most critical barriers that must be overcome for successful market entry and assess the risk level associated with competition, suppliers, or substitutes.

To analyze trade barriers and understand the conditions for entering international markets, it is also advisable to use a PESTLE analysis, which allows for the assessment of various aspects of the external environment and subsequently determines strategies to overcome them (see Fig. 2):

1. Political factors. Barriers at the country-of-origin level are often linked to political conditions; for example, exporting to the EU requires obtaining approval for compliance with sanitary standards.
2. Economic factors. Trade barriers include tariff and non-tariff measures that impact product competitiveness. The costs of overcoming such barriers affect the final price of the product and the company's ability to compete in the international market.

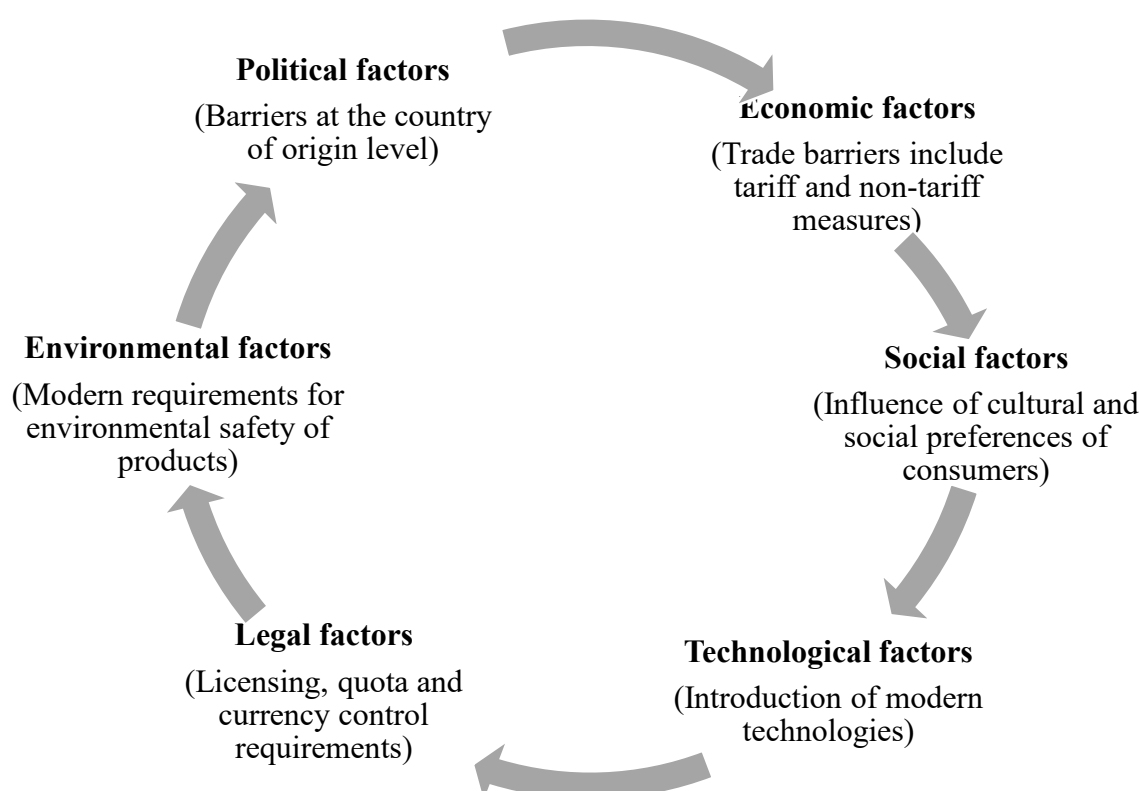


Fig. 2: Porter's five competitive forces model of threat analysis.

Source: Compiled on the basis of (Bernytska, 2012, pp. 41-45).

3. Social factors. The influence of cultural and social preferences of consumers can serve as a barrier to market entry. For instance, specific requirements for labeling and packaging of goods depend on the social and cultural norms of the importing countries.
4. Technological factors. The implementation of modern technologies can help overcome barriers by enhancing product quality and ensuring compliance with international standards.
5. Legal factors. Legal barriers include licensing requirements, quotas, and currency controls, which complicate the process of entering new markets.
6. Environmental factors. Modern requirements for environmental safety of products can be significant barriers, especially when entering the European market, where strict environmental standards are enforced (Krytsko, 2015, pp. 224).

Barriers in the planning process arise due to various objective and subjective reasons, so a comprehensive approach that considers all aspects of the enterprise's operations is needed to overcome them.

The main issue lies in the insufficient development of theoretical and practical foundations for planning in a transitional economy. Some elements of planning from the time of centralized economic management, such as

goal-setting and centralized control, can be adapted to new conditions. However, the transition to market relations and privatization requires new approaches to planning.

The use of modern forecasting and planning methods is crucial for creating effective plans that ensure stable development of the enterprise in the future. The key stages for overcoming barriers are systematically organized in Table 2. This structure allows for the systematization of the process of overcoming barriers in the planning activities of the enterprise and enhances the effectiveness of planning activities in a dynamic environment.

Table 2: Key stages of overcoming barriers in planning.

Stage	Description
Initiation of the "top-down" process	The initiative for transformations should begin at the leadership level.
Recognition of existing limitations	Planning takes into account existing limitations and proposes ways to overcome them.
Establishment of effective connections	Establishing communication with stakeholders.
Involvement of all subsystems	Including all employees in the process of developing and implementing plans.
Verification and improvement	Adjusting plans based on control checks and changes in the environment.
Development of alternative plans	Creating flexible mechanisms for transitioning to alternative plans.

Source: Compiled based on (StudFiles, n.d. , pp. 258-261).

Thus, the process of overcoming barriers occurs in the following stages:

1. Initiation of the "top-down" process. It is traditionally believed that the initiative for transformations should start at the leadership level, both at the state and the managerial level of enterprises. Strategic planning is the primary tool for adapting to an unstable environment; therefore, leaders must study methods for formulating missions, strategies, plans, and programs that strengthen the planned nature of enterprise development.
2. Recognition of existing limitations. Planning is not a universal tool for solving all enterprise problems. It is necessary to consider the existing regulatory, temporal, and resource constraints, as well as to anticipate measures to overcome or mitigate them. Planning is essential for any developing system, as it helps consciously define goals and the pathways to achieve them.
3. Establishment of effective connections. Developing an effective planning system requires establishing communication at both the internal and external levels. Involvement of all stakeholders in the development of plans enhances their justification and reduces resistance to change.
4. Involvement of all subsystems of the enterprise in planning. Every employee involved in implementing plans should have the ability to influence the speed of their execution, the order, and the content of activities. This promotes better coordination of actions and reduces resistance to change.
5. Verification and improvement. The planning system must be flexible and adaptive to changes. It is necessary to anticipate procedures for adjusting plans in the event of changes in internal or external conditions. Adjustments should be made based on control checks that assess the relevance of planned activities.
6. Development of alternative plans. The enterprise should have flexible mechanisms to transition to alternative plans in case of significant deviations from forecasted events. This allows for the avoidance of managerial crises and the maintenance of the enterprise's stability in the face of unforeseen changes.

Thus, enterprises must not only respond to challenges but also actively improve their planning processes, develop modern methods, and adapt them to the changing market conditions. This will ensure sustainable development and successful operations in the long term.

Conclusions

The research established that entering external markets is a complex and multifactorial process, with various trade barriers serving as the primary obstacle. These include legal, economic, social, and administrative restrictions that significantly complicate the internationalization of enterprises. This is particularly true for small and medium-sized enterprises, which require substantial resources to overcome these challenges.

The main motives prompting enterprises to internationalize were discussed, among which the key roles are played by market expansion, optimization of production costs, and risk diversification. Importantly, overcoming trade barriers requires comprehensive strategies that combine various approaches, including evaluating the competitive environment through Porter's Five Forces model and PESTLE analysis.

The analyzed tools enable enterprises to better understand market conditions and identify key factors influencing successful entry into international markets. The use of these methodologies contributes to the development of effective strategies for overcoming barriers, which in turn enhances competitive advantages and ensures a stable presence in external markets.

Therefore, enterprises aiming for internationalization should focus on comprehensive analysis of the external environment, development of adaptive strategies, and utilization of internal resources for effective barrier overcoming. This will not only reduce risks but also ensure stable development and competitiveness in the global market.

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COMPARATIVE ANALYSIS OF HUAWEI'S STRATEGY: FROM THE US BAN TO NEW MARKET OPPORTUNITIES

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Abstract

This paper focuses on analysing Huawei's strategy from one year prior to the US-imposed bans until 1 June 2024. The topic's relevance lies in assessing how large technology companies adapt to global challenges, particularly in the face of sanctions, technological restrictions, and emerging market conditions. The main objective of the research is to examine Huawei's strategic decisions, notably its entry into new markets (India, Africa, Europe), product diversification, and technological innovations. The tasks include a comparative analysis of approaches to different regions, assessing the impact of sanctions on the company's operations, and evaluating its adaptation strategies. To achieve these goals, comparative analysis, critical review of sources, and statistical data were employed. The article also examines the impact of technological restrictions and reputational challenges on the company's market position and Huawei's competitive struggle with other global industry leaders, such as Samsung and Apple. The research allows conclusions to be drawn regarding the appropriateness of Huawei's decisions in the context of external constraints and the prospects for the company's further development.

Keywords

Huawei, Market entry strategy, Technological restrictions, Innovations, Reputational challenges, Competitiveness, Market diversification.

Problem statement

Huawei, one of the leading technology manufacturers in the world, faced significant challenges after imposing restrictions on its operations in the United States. The ban on supplying its products and technologies to the US and revoking its license to use Google services considerably impacted Huawei's business. This necessitated a review of the company's strategy and searching for new opportunities in emerging markets such as India, Africa, and Europe. Given these circumstances, it is essential to examine how Huawei has adapted to the new conditions and what changes have occurred in its strategy.

Relevance of the chosen topic

The study of Huawei's strategy is highly relevant in the modern global market, where political and economic restrictions can significantly affect the operations of large international companies. Analysing Huawei's

adaptation methods to the challenges posed by the ban will provide insights into how technology companies can remain competitive in the face of increasing risks. It also has implications for the study of international management and practices that other companies can employ in similar situations.

Analysis of recent research and publications

Numerous academic papers have emerged that have analysed Huawei's strategy under restrictions in recent years. Research published in Google Scholar highlights the importance of technological innovation and adaptation to new market conditions. Statistical data from the UN and Statista indicate the growing demand for technology in India and Africa, making Huawei promising in these regions. At the same time, studies point to reputational risks associated with the company's operations in Western countries, emphasising the need for a strategic approach to entering new markets.

Purpose of the article

This research aims to evaluate how Huawei has adapted to global challenges, particularly the ban on its operations in the United States. The tasks of the article include analysing strategies for entering new markets in India, Africa, and Europe, as well as assessing the technological constraints and reputational issues the company has faced.

Presentation of the main research material and results obtained

By 2019, Huawei was leading in the global smartphone and telecommunications equipment market. The company expanded its presence across various continents, mainly Europe, Asia, and Africa. Thanks to innovative technologies and competitive prices, Huawei became the second-largest smartphone manufacturer globally, second only to Samsung and surpassing Apple (Counterpoint Research, 2019). The company's success was driven by significant investments in research and development (R&D), allowing it to introduce new technologies faster than its competitors.

By 2019, Huawei had emerged as a frontrunner in the telecommunications equipment market, actively shaping the evolution of 4G networks and gearing up for the 5 G revolution. This strategic positioning made Huawei a pivotal force in the development of global telecommunications infrastructure, particularly in emerging economies (Gartner, 2019).

One of Huawei's most significant technological achievements was the introduction of innovative solutions in 5G technology. The company invested billions of dollars in research and development (R&D), particularly developing new communication standards. In 2019, Huawei held one of the world's largest portfolios of 5G patents (European Patent Office, 2019). This gave the company a strategic advantage in the global market, especially in countries actively implementing new communication standards.

Huawei's ascendancy in the 5G arena was significantly bolstered by its partnerships with numerous global telecom operators. It emerged as a key supplier of 5G equipment for many countries in Europe, Asia, and Africa (GSMA, 2020). However, this strong market position also led to political tensions, particularly in its relations with the United States, which became one of the factors contributing to the imposition of sanctions.

Before the sanctions, Huawei had been actively trying to establish a foothold in the US market, where local and South Korean manufacturers such as Apple and Samsung dominated. The partnership with Google allowed the company to use the Android operating system for its smartphones, a crucial factor in its global success. However, due to political and economic restrictions, Huawei remained relatively closed to the US market. Despite its significant technological potential and aggressive expansion strategies, Huawei could not secure a significant market share in the US because of numerous governmental barriers (Statista, 2020).

The political tensions between the US and Huawei escalated due to accusations of espionage and threats to US national security. US government officials expressed concerns that Huawei's equipment could be used for spying by the Chinese government (Reuters, 2018). Initial restrictions on the company were introduced as early as 2018, but large-scale sanctions were imposed in 2019 when the US banned American companies, including Google, from collaborating with Huawei. As a result, Huawei lost access to critical technologies and software, such as Google Mobile Services, which significantly impacted its position in the global market (Forbes, 2019).

The sanctions imposed by the US government in 2019 significantly affected Huawei's ability to continue its growth in the global market. One of the most painful losses for the company was being deprived of the license to use Google Play Services, a critical component of the Android operating system that powered most of Huawei's smartphones. Without this access, the company could no longer sell smartphones with popular apps such as YouTube, Gmail, and Google Maps, drastically reducing the competitiveness of its products outside of China (Counterpoint Research, 2020).

In addition, the sanctions prohibited American companies from supplying Huawei with crucial technologies, including semiconductors and microchips. The lack of access to high-tech components, critical for manufacturing modern smartphones, telecommunications equipment, and other devices, severely limited the company's capabilities. Specifically, the American chip manufacturer Qualcomm ceased supplying its microprocessors to Huawei, further exacerbating the problem (Statista, 2021).

One of Huawei's most significant responses to the US sanctions was the development of its operating system, HarmonyOS. The company announced the launch of this system in 2019 as an alternative to Android. HarmonyOS was designed as a universal platform for various types of devices, including smartphones, tablets, smartwatches, and home appliances (Huawei, 2020). Although the initial rollout was challenging due to user distrust and an underdeveloped app ecosystem, by 2024, Huawei had significantly improved its platform, attracting many developers and partners.

Another crucial step the company took was developing its own semiconductor solutions through its subsidiary, HiSilicon. Huawei began investing in its chip research and production to reduce its dependency on American suppliers. For example, the Kirin chipset, developed by HiSilicon, became one of Huawei's first commercial solutions to ensure autonomy in producing smartphones and other devices. However, the production of these chips was complicated by US restrictions, which prohibited access to the most advanced technologies for chip manufacturing (Reuters, 2021).

The sanctions impacted Huawei significantly, both economically and reputationally. The company lost a

substantial share of the global smartphone market. In 2020, its smartphone sales dropped by 42% compared to the previous year (IDC, 2020). This sharp decline in sales led to the need to reduce production and revise its global expansion plans. Specifically, the European and Indian markets became less of a priority for Huawei due to its strong dependence on Google Play Services and access to American technologies.

Regarding the reputational consequences, Huawei suffered from associations with possible espionage activities, which were widely reported in the media and international forums. Although the company repeatedly denied any involvement in espionage, restrictions imposed by several countries, including the US, the UK, and Australia, negatively affected its image as a reliable supplier of telecommunications equipment (BBC, 2020).

After the implementation of sanctions against Huawei, the company sought new markets for expansion, particularly in countries where its technologies were in demand and the political climate did not create additional barriers. Huawei focused its attention on India, Africa, and Europe. The company applied different approaches and strategies in each of these regions to overcome challenges and strengthen its presence.

India is one of the largest smartphone markets in the world, with enormous growth potential, making it strategically crucial for Huawei. Given that a significant portion of the Indian population is young and seeks affordable technological solutions, Huawei has tried adapting its products to the Indian market (Statista, 2022).

Considering the specific characteristics of the Indian market, Huawei actively worked on creating budget smartphone models aimed at mass consumers. In addition, the company formed strategic partnerships with local telecommunications operators to provide high-quality telecom services. For example, Huawei collaborated with Bharti Airtel and Reliance Jio to expand its products and services in India (Economic Times, 2020).

In India, Huawei faced intense competition, particularly from local brands and international giants like Xiaomi and Samsung. Xiaomi, in particular, held leading positions in the budget smartphone market, putting additional pressure on Huawei (Counterpoint Research, 2021). Furthermore, political tensions between India and China affected Huawei's reputation in this region, partially losing consumer trust.

Africa became a critical region for Huawei due to its significant need for telecommunications infrastructure development. The company invested substantial resources in infrastructure projects to develop 4G and 5G networks across the continent. For instance, in Nigeria and South Africa, Huawei collaborates with local telecommunications companies to build modern networks (Reuters, 2021).

Huawei has established itself as a critical partner for African governments in implementing modern technologies. The company actively collaborates with governmental bodies in countries like Kenya and Ethiopia to ensure technological development. For example, in Kenya, Huawei participated in the "Smart City" project, which includes integrating intelligent systems into urban infrastructure (BBC, 2021).

The African market has proven less sensitive to geopolitical challenges, allowing Huawei to strengthen its position as a leading telecommunications equipment supplier. The company provides network solutions and technologies for digitalizing the economy and implementing innovative governance solutions in countries (Statista, 2021).

Despite restrictions imposed by several European countries due to pressure from the US, Huawei continued to operate actively in European markets, particularly in Germany and France. The company sought to expand its 5G network segment presence, offering high-quality and cost-effective solutions to local telecommunications operators (Politico, 2022).

However, political pressure on Huawei from the governments of the UK, Norway, and several other EU countries negatively impacted the company's opportunities. For instance, in 2020, the UK government announced the gradual removal of Huawei equipment from the national 5G network due to security concerns (The Guardian, 2020).

At the same time, Huawei continued to collaborate with European companies in various sectors, particularly in software and services. Critical partners for Huawei included companies like Vodafone and Deutsche Telekom, which remain interested in Huawei's technological solutions for network infrastructure development (Deutsche Telekom, 2021).

Reputation challenges played a crucial role in Huawei's future development, especially given international politics and accusations of espionage. The 2019 US sanctions severely restricted Huawei's access to vital Western technologies. The company lost the ability to collaborate with semiconductor suppliers like TSMC and access to Google Play Services, which was critical for its smartphones targeting international markets (Reuters, 2021). Semiconductors became one of the most significant challenges, as Western companies controlled the majority of advanced chip supplies. This became particularly evident after TSMC stopped producing chips for Huawei (Statista, 2021).

In response to these technological restrictions, Huawei focused on developing solutions to reduce its dependence on Western companies. One of the company's most prominent projects was creating the HarmonyOS

operating system, designed to replace Android. While HarmonyOS was initially developed for IoT devices, it was later adapted for smartphones, allowing Huawei to continue operating in markets where Google Play was unavailable (Counterpoint Research, 2021). Additionally, Huawei Mobile Services (HMS) was developed to replace Google Play Services, and it included its app store, AppGallery, enabling the company to remain competitive globally.

Huawei has also invested heavily in developing its semiconductor solutions through its subsidiary HiSilicon, which designs Kirin processors. Although HiSilicon's manufacturing capabilities were limited by sanctions, the company sought to invest in domestic chip production to ensure a stable product supply (South China Morning Post, 2022). Huawei continued its innovations in 5G technology, providing network solutions to countries that did not join the US sanctions.

Despite significant challenges, Huawei managed to partially offset its losses by developing proprietary technological solutions. HarmonyOS and HMS gained popularity in the domestic Chinese market and in some regions where Google Play support was not crucial. However, competition with other manufacturers, such as Samsung and Xiaomi internationally, has become a significant barrier to Huawei's further growth (IDC, 2022). While innovations were successful in certain regions, the overall impact of the sanctions on the global market remained significant.

For many years, Huawei faced accusations of espionage and collaboration with the Chinese government, which worsened its reputation on the international stage. The leading cause of the conflict was the US accusations that Huawei's equipment could be used for spying on users, mainly through the deployment of 5G networks. This led the US and its allies, including the UK and Australia, to ban Huawei equipment in their telecommunications networks (The Guardian, 2020).

Accusations of espionage and political tensions created significant obstacles for Huawei in the international market. For instance, the US government attempted to persuade its allies, including EU countries and those in Africa, to cease cooperation with Huawei in the field of 5G technology. Some countries, like the UK, have made strict decisions to ban Huawei's equipment, while others, such as Germany, have adopted a more flexible approach and continued their collaboration (Politico, 2021). In African countries, Huawei managed to maintain its reputation, as its infrastructure projects remain critical for the region's economic development.

To restore the trust of the international community, Huawei actively employed communication strategies to increase the transparency of its operations. The company sought to demonstrate its independence from the Chinese government through public statements and international conferences. Specifically, Huawei regularly held open discussions at international forums where it shared information about its activities and security standards (Bloomberg, 2021). Additionally, Huawei collaborated with independent cybersecurity experts to conduct audits of its products.

Beyond technical and political measures, Huawei also engaged in social responsibility and ethics initiatives. For example, the company funded educational projects in Africa, including training programs for information technology specialists (Huawei, 2022). This allowed Huawei to strengthen its position in regions where technological development was crucial and partially restore its reputation through active participation in community projects.

In the global smartphone market, Huawei faces serious competition from giants like Samsung, Apple, and Xiaomi. For example, Samsung maintains its leading position in the global market due to its innovative solutions in the premium product segment and its substantial presence in developing markets such as India and Africa (IDC, 2023). Apple also remains a strong player in the premium segment, particularly in Europe and the US, where its ecosystem of apps and services attracts loyal customers (Counterpoint Research, 2022).

Xiaomi has established itself in the budget smartphone segment, particularly in India and Africa, where device pricing plays a crucial role. Huawei has attempted to stay competitive through its innovations in 5G and IoT; however, sanctions have significantly restricted its access to critical components and technologies, weakening its competitiveness (Reuters, 2023).

In India, Huawei has faced intense pressure from Xiaomi and Samsung, which have adapted their products to local needs by offering a wide range of budget models. Furthermore, India's domestic policies to develop local manufacturers have created additional challenges for Huawei (Bloomberg, 2022). In Africa, the company has maintained its leadership position in the telecommunications equipment sector, but competition in the consumer devices segment has increased due to Xiaomi's aggressive strategy.

In Europe, Huawei's situation has been more complex due to US pressure, which has led some EU countries to abandon its 5G equipment. Nevertheless, the company has continued to collaborate actively with certain European partners in telecommunications and software, allowing it to partially maintain its market positions (Politico, 2023).

The sanctions imposed have had a significant impact on Huawei's global standing. The loss of access to American technologies, including chips and software, has severely weakened its competitiveness, particularly in the premium segment (Table 1, Table 2). In response, the company has shifted its focus to budget and mid-range models, which are in demand in developing countries (Table 3), such as Africa and some Asian countries (Statista, 2022). Sanctions have also complicated collaboration with international suppliers, forcing Huawei to seek alternative ways to develop its products

Table 1: Comparative Analysis of Huawei's Strategies.

Direction	Strategies Before Sanctions (2012-2018)	Strategies After Sanctions (2018-2024)
Smartphones	Market share expansion in Europe, Asia, and North America through innovative technologies and aggressive marketing	Reducing dependence on American technologies, focusing on markets in Asia and Africa, and developing proprietary operating systems (HarmonyOS)
Telecommunications Equipment	Investments in partnerships with local operators and active participation in tenders for the deployment of 4G and 5G networks	Focus on alternative markets, particularly in Africa and Latin America, with limited influence in Europe due to sanctions.
Investments in R&D	Significant expenditures on research and development, focused on 5G technologies, artificial intelligence, and IoT.	Review and redirect investments in internal technologies, reduce external dependency, and focus on chip development.

Table 2: Comparative Analysis of Huawei's Strategies by Activity Areas.

Direction	Parameter	Strategies Before Sanctions (2012-2018)	Strategies After Sanctions (2018-2024)
1	2	3	4
Smartphones	Advantages	High competitiveness, increased sales, innovations	Development of proprietary technologies, new markets, reduced dependency
	Disadvantages	High competition, dependence on American technologies	Limited access to international markets, reputation risks
	Risks	Risks of sanctions, decline in smartphone demand	Political risks, changes in international politics
Smartphones	Opportunities	Expansion into new markets, growing demand for new technologies	Partnerships in new regions, innovations in proprietary operating systems
Telecommunications Equipment	Advantages	Leadership in the 5G market, strong partnerships	New markets, focus on developing local partnerships
	Disadvantages	Dependence on large contracts	Reduction of orders from Europe, risk of losing technological advantage
	Risks	Competition with other manufacturers, political risks	Changes in legislation, market fluctuations.
	Opportunities	Expansion into emerging markets	Investments in localization of production, partnerships with governments
Investments in R&D	Advantages	High level of innovation, attracting talented personnel	Reduction of dependence on Western technologies
	Disadvantages	High research costs	Reduced budgets due to export restrictions
	Risks	Risk of failure in new technologies	High pressure on internal resources, security risks
	Opportunities	New technologies, partnerships	In-house development of new

		with universities	chips, alternative technologies
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Table 3: Comparative Analysis of Major Markets.

Strategies Before Sanctions (2012-2018)	Strategies After Sanctions (2018-2024)
USA, Germany, United Kingdom, India, Canada	India, African countries, Latin America, China, Russia

Despite the sanctions, Huawei has achieved some success in developing markets. The company continued to play a vital role in building telecommunications infrastructure in Africa, particularly in deploying 4G and 5G networks (CNBC Africa, 2023). In India, Huawei focused on budget models; however, due to intense competition from Xiaomi and Samsung, its market share remained limited.

In Europe, the situation was mixed: while some countries, like Germany, continued to cooperate with Huawei, others, like the United Kingdom, succumbed to pressure from the U.S. and rejected its equipment. Nevertheless, Huawei managed to retain some market presence through partnerships with local players and adapting its products to regulatory requirements (Financial Times, 2022).

Huawei partially offset losses from sanctions by expanding into new markets, such as Africa and some Asian countries. Market diversification became necessary to maintain competitiveness, especially amid political pressure from the U.S. and its allies. However, sanctions restrict Huawei's opportunities in developed markets like Europe and North America (IDC, 2023).

Given the current situation, Huawei will continue to seek ways to strengthen its position in developing markets, particularly in Africa and Asia. However, the company faces significant challenges without access to Western technologies and in light of ongoing pressure from competitors such as Samsung and Xiaomi. The prospects for growth in the global market will depend on the success of its innovations, such as HarmonyOS and its semiconductors, as well as the potential for reduced political pressure in the future (Bloomberg, 2023).

Conclusions

The comparative analysis of Huawei's strategies before and after the imposition of sanctions leads to several key conclusions. Strategies employed prior to 2018 were based on aggressive market share expansion through product innovations, active partnerships with local operators, and substantial investments in research and development. This approach allowed the company to become a leader in the smartphone and telecommunications equipment markets; however, its dependence on American technologies and political risks threatened its stability.

After introducing the sanctions, the company had to adapt its strategies to reduce dependence on Western markets and technologies. Notable was the redirection of investments toward developing proprietary technologies, including the HarmonyOS operating system, and a focus on Asian and African markets. Despite numerous challenges, Huawei has the opportunity to develop new partnerships, localize production, and concentrate on innovations in internal technologies.

Future research prospects in this area may include a more detailed analysis of the impact of sanctions on the technology market as a whole and studying consumer reactions to Huawei's new products under limited access to international markets. Additionally, it is worth paying attention to the evolution of global policies regarding technology companies and their potential impact on the strategies of other market players. Such studies can help understand how companies adapt to new challenges and opportunities in a dynamically changing business environment.

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MODERN CHALLENGES FOR COMPANIES IN THE CONTEXT OF BUSINESS INTERNATIONALIZATION

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Abstract

This paper is dedicated to analyzing factors influencing the success of enterprise internationalization in a globalized world. The research is highly relevant due to the rapid growth of globalization and business internationalization, which present companies with new and complex challenges. On the one hand, this opens up broad opportunities for market expansion and increased competitiveness, but on the other hand, it requires adaptation to diverse cultural, economic, and political contexts. The study aims to identify key factors of successful internationalization, analyze contemporary challenges faced by companies during the internationalization process, and develop practical recommendations for overcoming these challenges and achieving success in globalization.

The research results will increase the competitiveness of Ukrainian enterprises on the global market, strengthen Ukraine's position in the worldwide economy, and expand opportunities for Ukrainian companies to attract foreign investment.

Keywords

Internationalization of business, International expansion, International market, Globalization, Market expansion.

Problem statement

Despite the growing need for Ukrainian companies to internationalize to succeed in the global market, their entry into international markets has faced many challenges that hinder their development. The lack of sufficient research dedicated specifically to the Ukrainian context of internationalization makes it difficult to understand the specific success factors and challenges faced by Ukrainian companies. The problem lies in the need to identify the key factors influencing the success of internationalization of Ukrainian enterprises in a globalized world, analyze the contemporary challenges they face, and develop practical recommendations to overcome these challenges and achieve success in the globalization process.

Relevance of the chosen topic

The analysis of factors influencing the success of enterprise internationalization in a globalized world is determined by the growth of globalization, which creates new business opportunities but also requires adaptation

to global changes. For many companies, especially Ukrainian ones, entering international markets is crucial for achieving success, increasing competitiveness, and expanding the scale of operations. However, internationalization is associated with many complex challenges, such as cultural differences, diverse legal systems, competition from international players, currency risks, etc. Successful internationalization requires careful planning, market analysis, adaptation to local conditions, and effective management. Despite the growing relevance of the topic, there is currently a shortage of research focused specifically on the Ukrainian context of internationalization. Therefore, the analysis of factors contributing to the successful internationalization of Ukrainian enterprises is extremely important for increasing the competitiveness of Ukrainian businesses on the global market, improving the efficiency of internationalization strategies, developing effective mechanisms of state support for exports, economic growth of Ukraine, and its integration into the global economy.

Analysis of recent research and publications

A key component of this research was the analysis of contemporary articles highlighting the primary challenges companies face when internationalizing.

According to Émile Audet (Audet, 2024), entering international markets is a pathway to business scaling. However, it demands meticulous preparation and a deep understanding of the unique characteristics of different countries.

Olha Somova (Somova, 2022), notes that numerous Ukrainian small and medium-sized enterprises have successfully entered the international market and have already established themselves there.

Adam Hayes (Hayes, 2021), emphasizes the importance of product modifications to align with the technical or cultural needs of a specific country, thereby enhancing integration into new markets. Additionally, Dr. Mohamed El Idrissi (Idrissi, 2023), points out the necessity of considering local laws and regulations for successful international market entry, as non-compliance can lead to sanctions or financial losses.

Purpose of the article

The purpose of the study is to study the factors affecting the success of internationalization of Ukrainian enterprises in the globalized world and to develop practical recommendations for overcoming challenges and achieving success in the process of globalization.

Presentation of the main research material and results obtained

Business internationalization is the process of expanding operations beyond the company's home country, allowing it to achieve greater growth and success in the global market. Even if a company is successful domestically, internationalization can be a crucial step for further development, especially in today's environment.

International business is attractive to companies for many reasons, with cost reduction being a primary driver. Companies can take advantage of weak currencies or lower costs of living in other countries to reduce their operating expenses. Additionally, relocating production to markets with lower labor costs can significantly decrease production costs. Ultimately, internationalization often leads to the globalization of products, as goods produced and sold by multinational corporations become available on a global scale (Hayes, 2021).

Fig. 1 shows the evolution of a company on the world stage, which usually consists of five stages, characterized by changes in strategy, activities, and market focus:

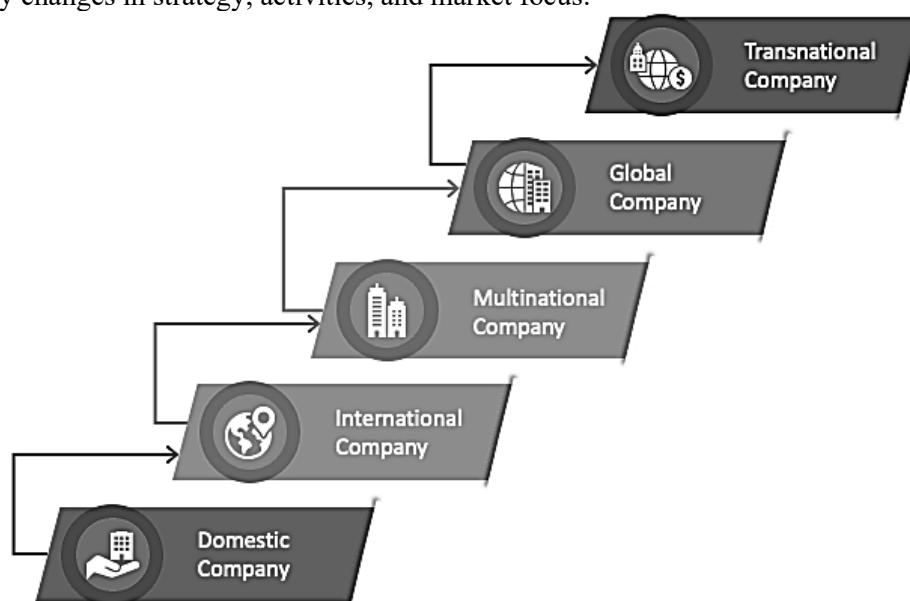


Fig. 1: Stages of internationalization.

Source: (Hive, 2024)

1. Domestic Company. Operations are confined within national borders, with a focus on the domestic market, meeting the needs of local consumers, and adhering to national regulations. Examples include Reliance Industries Limited and Tata Motors Limited.
2. International Company. The company expands beyond national borders, establishing branches or subsidiaries in foreign countries, and exploring international market opportunities.
3. Multinational Company. The company caters to the needs of individual markets in different countries through customized offerings, pricing strategies, and advertising campaigns. Examples include Coca-Cola, McDonald's, and Nike.
4. Global Company. The company employs a unified global strategy, regardless of production or sales location, optimizing efficiency and market penetration worldwide.
5. Transnational Company. Characterized by global integration, production, sales, investments, and operations worldwide, combining global resources with global markets to optimize profits. Examples include Coca-Cola, Apple, McDonald's, and Nike. Each stage is a logical progression from the previous one, reflecting the company's increasing integration into the global economy (Hive, 2024).

Before entering the international market, it is important to have a clear understanding of your goals, resources, and readiness to make decisions. Internationalization requires a constant presence abroad, including scaling up and expanding the business to other countries. It is important to optimize current processes, establish communication with customers, and implement an effective management system.

There are many advantages, including:

1. Increased sales.
2. Expanded target audience.
3. Strengthened brand.
4. Increased trust of consumers.
5. International market presence.

6. Increased return on investment (ROI).

It is also important to distinguish between internationalization and localization. First, it is necessary to enter the global market, and then adapt the product or service to the needs of the local market (Somova, 2022).

Globalization is the process of a company entering the global market. Internationalization is the preparation for this entry, which involves adapting products, services, and internal operations to international standards. Localization is the final stage where the product or service is adapted to a specific region or country, taking into account its language, culture, and consumer needs. By planning internationalization and localization at the beginning of a project, you create products that satisfy users from different regions, cultures, and languages (Lionbridge, 2021).

Business internationalization can be accomplished through various means, from exporting goods to creating joint ventures, transferring production, conducting research and development, and developing marketing strategies abroad. The choice of the optimal form depends on the company's strategic goals, as well as on the conditions in the domestic and foreign markets.

Before entering the international market, a company goes through sequential stages of development. Initially, it focuses on the domestic market, cooperating with local suppliers and financial companies, and orienting itself towards the needs of the local consumer. At this stage, it is important to lay the foundation for scaling by expanding the product range and capabilities. The next stage is the export of goods when the company expands its activities beyond the domestic market while maintaining production in the country of residence. Gradually, the product is adapted to the needs of the international market.

The next stage is entering the international market, when the company expands its operations abroad, including opening subsidiaries and localizing processes and strategies. At the globalization stage, the company transforms into a global corporation with production in several countries. There are two possible options: production in the country of residence and sales worldwide, or production in several countries and sales within them. The final stage is the transformation into a transnational company that independently produces, sells, and invests worldwide.

One of the most crucial steps is choosing a product realization model on the international market that aligns with the company's strategy and resource capabilities. These models can be considered in Table 1.

Table 1: Models of entering the global market.

Model	Description	Advantages	Disadvantages
Online store	Selling goods online without creating a physical network	Direct contact with the customer, instant payments, ability to quickly respond to market changes	Need to adapt the website to the language and cultural characteristics of the target market
Indirect export	Supplying goods through an intermediary	Reduced costs for logistics and documentation, focus on production and internationalization of the product	Loss of control over the sales process, dependence on the intermediary
Production facility	Creating production in the country of business expansion	Reduced export costs, access to local resources	Significant investments and time, need to adapt technologies and production processes to local conditions
Licensing	Granting the right to a company to use the brand and technology for the production and sale of goods	Fast entry into a new market, minimal investment	Loss of control over production and marketing
Franchising	Providing a company with a comprehensive franchising system, including production, sales, marketing, and	Fast entry into a new market, gaining experience and support	Lack of complete freedom of action, possible conflicts with the franchisor

	management		
Direct export	Creating subsidiaries and own activities in a new market	Full control over the sales process and business development	Significant investment and resources are needed to adapt the product and marketing strategy to the needs of the target market
Investment in shares	Acquiring a stake or full control over an existing company in a new market	Fast access to established infrastructure and marketing strategy	Significant investment, need for careful analysis of the financial condition and potential of the target company

Source: Compiled by the authors.

So, the choice of an internationalization strategy is pivotal to a company's success in the global market. It depends on the company's strategic objectives, resources, and risk tolerance. Companies can opt for direct exporting, which is less risky, joint ventures with local partners to share resources and knowledge, or wholly-owned subsidiaries for complete control but requiring substantial investment. To make the right choice, companies must carefully weigh the pros and cons of each option.

Internationalization necessitates a radical overhaul of a company's management system. This entails a shift towards a global approach encompassing operations, human resources, and supply chains. To successfully integrate international divisions, companies require flexible management methods, the development of intercultural skills, and multilingual communication. Moreover, the implementation of integrated information systems is essential to ensure effective coordination between the headquarters and subsidiaries. These adaptations are pivotal for maintaining operational efficiency and seamless integration of all company divisions within a global network.

Developing countries offer attractive growth opportunities due to their dynamic economies and young populations. However, entering these markets requires caution and a deep understanding of the local landscape. Political instability, regulatory differences, and varying consumer habits can pose significant challenges. Companies seeking to successfully integrate into these markets must be flexible, capable of adapting quickly to change, and invest in local knowledge. Collaborating with local partners can provide valuable insights and facilitate a smooth entry into the local economy (Audet, 2024).

Large corporations demonstrate extensive internationalization with vast networks of stores, production facilities, and offices worldwide. For instance, Inditex, a Spanish corporation, is a global leader in retail, operating stores in over 156 countries. It owns brands such as Zara Home, Massimo Dutti, Bershka, Oysho, Pull & Bear, Stradivarius, and Uterqüe, with manufacturing facilities in various countries, including Morocco, Turkey, and Portugal. A portion of the production, especially for new designs, remains in Spain.

Amway Corporation, founded in the United States, has been actively expanding into other countries since 2003, including Ukraine. The company offers a wide range of products, from cosmetics to NUTRILITE dietary supplements, eSpring water purification systems, and AMWAY HOME household products.

FMC Corporation, a leading US-based agrochemical company, operates 26 manufacturing facilities and is present in 70 countries. In France, Groupe SEB, known for its Krups, Moulinex, Rowenta, and Tefal brands, is present in over 150 countries and holds a leading position in the small household appliances market.

Mastercard, a global payment company, operates in over 210 countries, actively promoting contactless payments and e-commerce.

TUI Group, a leader in the tourism industry, has approximately 260 retail agencies and franchise outlets, developing its vacation concepts for customers.

Regarding small and medium-sized enterprises in Ukraine, it is worth noting the startup Enjoy the Wood, which produces multi-layered wooden maps, with about 70% of its products exported to the US and Europe. The Homest brand, which manufactures soy candles, also operates in Ukraine and the Netherlands, focusing on online sales.

PatentBot, a Ukrainian trademark registration bot launched in 2017, successfully operates in the US, European Union, China, and Kazakhstan markets (Audet, 2024).

Successful expansion into new markets hinges on the sequential execution of each stage: from in-depth market research to adapting products and services to meet the needs of local consumers; from adhering to local laws and regulations to establishing an effective distribution and promotion system. The significance of local

partnerships cannot be overstated, as they can help you better understand the market and culture, continuous monitoring and evaluation of results are essential for timely strategy adjustments (Idrissi, 2023).

International expansion is an attractive option for companies as it promises market share growth, the acquisition of new customers, and increased profits. However, this process is fraught with numerous risks that could jeopardize the company's financial stability. It is shown in Fig. 2. The main challenges include substantial costs for entering new markets, currency exchange rate fluctuations, political instability, cultural differences, compliance with local regulations, competition from local brands, and the need to adapt products to the new market.



Fig. 2: Risks associated with going global.

Source: Compiled by the authors.

One of the key issues is financial costs. Companies often overlook the full range of necessary investments, which include setting up local offices, adapting products or services to new market conditions, marketing, as well as legal fees and supply chain costs. Additionally, resources allocated to expansion can weaken the development of the business in its home market.

To address this issue, companies need to develop a detailed financial plan. This plan should account not only for the initial investments but also for potential unforeseen expenses. It is essential to conduct financial modeling of various scenarios in advance and ensure the availability of financial reserves in case of slower revenue generation in the new market. This will help maintain financial stability even if profits are delayed.

Another challenge is currency exchange rate fluctuations, which can negatively impact the cost of doing business abroad. To mitigate this risk, companies can use financial instruments such as currency hedging, which will allow them to protect against sharp currency fluctuations and maintain cost predictability.

Political instability in markets is also a significant risk. The solution to this issue lies in conducting a thorough analysis of political risks before entering the market and preparing a contingency plan for potential political changes. For example, diversification of investments by expanding presence in multiple regions can help avoid over-reliance on a single market.

Cultural differences and misunderstandings can hinder a company's success in new markets. To solve this problem, companies should invest in studying the local culture and consumer habits. Adapting products and marketing strategies to fit local tastes and preferences can help avoid cultural conflicts and bring the brand closer to the local audience.

Compliance with local norms and regulatory requirements can be challenging for foreign companies due to differences in legislation. To avoid compliance issues, it is necessary to involve local lawyers and accountants who can help properly adapt business processes to meet local regulations.

Competition from local companies can be tough, especially if local brands have established positions in the market. To address this issue, companies should use a thorough analysis of the competitive environment and leverage their global advantages, such as innovation or unique products, to stand out among competitors (Zegal, 2023).

Thus, the solution to the challenges associated with international expansion lies in thorough planning, risk

management, and a deep understanding of the market the company is entering. Additionally, effective management of marketing research findings is crucial for successful business internationalization. Analysis of collected data provides valuable insights that drive strategic decision-making. Companies must be able to interpret this information to make timely adjustments to their strategies, respond quickly to market changes, and optimize their approaches for maximum efficiency and profitability. Only in this way can companies remain competitive and adapt to complex changes in the global market. Ultimately, without a thorough understanding of the market, internationalization can be ineffective and even risky. This approach will help minimize risks and ensure stable business growth abroad.

Conclusions

Internationalization, while offering significant growth opportunities and market expansion, is a complex process that demands flexibility, innovation, and adaptation to the dynamic global environment of companies. It's not merely about expanding into new markets but transforming into a global player. This requires not only substantial financial resources but also a deep understanding of international contexts, agility, innovation, and a readiness for constant change.

Key challenges include financial expenditures, currency fluctuations, political instability, cultural barriers, compliance with local regulations, and competition from local companies.

The high financial costs associated with entering new markets are among the primary challenges. To mitigate risks, companies should develop detailed financial plans and conduct scenario modeling. Currency fluctuations can significantly impact business profitability; therefore, hedging is often used to reduce this risk.

Political instability is also a serious risk factor. Companies should analyze political risks before entering new markets and be prepared for various scenarios. Cultural differences can hinder successful market entry, so studying local cultural nuances and adapting products is critical.

Adherence to local laws and regulations is another key challenge. Companies need to engage local lawyers to correctly adapt business processes to local requirements. Competition from local brands requires a deep analysis of the market and identifying one's competitive advantages, such as innovation or unique products. In conclusion, success in global business depends on a company's ability to adapt to diverse market conditions, manage risks, and implement strategic decisions that preserve competitive advantages. This will help minimize risks and ensure the stable development of the business in the international arena.

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ESG RISKS IN THE ACTIVITIES OF INTERNATIONAL BANKING GROUPS: EVIDENCE FROM UKRAINE

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Abstract

The relevance of this research is driven by the growing significance of environmental, social, and governance (ESG) factors in the financial sector, particularly in the context of globalization and climate change. The Ukrainian banking sector faces new challenges and opportunities associated with ESG risks, which can substantially affect investment attractiveness and long-term development. Analyzing these risks is crucial for Ukrainian banks to adapt to global standards and ensure the sustainability of their operations.

The main purpose of this article is to study the key features of implementing the social and governance components of ESG risks in the activities of international banking groups, and their impact on the overall current investment climate and long-term economic development. The study examines the impact of ESG risks on the dynamics and pricing of Raiffeisen Bank International shares. As a risk factor, the bank's continued operations in the Russian Federation even after the full-scale invasion have been justified. Using ARMA, GARCH, and Markov-regime switching model (MS-GARCH with 2 regimes), it has been shown that ESG risks affect share prices through changes in profitability and increased volatility.

Keywords

ESG risks, Bank, Banking group, Stock volatility.

Problem statement

Modern banking institutions, in addition to traditional risks like market, operational, and credit risks, are increasingly facing the need to update their risk management policies to account for environmental, social, and governance risks. These factors are crucial for sustainable development and maintaining profitability, given the growing focus on sustainability by external stakeholders and the necessity for businesses to take on social responsibility. Considering these risks is essential when forming strategies and implementing projects to align with global sustainability standards.

Relevance of the chosen topic

The escalation of the military conflict in Ukraine has influenced the operations of international banking groups, especially regarding social and governance risks. Measuring the impact of these risks on the performance of

banking groups is critical to understanding the nature of ESG risks in banks and developing policies for managing and regulating them. Moreover, there is an urgent need to assess the impact of international banking groups' operations on the effective implementation of sanctions policies against terrorist states, which today serve as a major trigger in realizing ESG risks.

Analysis of recent research and publications

In today's world, sustainable development issues are gaining increasing importance for both governments and businesses, particularly international banking groups. Sustainable finance has been recognized as a key factor in transitioning to a greener economy (Arvidsson & Dumay, 2021). An important component of this process is the incorporation of ESG risks into corporate activities, which promotes better risk management and aligns with modern transparency and sustainability requirements.

When discussing ESG, researchers emphasize that these risks may arise both from the transition to a more sustainable economic system and from changing climate conditions (Lee et al., 2016). For the banking sector, incorporating ESG metrics into investment processes alters asset structures, limiting investment opportunities. This includes changes in the financing cost for "brown" projects, which can increase risks and lower investment returns (MacAskill, Roca, Liu, Stewart, & Sahin, 2021).

On the other hand, companies with high ESG ratings reduce their exposure to systemic risk through greater transparency in risk management and corporate governance (Mefteh-Wali, Rais, & Schier, 2022). CSR (Corporate Social Responsibility) plays a vital role in reducing idiosyncratic risk and managing the overall risk of companies (Eriandani & Wijaya, 2021). This allows international banking groups to use CSR as a risk mitigation mechanism, particularly during the transition to a low-carbon economy (Clemente, Corte, & Savelli, 2022).

In addition, ESG risks, especially climatic, social (health care, equality of opportunities), and security risks (cybercrime, wars, terrorist acts), are often intertwined with geopolitical risks that can affect capital markets and portfolio investments (Caldara & Iacoviello, 2022). In the context of Ukraine, this aspect is especially relevant due to increasing geopolitical tensions and economic instability, significantly impacting the operations of international banking groups and their ability to adapt to new conditions.

Despite numerous studies on ESG risks and their impact on financial markets (D'Amato, D'Ecclesia, & Levantesi, 2021), many questions remain unresolved. ESG-related risks remain underexplored, particularly in emerging markets like Ukraine. This knowledge gap opens up new opportunities for further research, especially in assessing the impact of ESG risks on the activities of international banking groups in the Ukrainian market and the development of sustainable finance.

Purpose of the article

The objective of this study is to explore the key features of implementing social and governance ESG risks in the activities of international banking groups, and their impact on the overall current investment climate and long-term economic development.

To achieve this objective, the following tasks have been set:

- Define the essence of ESG risks in the activities of international banking groups and their impact on the credit and operational risks of the bank.
- Develop a framework for understanding how ESG factors influence the activities of international banking groups.
- Assess the impact of social and governance risks on the investment attractiveness of banking institutions.

Presentation of the main research material and results obtained

ESG (Environmental, Social, and Governance) risks are playing an increasingly significant role in financial institutions, particularly in banks. The essence of ESG risks lies in the influence of environmental, social, and governance factors on the business processes of banks and their clients. According to research presented in a KPMG report, banks should consider these risks not only as potential losses but also as opportunities to improve their operations and strengthen their reputation (KPMG, 2021).

The main components of ESG risks include:

1. Environmental risks – related to climate change, such as physical risks (e.g., damage from natural disasters) and transitional risks (e.g., the introduction of new environmental regulations).
2. Social risks – involve issues like social inequality, working conditions, and the impact of companies on society and communities.
3. Governance risks – pertain to corporate governance, corruption, compliance with laws (including tax laws), and operational transparency.

As discussed in the literature review, there is an urgent need to reach a consensus on a standardized ESG framework. The diversity of models complicates the standardization of ESG frameworks. Therefore, before applying specific ESG criteria to individual countries, industries, and companies, general criteria for measuring non-financial ESG-related factors must first be established. In this study, we selected five representative ESG frameworks. Table 1 lists the elements that make up the ESG components from five of the most reliable ESG data providers: Stakeholder Capitalism Metric (World Economic Forum, 2020), SASB (2020), Refinitiv (2021), (MSCI, 2020), and (S&P Global, 2021). These five providers were chosen for their leadership in ESG (Stakeholder Capitalism Metric), standardization (SASB), and recognition in the industry (Refinitiv, MSCI, and S&P Global).

The International Business Council (IBC) published the Stakeholder Capitalism Metric following the World Economic Forum's (WEF) annual meeting in 2020, developed by the four major audit firms: Deloitte, EY, KPMG, and PwC. This metric is based on recommendations from leading global ESG standards, including the GRI (Global Reporting Initiative), TCFD (Task Force on Climate-Related Financial Disclosures), SASB, OECD guidelines, and others. Another ESG data provider, SASB, is one of the most authoritative ESG bodies, alongside the GRI, CDP (formerly Carbon Disclosure Project), and IIRC (Hazelton & Perkiss, 2018). S&P Global, MSCI, and Refinitiv are the most cited providers of economic and financial indices and ratings worldwide (SustainAbility, 2020). These five representative ESG frameworks cover similar aspects of ESG, and the common factors should form the core of ESG.

Table 1: Overview of different approaches to defining ESG factors.

Data Provider	E (Environmental)	S (Social)	G (Governance)
Stakeholder Capitalism Metric	- Availability of freshwater - Climate change - Air pollution - Loss of natural resources - Innovation for products	- Dignity and equality - Health and well-being - Skills for the future - Employment and wealth creation - Community	- Ethical behavior - Managerial purpose - Risk and opportunity review - Stakeholder engagement - Governance quality
SASB	- Energy management - Water management - GHG emissions - Climate change - Waste management - Environmental harm	- Human rights - Human capital - Product quality and labeling - Customer privacy - Cybersecurity - Customer well-being	- Business ethics - Business model resilience - Regulatory environment management - Supply chain management - Risk management
Refinitiv	- Resource usage - Emissions - Environmental strategy - Environmental disputes	- Human rights - Community - Workforce - Product responsibility - Social disputes	- Governance structure - ESG strategy and reporting - Shareholder rights - Governance disputes

MSCI	- Natural resource depletion - Climate change - Pollution and waste - Environmental strategy	- Human capital - Social opportunities - Stakeholder satisfaction	- Corporate behavior - Corporate governance
S&P Global	- Operational eco-efficiency - Climate strategy - Environmental reporting - Environmental policy	- Human rights - Corporate citizenship - Labor practices - Talent retention - Customer relationships - Cybersecurity	- Political influence - Social reporting - Codes of business conduct - Tax strategy - Supply chain management - Risk management

Source: Compiled by the authors based on Stakeholder Capitalism Metric (World Economic Forum, 2020), SASB (2020), Refinitiv (2021), (MSCI, 2020), and (S&P Global, 2021).

Research into social and governance factors of ESG is crucial for assessing the sustainability and responsibility of companies in the modern business environment. These factors influence a company's reputation, its ability to attract and retain talent, build reliable relationships with clients and contractors, and adhere to ethical standards. Analyzing social aspects helps to understand how companies integrate human rights and social responsibility into their strategies, while governance factors indicate leadership effectiveness, risk management, and the interests of shareholders.

Table 2: Key factors in the implementation of social and governance risks in banking institutions.

Criterion	Description	Measurement methods
Human rights	Adherence to and protection of human rights in business practices	Discrimination, harassment, diversity score, freedom of association, child/forced/compulsory labor
Community relations	Efforts to build a strong reputation and relations with local communities	Local investments, community investments
Human resource management	Ensuring dignity, equality, health, and benefits for employees	Talent attraction and retention, provision of health, safety, and training opportunities
Customer satisfaction	Providing products and services that satisfy customers	Data privacy, data security, product safety and quality, financial security of the product
Contractor partnerships	Promoting satisfaction, trust, and inclusive growth with contractors	Contract satisfaction, trust-based relationships
Social and political contribution	As a responsible corporate citizen, efforts to create greater overall value for society	Contributions, philanthropy, infrastructure investments, employment, tax payments
Ethical behavior	Monitoring and managing compliance with current laws and regulations	Anti-competitive practices, anti-corruption and bribery policies
Risk and opportunity management	Identifying and managing strategic risks and opportunities for long-term value creation	Systemic risk management, critical incident management, business model resilience
Shareholder rights and corporate governance	Considering the interests and voice of shareholders in the company's strategy and governance	Return on investment, voting rights, information disclosure
CEO reputation	The influence of the CEO's personality and qualifications on corporate image and value	Gender ratio, board members' experience
CEO reputation	The influence of the CEO's personality and qualifications on corporate image and value	CEO image, governance-related controversies

Source: Compiled by the author based on (Woo & Kim, 2015; Galletta, Goodell, Mazzù, & Paltrinieri, 2023).

ESG risks have the potential to affect both financial and non-financial indicators of banks, such as liquidity and creditworthiness. Banks must integrate ESG risks into their risk management system and implement mechanisms to assess these risks at all levels. This includes developing new stress-testing methodologies to evaluate the impact of climate risks and incorporating ESG factors into product development strategies and client relations.

The impact of ESG (Environmental, Social, and Governance) risks on credit risk is becoming increasingly important in the modern financial system. Companies that do not consider ESG factors in their operations may face long-term risks that negatively affect their creditworthiness. Specifically, environmental risks, such as climate change and resource constraints, can lead to higher operational costs or regulatory restrictions, reducing the company's ability to repay loans.

Social factors include evaluating ethics in workforce management, working conditions, and relations with communities, which can impact a company's reputation and market resilience. Failure to meet social standards may negatively affect operational efficiency and increase legal risks, impacting creditworthiness.

Governance risks pertain to management transparency, leadership quality, and regulatory compliance. Companies with low standards of corporate governance are more likely to face conflicts among shareholders and poor risk management, affecting investor and creditor trust. Integrating ESG factors into the credit risk assessment process allows financial institutions to more objectively evaluate a company's resilience to long-term risks and make informed lending decisions (Mefteh-Wali et al., 2022). ESG risks have the potential to impact both financial and non-financial indicators of banks, such as liquidity and creditworthiness. Banks must integrate ESG risks into their risk management systems and implement mechanisms for assessing these risks at all levels. This includes developing new stress-testing methodologies to evaluate the impact of climate risks, as well as incorporating ESG factors into product development strategies and client relationships.

The impact of ESG (Environmental, Social, and Governance) risks on credit risk is becoming increasingly significant in the modern financial system. Companies that do not consider ESG factors in their operations may face long-term risks that negatively affect their creditworthiness. In particular, environmental risks, such as climate change and resource constraints, can lead to increased operational costs or regulatory limitations that diminish a company's ability to repay loans (Bukreeva & Grishunin, 2024).

Social factors involve evaluating the ethics of employee relations, working conditions, and community engagement, which can affect a company's reputation and market resilience (Yeung, 2011). Non-compliance with social standards can adversely impact operational efficiency and lead to legal risks that affect creditworthiness.

Governance risks relate to management transparency, leadership quality, and compliance with regulatory requirements. Companies with low corporate governance standards are more likely to encounter conflicts among shareholders and poor risk management, which impacts investor and creditor trust. Integrating ESG factors into the credit risk assessment process allows financial institutions to more objectively evaluate a company's resilience to long-term risks and make informed lending decisions (Srivastav & Hagendorff, 2016). In addition to the direct impact of ESG risk implementation in the bank's counterparties on the overall asset quality and credit risk realization, the bank's social and governance policies also influence the investment attractiveness of the enterprise.

Evaluating the impact of social and governance decisions on the investment attractiveness of international banking groups, such as Raiffeisen Bank International, is extremely important in the context of an unstable geopolitical environment. At the beginning of 2022, the bank faced deteriorating long-term sustainability forecasts due to its continued operations in Russia, raising concerns among investors and regulators. To assess such impacts, it is advisable to use econometric models, such as panel regressions, ARMA, GARCH, and the Markov-regime switching model (MS-GARCH with 2 regimes), which allow for identifying correlation dependencies between social and governance decisions and key financial indicators, including stock returns, risk levels, and resilience to external shocks (Mishra, Kumar, & Bal, 2024). This approach not only quantitatively measures the effects of the bank's decisions but also evaluates their impact on long-term investment attractiveness, which is critical for ensuring resilience in conditions of high uncertainty.

Raiffeisen Banking Group (RBI) and its key subsidiary Raiffeisen Bank International (RBI) announced high financial results for 2023, despite economic pressures in key markets and significant risks associated with its subsidiary in Russia. The high profitability and large capital buffers of RBI provide protection against potential losses in Russia. S&P Global Ratings has confirmed the credit ratings of RBI at 'A-' (long-term) and 'A-2' (short-term), but the outlook remains negative due to potential risks associated with the bank's further operations in Russia and Belarus. Regulators, including the European Central Bank (ECB), are increasing pressure on the bank to expedite its exit from these markets. We will summarize information on the key features of RBI's operations in Table 3, identifying key factors of financial condition and the exit policy from the Russian market.

Table 3: Key Investment Attractiveness Indicators of RBI in 2024.

Key Issue	Description
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Financial Stability	RBI increased its total capital by 10% in 2023, which acts as a buffer against unexpected financial losses. The group's profit reached €5.7 billion, and the return on equity (ROE) was 15.4% in 2023.
Russian Operations	Profit from operations in Russia amounted to approximately €1.2 billion (~20% of RBI's total profit), but these funds remain blocked in the Russian subsidiary. This increases risks, particularly amid sanctions and reputational threats.
Real Estate Segment Issues	RBI faced an increase in non-performing assets (NPA) to 3.1% in 2023, compared to 2.3% in 2022, due to stress in the commercial real estate segment, notably the default of the Austrian company SIGNA.
Exit Plans from Russia and Belarus	Exiting these countries could have a significant negative impact on RBI's profits and create uncertainties due to asset valuation risks. For instance, the sale of the Belarusian subsidiary could result in losses of €675 million.
Forecast and Potential Risks	The forecast remains negative due to risks related to operations in Russia and Belarus, as well as potential consequences from the war in Ukraine. Failure to execute plans to exit Russia could lead to a downgrade in the bank's rating.

Source: Compiled by the authors based on ("Results & Reports," n.d.).

Raiffeisen Bank International (RBI) faces significant reputational risks and challenges due to its operations in Russia, which are complicated by prolonged sanctions and regulatory scrutiny. A key issue is the delayed sale of its Russian subsidiary, a process that has already taken more than two years. The sale of this part of the business is a crucial step for the bank to remove its Russian operations from the group's financial reporting and reduce both reputational and sanctions-related risks. These risks arise from the need to manage the interests of various stakeholders, which may be in conflict due to the political and economic situation in the region.

Furthermore, RBI's plan to repatriate excess capital from Russia through dividend payouts was canceled. This was due to the bank's inability to secure sufficient guarantees to meet sanctions compliance and minimize risks from regulators and stakeholders. This adds to the reputational challenges facing the bank, as the failure to complete this process negatively impacts its strategy to exit the Russian market and increases risks to the bank's image on the international stage ("Results & Reports," n.d.).

In this context, the ESG (Environmental, Social, and Governance) assessment plays a critical role in the bank's reputational risks. According to Moody's, RBI has an ESG credit impact score of CIS-2, indicating a moderate impact of environmental, social, and governance factors on its ratings. The greatest risks stem from governance due to prolonged operations in Russia, which pose strategic challenges for exiting the country and increase the risk of sanctions violations. Strict compliance with sanctions laws requires substantial resources for managing compliance risks, which increases the bank's governance burden and could harm its reputation if regulatory requirements are not met. Thus, reputational risks linked to operations in Russia, combined with high ESG standards, create complex challenges for RBI that affect both its financial performance and its reputation in the global market. The negative impact of these reputational risks, stemming from ineffective management policies within the financial group, severely affects the company's investment appeal among portfolio investors, as shown in the analysis of RBI's stock price (Figure 1).



Fig. 1: Closing price and range corridor of the stock price during the trading day.

Source: Compiled by the author based on (YFinance).

ARMA and GARCH models were used to analyze the impact of ESG risks on Raiffeisen Bank International's stock price, allowing a quantitative assessment of the effects of social and governance factors on market dynamics. The ARMA model (AutoRegressive Moving Average) allows analyzing how previous values of returns and innovations affect the current stock returns.

The formula for ARMA(2,1) is as follows:

$$r_t = \phi_0 + \phi_1 r_{t-1} + \phi_2 r_{t-2} + a_t - \theta_1 a_{t-1} \quad (1)$$

where:

r_t is the stock return at time t ,

ϕ_0 is the constant,

ϕ_1, ϕ_2 are autoregressive coefficients for lagged returns,

a_t are random errors (innovations) with a mean of 0 and variance σ^2 ,

θ_1 is the coefficient for the moving average component.

This model allows the assessment of short-term return fluctuations that can be caused by ESG risks, including changes in stock price due to environmental or social events (Mishra et al., 2024). The results of the ARMA(2,1) model for the period from 2018 to the present show the following: the constant (20.65) is statistically significant ($p < 0.001$), indicating a stable average stock price level. The AR(1) parameter is not statistically significant ($p = 0.667$), suggesting a weak impact of the first lag on the current stock price.

The AR(2) parameter is highly significant ($p < 0.001$), indicating a substantial impact of the second lag. The MA(1) parameter is also significant ($p < 0.001$), pointing to a strong influence of previous random errors on the current value. The model has a low Akaike Information Criterion ($AIC = 2182.122$) and Bayesian Information Criterion ($BIC = 2209.350$), indicating adequate model quality for forecasting. Additionally, the model shows a high level of heteroscedasticity (Jarque-Bera = 21349.31), which may suggest significant uneven risk distribution in market dynamics (D'Amato et al., 2021). This is a key factor for assessing ESG risks, as the uneven distribution and high levels of volatility are the result of ESG risk realization, particularly concerning the effectiveness of sanctions policy towards Russia.

To model stock volatility in response to ESG risks, the GARCH model (Generalized Autoregressive Conditional Heteroskedasticity) was applied.

The formula for GARCH(1,1) is as follows:

$$\sigma_t^2 = \omega + \alpha a_{t-1}^2 + \beta \sigma_{t-1}^2 \quad (2)$$

where:

σ_t^2 is the conditional variance at time t ,

ω, α, β are the model parameters,

a_{t-1} are innovations (shocks) at the previous moment,

σ_{t-1}^2 is the past conditional variance.

The GARCH model allows for assessing the stock volatility dynamics of Raiffeisen Bank International depending on previous shocks caused by ESG factors (Di Tommaso & Thornton, 2020). The results of the GARCH(1,1) model for the period from 2018 to the present show the following key points: $\mu = -0.00969$, which is not statistically significant ($p = 0.278$), indicating no significant constant average changes in the stock during this period. $\omega = 0.0059$, which is also insignificant ($p = 0.120$), illustrates the initial level of volatility. $\alpha = 0.0942$, is statistically significant ($p = 0.026$), indicating that past shocks or market changes affect current volatility. This is an important indicator for assessing short-term fluctuations caused by ESG risks.

$\beta = 0.874$, is highly significant ($p < 0.001$), indicating that volatility remains high over time. A high β value suggests that risks have a long-term effect on the market. The model shows a low AIC value (1713.53) and BIC (1735.31), indicating the effectiveness of the approach for data analysis. A high β value means that ESG risks, if they impact the market, can cause long-term volatility and uncertainty, which is important for investors when assessing risks.

Conditional volatility estimates were calculated and demonstrated in Figure 2, where a clear increase in volatility is tracked during the realization of ESG risks.

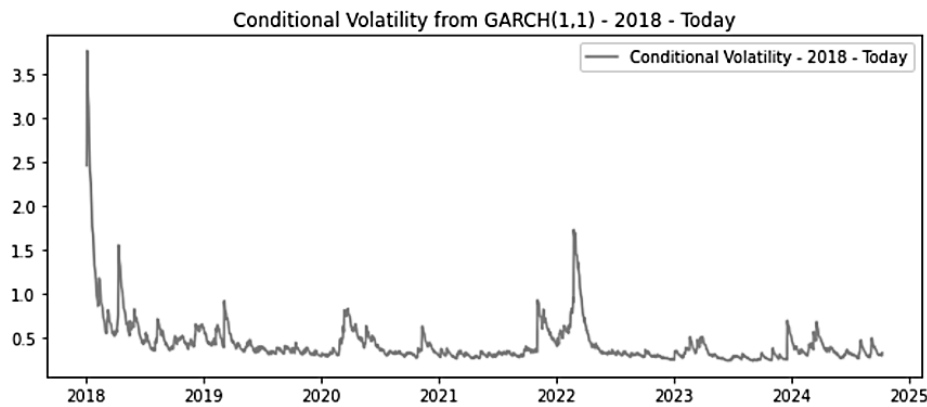


Fig. 2: Conditional volatility of RBI stock according to GARCH(1,1).

Source: Compiled by the authors based on own calculations.

To confirm this hypothesis and assess the likelihood of crisis events impacting the investment attractiveness of Raiffeisen Bank International, we next consider a Markov regime switching model, defining two regimes and evaluating time series parameters using GARCH(1,1), which helps assess the change in time series volatility. The model allows us to detect changes in investment attractiveness behavior depending on different economic regimes, such as high and low volatility levels (Wu, Li, Cao, & Xu, 2024).

For each period, the regime switches according to the following transition probability matrix:

$$P(S_t = s_t | S_{t-1} = s_{t-1}) = \begin{bmatrix} p_{00} & p_{10} \\ p_{01} & p_{11} \end{bmatrix} \quad (3)$$

where p_{ij} is the probability of transitioning from regime i to regime j .

The determined values of logarithmic returns and the probability of being in a high-volatility regime (a key trigger for risk realization and their negative impact on investment attractiveness) are shown in Figure 2. Historical analysis supports corresponding observations of the probability of a high-volatility regime in 2020 during the Covid-19 crisis and worsening financial conditions in 2018.

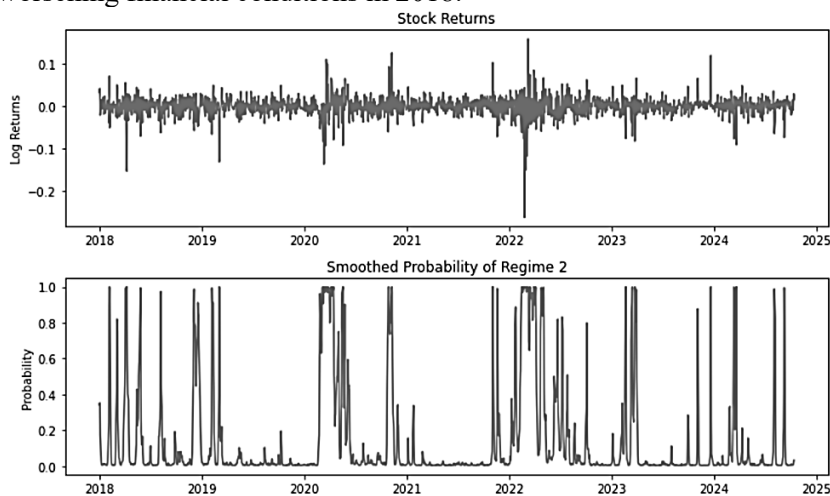


Fig. 3: Daily logarithmic return of RBI.VI and corresponding probability of high-volatility regime in the respective period.

Source: Compiled by the authors based on own calculations.

The probability of remaining in a low-volatility market is 96.87%. This means the market has a very high chance of staying stable and not experiencing significant fluctuations, even after minor shocks. The probability of transitioning from a high-volatility market to a low-volatility market is 19.73%. This indicates that when the market enters a period of high volatility, there is a chance of returning to stability, but it is not very high. Therefore, the consequences of ESG risk realization have a long-term impact on the overall condition of Raiffeisen Bank International.

We additionally forecasted the asset's price by comparing two time intervals: before and after the occurrence of management and social risk realization in the aggressor country and the key trigger of the 21st-century geopolitical crisis. The forecasting results using ARMA(2,1)-GARCH(1,1) are presented in Figure 4.

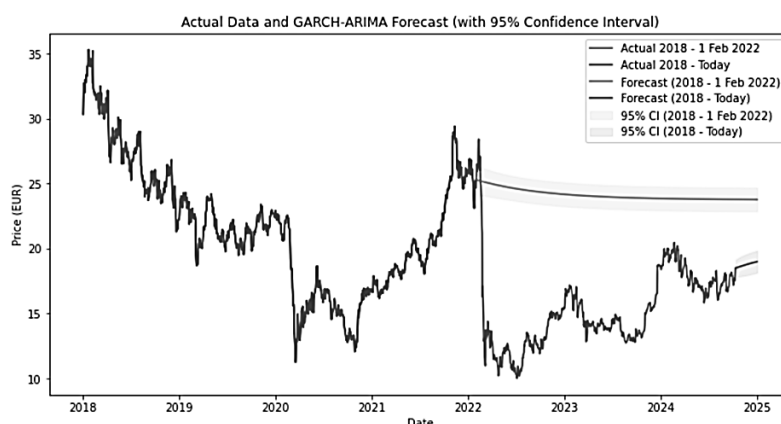


Fig. 4: RBI.VI price forecast results using ARMA(2,1)-GARCH(1,1) with pseudo-forecasting of the asset price before ESG risk realization.

Source: Compiled by the authors based on own calculations.

The obtained results from the ARMA(2,1)-GARCH(1,1) models show that ESG risks affect stock prices by changing returns and increasing volatility. During the realization of ESG risks, greater instability is observed in market valuations, which in turn affects the stock's investment attractiveness and creditworthiness.

Conclusions

In modern conditions, environmental, social, and governance (ESG) risks play an increasingly important role in the activities of international banking groups, particularly Raiffeisen Bank International (RBI). The study confirmed that ESG risks can significantly impact stock price volatility, investment attractiveness, and the bank's financial stability. One of the key risk factors for RBI is its continued operations in Russia after the onset of the military invasion, which has raised concerns among investors and regulators. The use of ARMA and GARCH models allowed for a quantitative assessment of the impact of ESG risks on the bank's stock returns and increased volatility. It was established that stock volatility rises in response to the realization of ESG risks related to social and governance factors. Furthermore, the study showed that RBI's prolonged presence in the Russian market and the associated reputational risks present a significant challenge for the bank, reducing its investment attractiveness. This is supported by the results of econometric analysis, which demonstrated significant changes in the bank's financial performance due to the influence of ESG risks. Thus, for international banking groups like RBI, it is becoming critically important to take ESG factors into account in the risk management process and strategy development.

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ETHICAL ASPECTS OF IMPLEMENTING ARTIFICIAL INTELLIGENCE AND AUTOMATION: ANALYSIS OF ECONOMIC AND SOCIAL IMPACTS

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Abstract

Artificial Intelligence (AI) and automation are the driving forces behind global changes in various sectors of the economy and society. Despite the evident economic benefits, including increased productivity and reduced costs, the implementation of these technologies brings numerous ethical and social challenges. The primary concerns include job reductions, rising social inequality, and the marginalization of low-skilled workers. Moreover, questions arise regarding the ethicality of AI-driven decisions, the transparency of these algorithms, and accountability for their outcomes. This study emphasizes the need to establish ethical standards and effective regulatory mechanisms to mitigate the negative social and economic impacts. Statistical data highlights a significant increase in investments in AI technologies in recent years, exceeding \$50 billion in 2022.

Keywords

Artificial Intelligence, Automation, Ethics, Labor market, Social inequality, Algorithm transparency.

Problem statement

Artificial intelligence (AI) and automation are significantly transforming the modern economy, creating both new opportunities and challenges for society. According to (Lund et al., 2021), approximately 30% of jobs globally could be automated by 2030. Automation leads to increased productivity but is accompanied by job reductions, particularly in sectors with routine operations. For example, in the United States, data from the (Bessen, Goos, Salomons, & Berge, 2020) suggests that over 36 million workers could lose their jobs due to automation in the coming decades. The ethical issues arising from AI implementation include algorithm transparency, personal data protection, and determining accountability for decisions made by AI systems. The use of AI in critical fields such as healthcare, finance, and justice requires the introduction of ethical standards to prevent discrimination and bias in algorithmic decision-making. Given these challenges, it is necessary to develop effective regulatory mechanisms that ensure a balance between technological progress and social justice, minimizing the negative consequences of automation and AI implementation.

Analysis of recent research and publications

In recent years, the impact of AI and automation has been widely studied by both scholars and international organizations. For instance, (Frey & Osborne, 2017) demonstrated that nearly 47% of jobs in developed countries could be automated in the coming decades, particularly in manufacturing, logistics, and retail. According to the International Labour Organization (2021), automation may lead to a rise in unemployment by 2.5-3.5% in countries with high dependency on routine labor. McKinsey (2020) suggests that AI implementation could create more than 95 million new jobs in high-tech sectors by 2030. However, the issue lies in the fact that these new roles require significant retraining, which not all countries are prepared to provide. In terms of ethical aspects, Bostrom and Yudkowsky (2019) emphasize the need for transparency standards for AI algorithms, particularly in critical decision-making areas such as finance and healthcare. Sandel (2021) points to the increasing role of regulation concerning the use of personal data and accountability for data misuse in AI systems.

Purpose of the article

The objective of this research is to conduct a comprehensive analysis of the ethical aspects of artificial intelligence (AI) and automation, as well as assess their economic and social impacts.

The primary tasks of the research are:

- To investigate the impact of automation on the labor market, particularly job reductions and the increase in social inequality.
- To analyze the ethical issues associated with AI use, including algorithmic transparency and data privacy concerns.
- To evaluate existing regulatory mechanisms and propose recommendations for establishing ethical standards to minimize the negative effects of automation.
- To develop strategies for helping workers adapt to new labor market conditions through retraining and social support.

Presentation of the main research material and results obtained

Artificial Intelligence (AI) refers to the development of computer systems capable of performing tasks that would typically require human intelligence. These tasks can range from recognizing speech, interpreting images, solving problems, and making decisions to understanding natural language and engaging in complex conversations. AI mimics the cognitive functions associated with human thinking, allowing machines to act, reason, and learn in a manner akin to human beings.

AI operates based on algorithms and models designed to enable machines to learn from data, recognize patterns, and make predictions or decisions without explicit human intervention. This process is called "machine learning" (ML), a subset of AI. ML involves feeding large amounts of data into algorithms, which then analyze the data to find relationships and patterns. Over time, the system learns from these patterns and improves its performance.

Key to the functionality of AI is the concept of **neural networks**. These are computational models inspired by the human brain, consisting of layers of interconnected "neurons." When data passes through these layers, the system adjusts the connections based on the outcomes, mimicking how the brain processes information. The more data AI systems process, the more accurate and effective they become, a process known as "training."

AI can be categorized into two broad types: **narrow AI** (or weak AI) and **general AI** (or strong AI). Narrow AI is designed to perform specific tasks, such as language translation or image recognition. It is the form of AI we encounter in everyday applications like digital assistants (e.g., Siri or Google Assistant), recommendation algorithms on streaming services, and even autonomous vehicles. General AI, on the other hand, refers to systems that possess the cognitive abilities of a human being, capable of performing any intellectual task. However, general AI remains largely theoretical and has not yet been realized.

The concept of AI dates back to ancient times, with mythological stories about intelligent automatons. However, the formal study of artificial intelligence as a scientific discipline began in the mid-20th century. The term "artificial intelligence" was coined in 1956 at a conference at Dartmouth College, organized by computer scientist John McCarthy. This event is considered the birth of AI as a field of study, bringing together pioneers like Marvin Minsky, Allen Newell, and Herbert Simon to explore how machines could be made to "think" like humans.

AI's initial development focused on symbolic AI, where machines were programmed with specific rules and knowledge to perform tasks. Early successes in the 1960s and 1970s included programs capable of solving

algebra problems and playing chess. However, these systems were limited because they lacked the ability to learn from new data.

The 1980s and 1990s saw a resurgence in AI research due to advances in computational power and the development of more sophisticated algorithms, particularly in the realm of machine learning. Researchers began to move away from rule-based systems and instead focused on creating algorithms that could learn from experience. One major breakthrough came with the invention of backpropagation, a method for training neural networks.

By the 21st century, AI research had accelerated thanks to the availability of large datasets (big data), faster processors, and advances in deep learning, a subfield of machine learning that uses large neural networks to analyze vast amounts of data. This led to significant advancements in image recognition, natural language processing, and autonomous systems.

Today, AI is embedded in numerous aspects of modern life, from healthcare and finance to entertainment and transportation. However, alongside its rapid development, AI has raised important ethical questions and concerns about its potential impact on jobs, privacy, security, and society at large.

AI represents one of the most transformative technologies of our time, with roots that trace back several decades. Its ability to perform tasks previously reserved for humans is driven by sophisticated algorithms, neural networks, and machine learning processes. As AI continues to evolve, its applications will only grow, making it essential to consider not just the technical aspects, but also the ethical, economic, and social implications that come with its widespread adoption.

Automation and AI are significantly transforming global economic systems, particularly affecting the labor market. According to the (World Economic Forum, 2020), AI and automation technologies may replace approximately 85 million jobs by 2025, especially in sectors characterized by routine operations, such as manufacturing, logistics, and administrative services. However, forecasts also suggest that around 97 million new jobs will be created, requiring specialized skills and qualifications, particularly in information technology, AI, robotics, and cybersecurity.

Technological progress is shifting traditional views of work and employment. While early automation primarily targeted physical labor, today it increasingly affects cognitive tasks. (Lund et al., 2021) estimates that up to 30% of jobs globally could be automated by 2030. In some countries, this figure is even higher: for example, in the United States, more than 36 million jobs are at risk of automation over the next decade.

Automation in many industries has already led to significant changes in the labor market. For example, in manufacturing, a large number of tasks that were previously done by humans are now automated. In the automotive industry, robots handle car assembly, which has resulted in job cuts for factory workers. Additionally, in the customer service sector, chatbots and AI-based systems are increasingly performing tasks that were once done exclusively by humans.

Another example can be found in the banking sector. Previously, processing loan applications took days and required the involvement of a large number of bank employees. Now, this process is largely automated with AI-based algorithms that quickly analyze customers' creditworthiness. This reduces the need for a large workforce and increases the efficiency of banking operations. However, it also raises concerns that jobs in the banking sector will either disappear or significantly transform due to automation.

These examples illustrate how technological progress is leading to substantial changes in employment structures and highlight the importance of adapting to the new realities emerging in the labor market.

Automation has a differentiated impact on various categories of workers, particularly low-skilled ones. Studies show that this group is most vulnerable to automation, as they primarily perform routine tasks that are easily automated. Workers in manufacturing, transport, and services are at the highest risk of job loss, which could further exacerbate social inequality. High-skilled professionals, who possess better education and are proficient in modern technologies, have a greater chance of adapting to new conditions and securing prestigious jobs in growing sectors.

A key aspect of this transformation is the geographical differentiation of automation's impact. In technologically advanced countries, such as Germany, Japan, and South Korea, there is a noticeable reduction in the demand for low-skilled labor, necessitating large-scale retraining of workers. For example, in Germany, automation has reached significant levels, requiring substantial investments in education, professional retraining, and the development of new skills among workers.

The situation is different in countries with lower levels of automation. For instance, in India and Bangladesh, economies heavily depend on low-skilled labor, which helps preserve jobs temporarily, but also limits opportunities for economic growth and modernization. These countries face a choice: whether to move towards automation, which requires significant investments in new technologies and social programs, or to

maintain a low-tech economy with slower growth rates.

Most research highlights the urgent need for active development of retraining programs and new professional learning opportunities in response to the challenges posed by automation. According to PwC (2021), over 70% of workers believe they will need to retrain or acquire new skills to remain competitive in the labor market. This demonstrates a growing awareness of the need to upskill to adapt to changes in the labor market.

At the same time, in countries where governments have already implemented retraining programs, such as Finland and the Netherlands, workers are better able to adapt to new demands. For example, Finland has launched large-scale professional retraining programs, enabling workers to master new technologies and adjust to changes in the labor market, helping to maintain employment levels and ensure social stability.

Social and Ethical Challenges of AI Implementation. AI and automation not only create economic but also significant social challenges that require immediate analysis and regulation. One of the main issues is the deepening of social inequality, which could be exacerbated by the unequal distribution of the benefits of automation. Low-skilled workers and those with low incomes, who are most dependent on routine labor, are the most vulnerable to job losses. Meanwhile, high-skilled workers in high-tech sectors stand to gain the most from AI implementation.

According to the OECD (2021), automation could increase social inequality by 4-5% in countries highly dependent on low-skilled labor. This risk is particularly severe in countries with underdeveloped social safety nets, where there are insufficient mechanisms to support workers who have lost their jobs due to automation.

Furthermore, automation affects social mobility. In the past, many workers began their careers in low-skilled positions and gradually advanced by improving their skills. However, in a world where many routine tasks are automated, opportunities for such career growth are significantly diminished. This limits social mobility and exacerbates social divides among different population groups.

Ethical aspects of AI implementation are another significant challenge associated with automation. Questions arise regarding responsibility for decisions made by algorithms, especially in areas where these decisions can have serious consequences for society. For example, according to Accenture (2020), approximately 52% of companies already use AI for decision-making in critical areas such as finance, healthcare, and justice. This raises concerns about the transparency of these decisions, as algorithms may be biased due to the imperfection of the data on which they are trained.

One of the key ethical challenges is responsibility. If an AI system makes an error, for example in disease diagnosis or credit scoring, the question arises: who is responsible for the outcome? This issue is particularly relevant in the context of autonomous vehicles, where algorithmic errors could lead to accidents or fatalities.

Moreover, the ethicality of using AI in employment decisions is also a subject of discussion. For instance, IBM (2021) found that about 34% of companies use AI for recruitment and hiring. However, these systems can be biased if they rely on data that reflects stereotypes or discriminatory practices. This could lead to discrimination against women, minorities, or other vulnerable groups during hiring.

Another critical ethical issue is privacy and data protection. AI algorithms require vast amounts of data for training and decision-making, which creates risks of privacy violations. For example, in 2022, Gartner reported that more than 28% of companies experienced data breaches due to improper AI usage. This indicates the need for clear standards for data protection and mechanisms to enforce compliance.

Transparency and Accountability in AI Algorithms. Transparency in AI algorithms, which make decisions based on large datasets, is a fundamental ethical issue. AI algorithms often function as a "black box," meaning the decision-making process is opaque to most users. This is particularly problematic when algorithms make important decisions that can significantly impact people's lives, such as in credit lending, medical diagnoses, or legal proceedings.

According to a 2021 survey by the European Commission, more than 60% of Europeans expressed concerns about AI systems due to the lack of transparent decision-making mechanisms. The absence of a clear explanation of how algorithms arrive at decisions threatens the fairness and objectivity of these systems, leading to distrust in AI technologies.

International organizations, such as the European Union and the United Nations, are actively working on legislative initiatives aimed at ensuring greater transparency in AI usage. A key aspect of these initiatives is the requirement for companies to disclose information on the data used for training AI systems and the criteria for making decisions, as well as how these algorithms are trained.

Transparency is also crucial in terms of accountability for decisions made by AI systems. In cases where algorithms make mistakes or exhibit bias, it is important to clearly define who bears responsibility for these errors—the developers of the algorithms, the companies that use these systems, or the end-users. Defining responsibility is especially important in sectors where AI-driven decisions have a direct impact on individuals,

such as healthcare, autonomous vehicles, and finance.

Conclusions

The implementation of artificial intelligence (AI) and automation represents a critical phase in the development of modern economies and technologies. However, alongside undeniable economic benefits, these processes also create complex social and ethical challenges that require deep reflection and regulation. Issues such as job displacement, increasing social inequality, algorithmic transparency, and data protection demand immediate attention from governments, international organizations, and businesses.

One of the most critical consequences of automation is its impact on the labor market. The rapid reduction of jobs in routine sectors like manufacturing and logistics creates risks for low-skilled workers, who are the least prepared to adapt. This could exacerbate social inequality, especially in countries that lack social support mechanisms. Despite forecasts for the creation of new jobs in high-tech sectors, these opportunities are mainly available to highly skilled professionals, necessitating significant investments in worker retraining. Thus, one of the most important tasks for public policy is to develop and implement programs that retrain workers to mitigate the negative effects of automation on the labor market. Countries like Finland and the Netherlands already have successful programs that help workers adapt to these changes.

At the same time, automation and AI implementation pose serious ethical challenges related to decisions made by algorithms without adequate human oversight. One of the greatest risks is algorithmic bias, which can occur when systems are trained on imperfect or stereotypical data. This is especially dangerous in fields such as medicine, the judicial system, and financial services, where decisions made by AI can have serious consequences for people. The lack of transparency in how algorithms function creates situations where users are unable to assess the validity of decisions. As a result, one of the primary recommendations for AI development is to ensure the transparency and accountability of algorithms.

The need to establish a regulatory framework for AI has become one of the main demands of modern society. Legislation regulating algorithmic transparency and defining accountability for decisions made by AI must be enacted to minimize the risks associated with AI usage. One key question is responsibility for errors made by AI systems: who should be held accountable when an incorrect decision is made by AI—developers, technology owners, or the organizations that use these systems? This question is critically important as more sectors begin to actively use AI for decision-making, especially in crucial areas such as healthcare and autonomous transportation.

Algorithmic transparency is a key ethical aspect that requires special attention. AI systems often function as a "black box," where users do not fully understand how decisions are made. This lack of transparency can lead to distrust in AI systems and limit their adoption. Mechanisms need to be developed to explain the principles behind algorithmic decision-making, particularly in cases where these decisions significantly impact individuals' lives.

In addition to transparency, protecting personal data in the context of automation is an important issue. AI systems require vast amounts of data to train and make decisions, which increases the risk of privacy violations. As studies have shown, instances of privacy breaches due to careless AI usage are becoming more common. This underscores the need for stricter rules governing data protection and the security of information systems that use AI.

Current legislative initiatives, such as the EU's General Data Protection Regulation (GDPR), are important steps in this direction, but further improvements are needed, particularly concerning data protection in AI systems. It is also crucial to develop global standards for regulating data usage, as AI and automation are transnational technologies that operate on a global scale.

Further research in the field of AI and automation should focus on developing new models of human-machine interaction that maintain human control over critical decisions made by AI. It is also necessary to develop methodologies for assessing and correcting bias in algorithms, ensuring fair and objective decision-making in AI systems.

The prospects for further research should also include an analysis of the economic consequences of AI implementation in various sectors of the economy, especially those traditionally dependent on low-skilled labor. It is particularly important to study how automation will affect the economies of developing countries, where technological changes may occur more slowly and social consequences may be even more pronounced.

In the long term, integrating ethical standards into the development and use of AI is a critical task to prevent potential negative consequences for society. The development of such standards should occur at the international level, with active participation from governments, businesses, and civil society.

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ETHICS AND CORPORATE SOCIAL RESPONSIBILITY IN THE ERA OF GLOBALIZATION: COMPLIANCE OF INTERNATIONAL COMPANIES

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Abstract

The article is devoted to the study of the transformation of ethical practices and corporate social responsibility (CSR) of international companies in the context of globalization. In today's global business environment, the issues of ethics and social responsibility are becoming critical, which requires international companies to adapt to new conditions and challenges. The purpose of the article is to provide a comprehensive analysis of the main aspects of CSR implementation in the activities of transnational corporations and to study the impact of cultural, social and economic differences on the formation of global ethical standards. The article discusses the key issues related to the implementation of ethical strategies in the context of different cultures and local regulatory requirements. The methods of analysis, synthesis, comparison and generalization are used to achieve this goal. New approaches to CSR that take into account global trends in sustainable development and their impact on the reputation and competitiveness of companies in the international market are analyzed. The practical significance of the study lies in the development of recommendations for international companies to implement flexible CSR strategies that can ensure successful adaptation to global challenges, including environmental, social and economic changes.

Keywords

Corporate social responsibility, Globalization, Business ethics, International companies, Sustainable development, Cross-cultural management, Ethical standards.

Problem statement

The current stage of development of the global economy is accompanied by a significant increase in the role of transnational companies, which have become key participants in the international market. However, along with the expansion of their influence, they face new challenges in terms of ethical behavior and social responsibility. Globalization, which stimulates active international cooperation, at the same time complicates the process of standardizing ethical norms due to significant differences in cultural, legal and economic conditions of different countries. Multinational companies are forced to strike a balance between adherence to universal ethical standards

and adaptation of their strategies to the specifics of local markets, which creates numerous challenges in the implementation of corporate social responsibility (CSR).

At the same time, modern societies, both at the national and international levels, are placing increasing demands on companies to be socially responsible and to comply with environmental, social and governance standards. In the context of increased attention to the issues of sustainable development, climate change and social inequality, companies that neglect ethical standards risk not only losing the trust of consumers and partners, but also face financial sanctions or reputational losses.

One of the main challenges facing international companies is the varying legal and regulatory requirements for CSR implementation in different countries. Some countries have strict and detailed ethical and social standards, while in other regions these requirements may be underdeveloped or non-existent. This creates an uneven playing field for companies and makes it difficult to develop global CSR strategies that work effectively across regions.

Another issue is cultural differences that affect perceptions of the social and ethical aspects of business. This makes it difficult to develop universal approaches to CSR and requires companies to be flexible in developing and implementing ethical strategies.

Globalization also leads to the need to increase transparency and accountability of companies to their stakeholders, which requires the introduction of new approaches to monitoring and evaluating social responsibility.

Globalization creates new business conditions that require international companies to rethink their approaches to corporate social responsibility and ethical behavior.

Relevance of the chosen topic

In times of globalization, international companies aiming to maintain and strengthen their positions in the global market have to accept new ethical challenges: various cultural differences, new markets, differences in regulatory systems, requirements for greater transparency, social responsibility and compliance with ethical standards - all of which affect the reputation and credibility of the business. In addition, there is a growing focus on sustainable development and the negative impact of companies' activities on the international environment. Due to all these factors, the study of corporate ethics in the context of globalization is relevant to understanding how international business can balance public and private interests while maintaining competitiveness and strong market positions.

Analysis of recent research and publications

The issue of Corporate Social Responsibility (CSR) and ethics in the global business environment attracts the attention of many researchers in Ukraine and abroad. Let us consider the key aspects and areas of research in this field, based on the works of domestic and foreign scholars.

The study of the development of the CSR concept is an important area of research. Domestic scholars consider social responsibility as an integral part of the corporate governance system (Dmytriv, 2019, p. 99). Researchers emphasize that CSR has developed from simple philanthropy to an integrated business strategy. This correlates with international studies analyzing the global context of CSR development and its transformation under the influence of globalization processes (Stanasiuk, Pasinovych, & Tomashevskaya, 2021, p. 115).

Some Ukrainian researchers consider CSR as a factor of sustainable development, which reflects the growing understanding of the relationship between business practices and global challenges (Jamali & Karam, 2018, p. 61). This view is confirmed in the works of foreign authors who study the political aspect of CSR and its role in solving global problems (Crane, Matten, & Spence, 2013, p. 237).

An important area of research is the integration of CSR into the strategic management of companies. Domestic scholars analyze the process of CSR implementation in the company's strategy, emphasizing the importance of a systematic approach to this issue (Kolosok, 2014, p. 253). The researchers note that an effective CSR strategy should be aligned with the main business objectives of the company, and integrated into all aspects of its activities.

This approach is also reflected in international studies. Foreign authors take into account the specifics of CSR implementation in developing countries and emphasize the need to adapt global strategies to local conditions (Suprun, 2009, p. 35). This study demonstrates the importance of taking into account the cultural and economic context when developing CSR strategies.

Evaluating the effectiveness of CSR initiatives remains a pressing issue. Ukrainian researchers propose modern approaches to the assessment of corporate CSR in the context of sustainable development (Kuzmin, Sidorov, & Kozyk, 2011, p. 147). The authors emphasize the need to develop comprehensive methodologies that

take into account both economic, social and environmental aspects of the activities of enterprises.

This issue correlates with international research. Foreign scholars consider different methods of CSR assessment in the global context and emphasize the importance of standardization of approaches to ensure comparability of results (Stanasiuk et al., 2021, p. 146).

The study of CSR in the context of economic transformations is an important area of research. Domestic authors analyze the achievements and problems of evolutionary economics, considering CSR as one of the factors of business adaptation to changes in the external environment (Kozak & Danylyvych, 2020, p. 113). Researchers emphasize the need for flexibility and innovation in CSR approaches in a dynamic economic environment.

This aspect is also reflected in international studies. Foreign scholars consider new challenges and directions of development of political corporate social responsibility (PCSR 2.0), emphasizing the need to adapt CSR strategies to global political and economic changes (Crane et al., 2013, p. 246).

The relationship between CSR and the concept of sustainable development is an important focus of research. Ukrainian researchers analyze the development of corporate social responsibility in the context of sustainable economic development (Scherer, Rasche, Palazzo, & Spicer, 2016, p. 298). The authors emphasize that CSR is becoming a key tool for achieving the UN Sustainable Development Goals by integrating economic, social and environmental aspects of companies' activities.

This trend is also reflected in international studies. Foreign scholars consider the peculiarities of CSR implementation in developing countries, emphasizing the importance of adapting global sustainable development goals to local conditions and needs (Suprun, 2009, p. 64).

CSR research in the Ukrainian context deserves special attention. Domestic scholars analyze the peculiarities of implementing social responsibility in the corporate governance system of Ukrainian enterprises (Dmytriv, 2019, p. 102). Researchers emphasize the need to adapt international CSR practices to Ukrainian realities, taking into account the specifics of the country's economic and social development.

Other Ukrainian authors consider CSR as a factor of sustainable development in the Ukrainian context, emphasizing the importance of raising awareness of business and society about the principles of social responsibility (Jamali & Karam, 2018, p. 61).

The study of innovative approaches to CSR is a promising area of research. Domestic scholars consider modern approaches to CSR assessment, in particular, the use of digital technologies to monitor and analyze social and environmental initiatives of companies (Kuzmin et al., 2011, p. 150).

This trend is also reflected in international studies. Foreign authors analyze the impact of digitalization on CSR development, considering such aspects as the use of big data to assess social impact, blockchain technologies to ensure supply chain transparency, etc. (Stanasiuk et al., 2021, p. 149).

The issue of CSR and ethics in the global business environment attracts the attention of many researchers. (Carroll, 1991) proposed the CSR pyramid, which became the basis for further research in this area (Scherer et al., 2016, p. 273). (Crane et al., 2013) examine the ethical challenges of globalization and their impact on business practices. (Scherer et al., 2016) examine the political role of corporations in global governance (Scherer et al., 2016, p. 283). (Husted & Allen, 2006) analyze the strategic value of CSR for international companies. (Jamali & Karam, 2018) study the peculiarities of CSR in developing countries (Jamali & Karam, 2018, p. 48). These studies form a theoretical basis for understanding CSR in a global context, but leave room for further study of the practical aspects of CSR implementation by international companies.

Purpose of the article

The purpose of this study is to analyze the transformation of ethical practices and corporate social responsibility in the context of globalization, as well as to assess its impact on the activities of international companies.

The research objectives include:

- To study the evolution of the CSR concept in the context of globalization.
- To analyze the main challenges and opportunities for CSR implementation in international business.
- Examine the impact of cultural differences on the implementation of ethical strategies.
- Evaluate the effectiveness of modern approaches to CSR in a global context.
- Develop recommendations for improving CSR strategies for international companies.

Presentation of the main research material and results obtained

With the constant development of globalization, transnational companies are becoming important participants in the world economy. At the same time, their growing influence is leading to increased attention to aspects of their activities such as business ethics and corporate social responsibility (CSR). Climate change, human rights issues, social inequality, and other global challenges demand that large companies not only be financially successful, but also behave responsibly. It is important to understand that companies that do not adhere to ethical standards run the risk of losing the trust of their stakeholders and negatively impacting their reputation (Dmytriv, 2019, p. 104).

Cultural issues and concerns in the context of sustainable development can be grouped under the concept of social sustainability. However, (Hawkes, 2001) emphasized the need for a model of sustainable development that integrates or interconnects four main dimensions: social justice, cultural vitality, economic well-being, and environmental sustainability, as illustrated in Fig. 1.

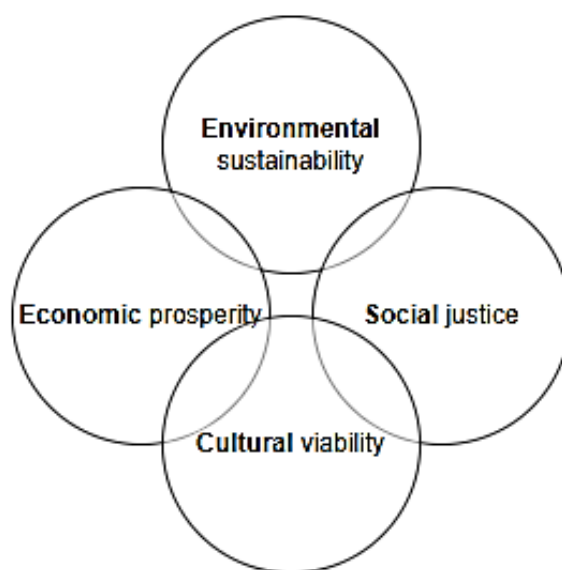


Fig. 1: The proposed model of sustainable development with four dimensions.

Source: Compiled by the author based on (Çetiner & İnce Yenilmez, 2021)

Corporate Social Responsibility (CSR) has evolved from purely voluntary philanthropy to a strategy that not only provides public recognition but also real competitive advantages. CSR has become an integral part of the sustainable development strategy, encompassing the environmental, social and economic aspects of the company's activities. Multinational companies operating in different parts of the world must take into account local specificities and socio-cultural contexts in order to implement effective CSR programs (Stanasiuk et al., 2021, p. 145).

The general concept of corporate social responsibility has expanded to include not only environmental or social support efforts, but also issues of ethical behavior, employee rights, and transparency of management decisions. One of the key challenges for international companies is to find a balance between adhering to global CSR standards and adapting to the specific conditions of each country in which the company operates (Kozak & Danilevych, 2020, p. 112). One-size-fits-all solutions are often inappropriate in the context of local norms and traditions, forcing companies to be flexible and creative in developing their strategies.

Globalization has challenged multinational companies not only to manage economic processes, but also to participate in solving global problems related to sustainable development. Climate change, growing inequality and human rights violations are challenges that require the active participation of large corporations. However, the implementation of ethical standards and principles of social responsibility in the international context is becoming increasingly difficult due to significant cultural, legal and economic differences between countries (Stanasiuk et al., 2021, p. 148).

Leading international companies often use the principles of social responsibility to improve their reputation and strengthen public relations. In many countries, consumers are becoming increasingly aware of business ethics and prefer companies that adhere to high standards in this area. According to research, consumers are willing to pay more for goods and services from companies that are socially responsible (Kolosok, 2014, p. 151). This shows that CSR is no longer perceived as a separate part of marketing or PR campaigns, but is becoming

an integral part of corporate culture.

In addition, international companies face the need to adapt their CSR strategies to cultural and legal norms in different countries. For example, in countries with a collectivist culture, companies often emphasize social programs that contribute to community support. In turn, in individualistic countries, the focus often shifts to environmental responsibility and consumer protection (Dmytriv, 2019, p. 100). This adaptation allows companies to strengthen their positions in local markets and create long-term partnerships with stakeholders.

An important aspect of implementing corporate social responsibility is its measurement and performance evaluation. Every year, more and more companies introduce systems for evaluating the effectiveness of their CSR programs, which allows them not only to control the costs of such initiatives, but also to measure their impact on stakeholders and the overall performance (Scherer et al., 2016, p. 281). This helps companies identify the most effective tools and improve their strategies.

The success of many transnational corporations in the area of corporate social responsibility is also due to their active cooperation with international organizations concerned with sustainable development. By combining the efforts of companies and international institutions, greater results can be achieved on global issues such as environmental protection, poverty alleviation, or human rights (Jamali & Karam, 2018, p. 51). Such initiatives significantly increase not only the effectiveness of CSR programs, but also the overall image of companies in the international arena.

In the context of globalization, companies need to constantly review their strategies, especially those related to social responsibility. The introduction of new technologies, such as blockchain and artificial intelligence, helps to improve the transparency of business processes, track the implementation of CSR initiatives and ensure communication with key stakeholders. For example, the use of blockchain enables the tracking of the origin of goods and provides guarantees of ethical production (Suprun, 2009, p. 69). This helps to increase consumer and government trust in companies.

Successful implementation of corporate social responsibility also requires flexibility and innovative approaches to business management. International companies that integrate CSR into their business strategies tend to have more stable market positions and are better able to respond to the challenges of the global economy. They are also better able to adapt to changing regulatory requirements and rising societal expectations (Kuzmin et al., 2011, p. 167).

At the same time, the role of corporate social responsibility goes beyond business. It has a significant impact on economic development and stability on a global scale. Effective CSR initiatives can contribute to the development of regional markets, reduce social tensions and improve the quality of life of populations (Crane et al., 2013, p. 238). This makes international businesses important actors in addressing global sustainability challenges.

Corporate social responsibility also helps companies avoid reputational risks. In today's world, information travels extremely fast, and any instances of unethical behavior by a company can cause significant damage to both its reputation and financial results. Thanks to transparent and ethical corporate social responsibility strategies, companies can avoid such risks and ensure the stability of their development (Scherer et al., 2016, p. 277).

Thus, in the context of globalization, multinational companies are increasingly responsible for the social, environmental and economic impacts of their activities. Corporate social responsibility is becoming a key element of their strategies, not only to reduce negative impacts on the environment or society, but also to ensure long-term business success and sustainability in the face of increasing competition and changing public expectations (Scherer et al., 2016, p. 282).

Globalization has led to a significant increase in the interdependence of countries, companies and societies. In such an environment, international companies need to adapt their CSR strategies to balance global and local needs. A key challenge for international companies is to integrate socially responsible practices across cultures and regions, as companies operate in contexts where social, economic and cultural norms can vary significantly.

Globalization has created new opportunities for companies seeking to expand their business, but it also creates additional responsibilities to meet ethical standards in different countries. For example, a company operating in countries with different legal frameworks and social norms may be faced with the need to simultaneously comply with international ethical standards and adapt to local requirements. This is particularly relevant in cases where national laws on labor rights, environmental responsibility or consumer rights are weaker than international standards.

The importance of ethics and corporate social responsibility in doing business in a globalized world cannot be underestimated. Failure to comply with ethical standards can lead to damage to a company's reputation,

significant financial losses and a loss of consumer confidence. On the contrary, effective integration of CSR helps to strengthen a company's position in the international marketplace and ensure its long-term success.

Corporate Social Responsibility (CSR) has undergone a significant transformation from mere charity to a strategy that is integrated into all areas of a company's operations. In the past, CSR was often seen as an additional activity or even a marketing tool to improve a company's image. However, with the spread of globalization and rising public expectations of business, the concept of CSR has shifted towards sustainable development and long-term strategies aimed at ensuring social and environmental responsibility.

Today's international companies are integrating CSR into their core business strategies, recognizing that a socially responsible approach not only enhances their reputation but also improves their financial performance. Companies that have successfully integrated CSR into their operations often gain competitive advantage by increasing customer loyalty, reducing operational risks, and improving resource efficiency.

In a global context, corporate social responsibility goes beyond individual initiatives such as environmental projects or charitable giving. It encompasses a wide range of issues, including human rights, working conditions, environmental responsibility, consumer rights and anti-corruption. One of the most important aspects of CSR is its adaptability to cultural and regional differences, enabling companies to respond effectively to social challenges in different countries. Fig. 2 illustrates the main ethical challenges that multinational companies may face when entering new markets where cultural differences exist.

One of the key challenges faced by multinational companies in implementing CSR is cultural differences. In the context of globalization, companies often operate in markets with different cultural traditions and values, which requires an understanding of the specifics of local societies. For example, in countries with a collectivist culture, social initiatives may be aimed at supporting local communities, while in individualistic cultures, more attention is paid to protecting the rights of individual consumers and environmental projects.

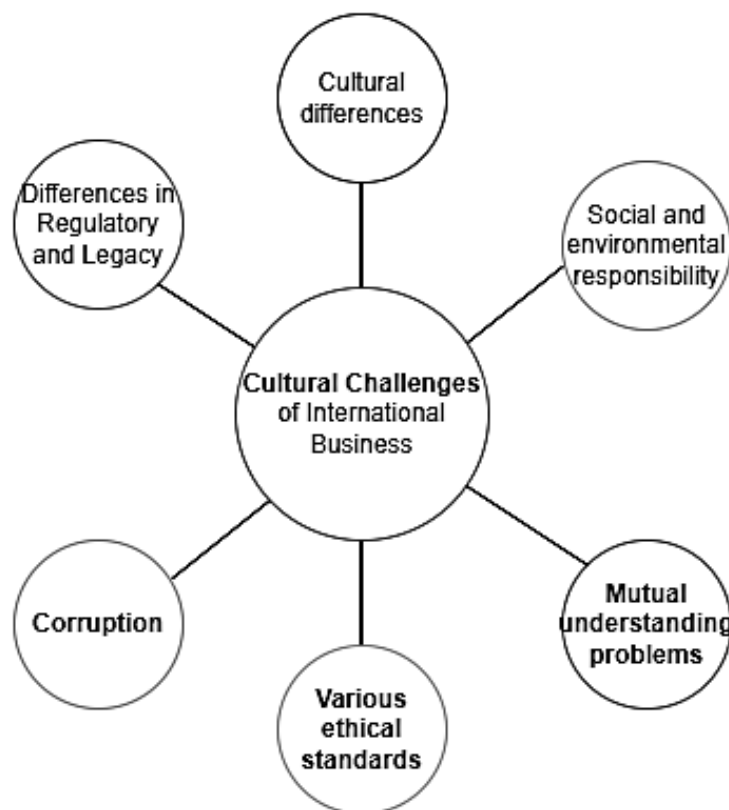


Fig. 2: Cultural challenges faced by international companies as they expand their market.

Source: compiled by the author based on (FasterCapital, 2023).

In addition to cultural differences, multinationals face different legal requirements for CSR in different countries. For example, some countries have strict environmental laws, while others have less stringent requirements. This challenges companies to maintain high ethical standards even in countries where the legal framework is not sufficiently developed.

Another challenge for international companies is integrating CSR into global supply chains. Companies need to ensure compliance with social and environmental standards at all stages of the production process, from

raw material suppliers to end consumers. This requires the development of transparent control systems and cooperation with partners who share CSR values.

Cultural differences play an important role in the process of implementing CSR internationally. Each country has unique social, cultural and economic conditions that affect how ethical standards and social initiatives are perceived and implemented. For example, in countries with a high degree of collectivism, more attention is paid to supporting social groups and communities, while in countries with an individualistic culture, the focus is on the rights of individuals and consumers.

Significant differences between cultures are also evident in approaches to environmental responsibility. In some countries, environmental initiatives are an integral part of corporate culture, while in other countries, society may prioritize economic growth over environmental issues. This creates certain challenges for international companies, which must adapt their CSR strategies to local conditions without losing the integrity of their values and global goals.

In addition, international companies have to take into account the different levels of economic development and social needs in the countries where they operate. For example, in developing countries, the main CSR priorities may be addressing poverty, access to education and healthcare, while in developed countries, the focus may be on environmental initiatives and consumer protection.

Technology is playing an increasingly important role in CSR implementation and monitoring. Innovative technologies, such as blockchain, big data, and artificial intelligence, can increase the transparency of companies' operations and ensure that social and environmental standards are met at all stages of the supply chain. For example, blockchain technologies can track the origin of raw materials and confirm their compliance with ethical standards, which is important in industries such as mining, food and textiles.

In addition, technology is helping to improve communication between companies and their stakeholders. Social media and other digital platforms enable companies to more effectively inform the public about their CSR initiatives and receive feedback from consumers and partners. This allows companies to adapt their strategies to changing public expectations and demands. Technologies are also improving the efficiency of resource use and reducing environmental impact. For example, the Internet of Things (IoT) enables the optimization of production and delivery processes, helping to reduce greenhouse gas emissions and energy consumption.

Conclusions

The research confirms the critical importance of ethics and CSR for the success of international companies in the era of globalization. Key findings include:

1. The need to develop flexible, culturally sensitive CSR strategies that can adapt to different contexts.
2. The importance of integrating CSR with core business strategy to maximize impact.
3. The growing role of technology in implementing and monitoring CSR initiatives.
4. The need to actively involve stakeholders in the development and implementation of CSR programs.
5. Future research perspectives include
6. Exploring the impact of emerging technologies (AI, blockchain) on CSR implementation.
7. Exploring the role of CSR in achieving the UN Sustainable Development Goals.
8. Analyzing the impact of the COVID-19 pandemic on the transformation of CSR practices in international companies.
9. Examine the relationship between CSR and corporate financial performance over the long term.

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THE INFLUENCE OF THE GOVERNMENT ON GLOBALIZATION PROCESSES IN UKRAINE: ANALYSIS OF THE CURRENT SITUATION

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Abstract

The article examines the influence of the government on globalization processes in Ukraine, with an emphasis on modern challenges and opportunities for the national economy. The purpose of the article is to study the key aspects of state regulation that affect Ukraine's integration into the world economy. To achieve the goal, the methods of analyzing political and economic strategies, comparing international experience and evaluating the effectiveness of state initiatives were applied. The influence of state policy on trade relations, investment climate and international cooperation is considered. Both positive and negative consequences of state intervention for globalization processes are analyzed. The role of the state in creating a favorable environment for economic growth and integration into global markets is defined. The practical significance of the study lies in the provision of recommendations for the formation of effective state policy, which will contribute to the successful integration of Ukraine into the world economy and the achievement of competitive advantages in the international arena.

Keywords

Globalization, Tariff and non-tariff barriers, Trade blocs, SWOT analysis.

Problem statement

In a rapidly changing globalized world, Ukraine needs to effectively manage its integration into the global economy to ensure sustainable development. Public policy has a decisive influence on this process, but existing strategies can both facilitate and hinder this integration process. This creates a need for constant analysis and improvement of government initiatives to ensure their effectiveness in line with current global challenges and trends.

Relevance of the chosen topic

In today's world, where globalization processes affect the economic and political realities of countries, Ukraine needs to adapt to new conditions to ensure sustainable development and competitiveness. Public policy plays a key role in shaping the conditions for integration into global markets, as well as in determining the pace and

direction of this integration. Therefore, it is important to study how government regulation affects globalization processes in Ukraine.

The relevance of this topic is driven by the need to understand and adapt to the ever-changing conditions of the global economic environment. The effectiveness of government strategies and policies can have a significant impact on a country's economic development, its ability to attract investment, maintain international competitiveness and ensure economic stability.

Thus, the study of the state's influence on globalization processes is important for formulating well-grounded recommendations for political and economic decisions that will help Ukraine adjust to global challenges and take advantage of globalization opportunities to improve its economic situation.

Analysis of recent research and publications

Many prominent foreign and domestic scholars have studied this topic. According to V.V. Yakovenko (Yakovenko, 2015), global governance is at the stage of conceptual development and needs to improve its terminology. However, it is "governance" focused on cooperation and mutual assistance that can become a key paradigm that will guide globalization towards democratic development, ensuring economic and social balance between countries in the global economy.

The main idea of V. Yakovenko's publication is that globalization has become a key trend in the development of the world economy, affecting all spheres of public life and increasing the interdependence of countries. This is accompanied by challenges for global governance, which faces difficulties in solving international problems. The text also describes various concepts of global governance, emphasizing the need for corporations to adapt to new conditions in a globalized world.

According to Y. Koltko and O. Yevseytseva (Koltko & Yevseytseva, 2016), globalization is forming transnational companies and global supply chains supported by international intermediaries and telecommunication networks. It can also be argued that globalization and the development of international cooperation lead to an increase in the volume of cargo flows, which increases the need for efficient transport logistics. This requires optimization of goods delivery processes, expansion of logistics chains, and improved management to achieve savings and increase profitability in international markets.

According to D. V. Polozenko (Polozenko, 2014), globalization is an objective process that expands international markets, economic ties between countries, intensifies competition, and creates problems that need to be addressed immediately. According to Dmytro Polozenko, globalization is an objective process of economic, financial and cultural integration that leads to deep interdependence of countries, but also creates challenges, such as economic dependence, inequality and weakening of state sovereignty. Globalization has both positive and negative aspects, including opportunities for growth, but also threats to the economies of weak countries. The text also emphasizes Ukraine's problems related to the underutilization of resource potential and social inequality.

When analyzing such an aspect as globalization in Ukraine, it is necessary to take into account and study publications and research papers that take into account the conditions of war in Ukraine. Having studied the article by A. Motrenko and D. Sydorenko (Motrenko & Sydorenko, 2024), we can conclude that an important aspect in the study of globalization in the context of modern Ukraine is to highlight the topic of conflict-related destruction, with enormous damage to infrastructure and millions of displaced people. This prompts Ukraine to seek global assistance in rebuilding its basic social and economic structures. Western countries, particularly European countries, and the United States play a crucial role in strengthening Ukraine's defense capabilities and ensuring economic stability.

Purpose of the article

The purpose of the article is to study the impact of the state on globalization processes in Ukraine by analyzing the current situation in the economic and political sectors.

Achieving this goal requires solving the following tasks:

- analysis of key aspects of state policy affecting Ukraine's integration into the global economy
- studying the specifics of regulatory initiatives and their impact on foreign economic relations and the investment climate;
- assessing the positive and negative effects of government intervention in globalization processes on the country's economic development;
- consideration of practical recommendations for optimizing state policy to improve the efficiency of Ukraine's integration into the global economy.

Presentation of the main research material and results obtained

Globalization is the process of increasing international interdependences in all areas (economy, politics, culture, environment, communications, etc.) This aggregation of global relations is done at the level of individuals, companies, institutions and governments.

The main causes: technological progress (communications, transportation), political decisions to liberalize world trade.

Government drivers:

1. Reduction of tariff and non-tariff barriers.
2. Creation of trading blocs.
3. Decline of role of governments as producers and customers.
4. Privatization in previously state dominated economies and shift to open market economies.

Ukraine needs to pursue globalization in the difficult conditions that have arisen since Russia's full-scale invasion for key reasons such as economic recovery, expanding markets, attracting resources, strengthening international relations, and adapting to change. The amount of damage is shown in Table 1.

Table 1: General losses caused by Russia since the beginning of the full-scale invasion in Ukraine.

Areas of life that have suffered damage	US \$ billion
Housing	56
Transport	34
Commerce and Industry	16
Energy and Extractives	11
Agriculture	10
Education	6
Municipal Services	5
Water Supply and Sanitation	4
Other	8

Source: (Motrenko & Sydorenko, 2024).

Thus, globalization is becoming a prerequisite for Ukraine's recovery and development, contributing to economic growth, technological progress, and strengthening its international position.

Returning to the topic of the article, the processes of international trade liberalization involve the reduction of customs tariffs and the elimination of non-tariff barriers, such as quotas, licenses and other restrictions that impede the free movement of goods and services across national borders.

The creation of economic and trade blocs, such as customs unions, free trade zones and economic unions, promotes the integration of countries and regions, which allows for lowering trade barriers between their members and creating favorable conditions for mutual trade.

The reduction of tariff and non-tariff barriers is an important aspect of Ukraine's economic policy aimed at improving the conditions for exports and integration into global markets. This phenomenon has a significant impact on the competitiveness of Ukrainian goods and services, as well as on the country's overall economic development.

Tariff barriers, or customs tariffs, are taxes imposed on imported goods. In Ukraine, as in many countries, these barriers can significantly affect the cost of exported goods and services, which in turn affects their competitiveness in international markets.

Criteria of market and location choice have a significant impact on the Ukrainian customs market in several aspects, as shown in Fig. 1.

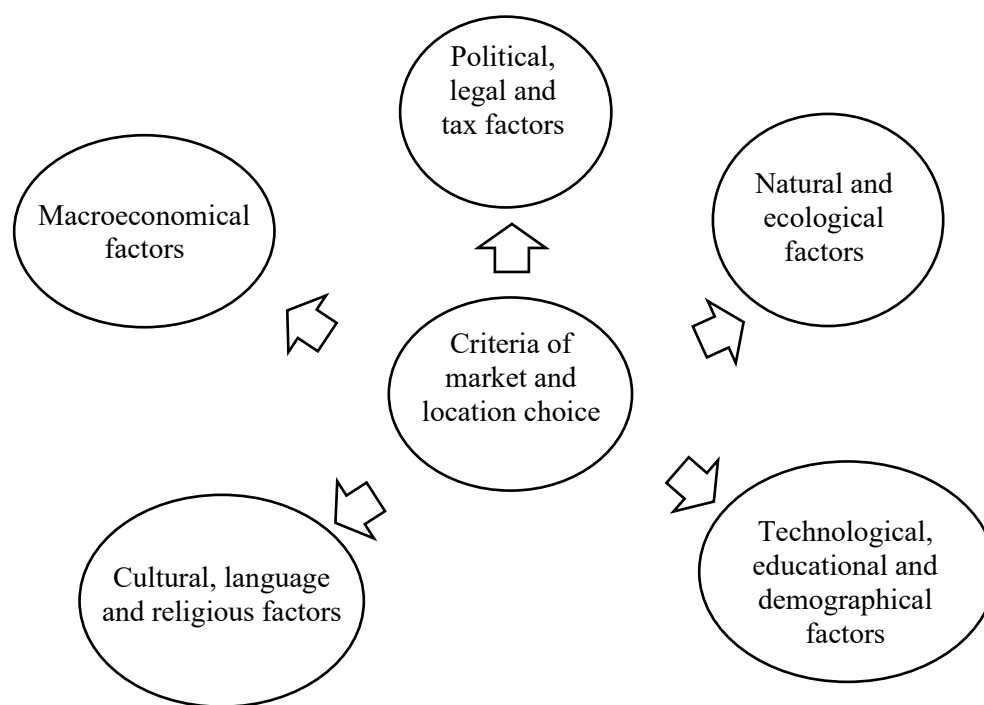


Fig. 1: Criteria of market and location choice.

Source: Materials of presentations of the University of Applied Sciences Mittweida (Germany) in the discipline "International Management", 2024.

According to the Fig. 1 these criteria directly affect the dynamics of the Ukrainian customs market, shaping its competitiveness and attractiveness for business.

The reduction of customs tariffs is part of the trade liberalization policy aimed at reducing the cost of imported goods and services and expanding the access of Ukrainian goods to foreign markets. As part of its integration processes, such as the signing of free trade agreements with the European Union and other trading partners, Ukraine has committed to reducing customs duties on a number of goods. This not only reduces costs for Ukrainian importers, but also opens up new opportunities for exporters by increasing their competitiveness on international markets.

Goairys taxation is a significant source of revenue for the state budget, as it provides significant financial income through the taxation of goods crossing the state border. This mechanism allows governments to provide funding for public expenditures such as infrastructure projects, social programs, and the state apparatus. Customs duties also serve as an economic regulation, affecting the trade balance and protecting the domestic market from foreign competition.

In our opinion, in the context of the war in Ukraine, taxation is taking on new aspects. The conflict leads to a decline in economic activity and destabilization of trade chains, which complicates customs operations and tax collection. The war disrupts logistics and supplies, leading to higher customs clearance costs and possible delays in the processing of goods. This, in turn, can reduce the effectiveness of customs duties as a source of revenue.

On the other hand, a military conflict may lead to an increase in customs tariffs and non-tariff barriers as part of a protective economic policy aimed at supporting the national economy and domestic market. This may complicate international trade by restricting market access for foreign goods and increasing costs for importers and consumers. As a result, economic growth and international cooperation may be adversely affected, creating obstacles to the free exchange of goods and services.

In turn, non-tariff barriers include various forms of restrictions that are not directly related to goods taxes. These include quotas, licensing, certification, technical regulations, sanitary and phytosanitary standards, and other administrative requirements that may complicate or restrict the export of goods.

In Ukraine, adaptation to international standards and requirements is an important aspect. Implementation of quality standards, environmental norms and technical regulations is critical to ensure access of Ukrainian goods to international markets. Ukraine's policy is aimed at harmonizing national standards with international standards, which reduces non-tariff barriers and facilitates the process of certification of products for export.

In particular, adjusting to European standards requires significant changes in technical regulations and

certification procedures, including modernization of production processes and compliance of products with European requirements. Accordingly, this requires significant efforts from both the government and businesses to develop infrastructure and improve technological processes.

In terms of policies and reforms, the policy of reducing tariff and non-tariff barriers is an integral part of the overall reform of Ukraine's trade policy. It includes both the adoption of new legislative initiatives and the implementation of existing agreements with international organizations. Important stages of these reforms include ensuring transparency in customs procedures, simplifying administrative procedures for exporters and importers, and improving the efficiency of customs control.

Ukraine is also actively cooperating with international financial and trade organizations, such as the World Trade Organization (WTO), to implement recommendations to improve the trade environment and reduce barriers. Such initiatives are aimed at ensuring the stability and predictability of trade policy, which is critical for attracting foreign investment and developing exports.

As for the formation of trade blocs, this is a rather important aspect of the modern international economy, which significantly affects global trade relations and economic integration between countries. Trade blocs, which can take the form of free trade zones, customs unions or economic unions, provide numerous benefits to partner countries, including lowering trade barriers, expanding market opportunities and strengthening economic cooperation.

The formation of trade blocs is based on the theory of economic integration, which suggests reducing or eliminating trade barriers between member states to achieve economic benefits. Theoretical models such as regional integration theory and commercial cost theory explain how economic integration can help reduce trade costs, increase competitiveness, and stimulate economic growth.

There are different types of trade blocs with different levels of economic integration, as shown in Fig. 2.

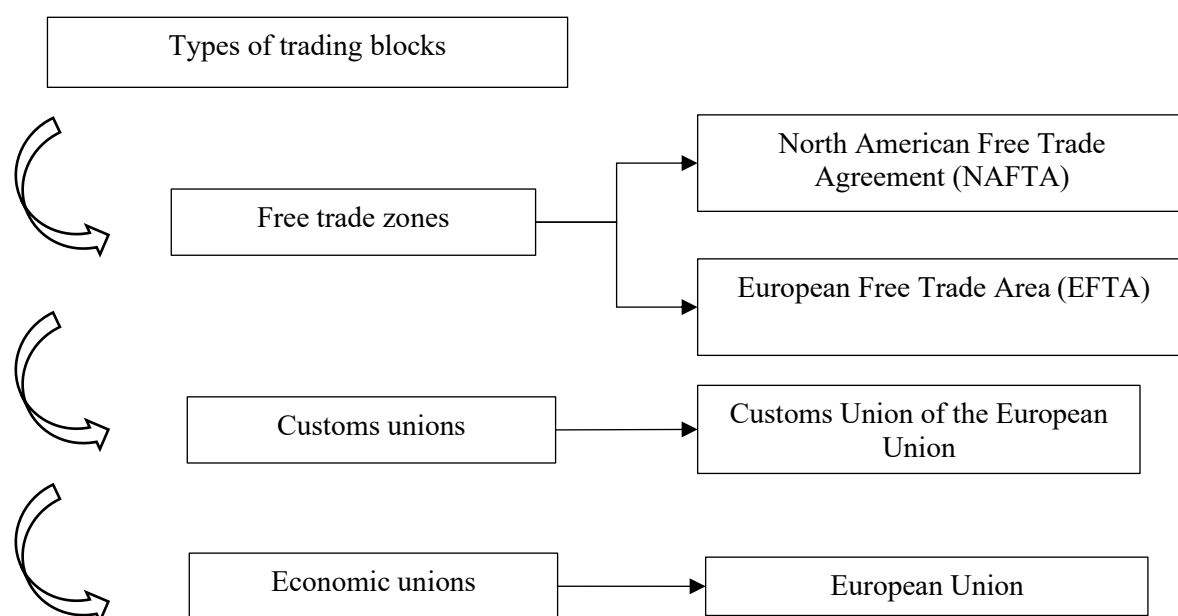


Fig. 2: Main categories of trade blocs according to the level of economic integration.

Source: Materials of presentations of the University of Applied Sciences Mittweida (Germany) in the discipline "International Management", 2024.

The first type of trade blocs is the least integrated, where member countries reduce or eliminate tariffs on imports between themselves but maintain independent trade policies towards third countries.

As for customs unions, in this case, member countries not only reduce tariffs on trade between themselves, but also harmonize external customs tariffs with countries that are not part of the bloc. A customs union provides for greater economic integration, but requires coordination of trade policies.

Considering economic unions, we can say that this type of bloc involves not only the reduction of trade barriers, but also the integration of economic policies, including a single currency, common labor policy, and coordination of macroeconomic policies.

The formation of trade blocs has numerous practical implications for member countries and the global economy as a whole. In particular, these include economic benefits, political stability, and the impact on third countries.

Reducing or eliminating trade barriers between member states reduces trade costs, expands markets, and increases the competitiveness of businesses. This contributes to economic growth and improves living standards.

In our view, economic integration through trade blocs can contribute to political stability and cooperation between countries, as economic interests often lead to stronger diplomatic relations and less conflict.

The formation of trade blocs can have both positive and negative effects on countries outside the bloc. For example, countries outside the bloc may face trade barriers due to higher external customs tariffs or may benefit from increased trade opportunities due to lower tariffs in member countries.

Reducing the role of governments as producers and consumers is an important aspect of economic reforms aimed at increasing the efficiency of market mechanisms and stimulating the private sector. This reflects the trend towards denationalization and privatization, which has become a key element of free market economies and globalization processes.

Theoretically, the diminishing role of governments as producers and consumers is explained by various economic concepts, including the theory of market efficiency and the concept of economic dynamics.

In turn, the war in Ukraine creates new barriers to economic integration, which include not only physical and logistical obstacles but also political and economic risks. The military conflict not only complicates the reduction of trade barriers, but also creates new economic and political challenges that require the adaptation of theoretical models to the changed conditions.

The privatization process, which involves the transfer of public property to private hands, has become the main mechanism for reducing the role of governments as producers. Privatization can increase production efficiency by introducing new technologies, improving management, and stimulating investment. Examples such as the privatization of state-owned enterprises in the UK in the 1980s or in Ukraine after 1991 illustrate how reduced government control can lead to improved economic performance.

As consumers, governments typically procure goods and services to meet public needs, such as education, healthcare, and infrastructure. However, the diminishing role of governments in this regard implies a shift from direct government consumption to the use of contracts and public-private partnerships.

Contracting with private companies to provide public services is one of the main mechanisms for reducing the role of the state as a consumer. Public-private partnerships allow the private sector to manage projects and provide services while maintaining a certain level of government oversight. This increases the efficiency of resource use and reduces budget expenditures.

Reducing the role of governments as producers and consumers is an important aspect of economic reform that allows for more efficient market mechanisms and promotes private sector development. The theoretical foundations and practical implications of this process emphasize the importance of transitioning to market-based economic models that ensure more efficient use of resources and stimulate economic growth. However, this process also requires careful management and regulation to ensure social equity and stability of the economic system.

The theory of economic efficiency emphasizes that the private sector is able to better manage resources and stimulate innovation due to its interest in profit and competition. Comparisons between public and private management show that private enterprises are often more flexible, adaptive and efficient than their public counterparts.

Regarding regulation and control, after privatization, it is necessary to ensure effective control over the new owners to avoid monopolistic practices and ensure compliance with anti-corruption standards.

Privatization has numerous economic and social effects. It increases the efficiency of enterprises through new technologies, improved management practices, and greater competition. Private enterprises are more flexible in responding to market changes and adapt more quickly to new requirements. The transition to private management reduces the financial burden on the budget, including reduced costs of maintaining loss-making enterprises and increased revenues from the sale of assets.

An important aspect is the creation of a legal and regulatory infrastructure that will ensure a stable and predictable economic environment. This includes ensuring transparency of market processes, fighting corruption, and establishing clear rules to protect property rights.

In the context of the war in Ukraine, the privatization process is taking on new features. The conflict poses serious challenges, as the destruction of infrastructure reduces the market attractiveness of enterprises, especially those affected by or located in conflict zones. This leads to uncertainty for investors and can exacerbate economic and political instability, making privatization programs more difficult to implement. State control over strategic industries may be maintained longer to ensure national security. In times of war, privatization policy priorities may shift to the needs of reconstruction and financing military expenditures, which will affect the classic goals of privatization.

Thus, while the privatization process remains an important tool for reducing state control and increasing economic efficiency, it faces new challenges in the context of the war in Ukraine. The military conflict poses numerous challenges to the implementation of privatization strategies and affects their effectiveness, forcing the state to adapt its approaches to privatization to meet changed circumstances and needs.

In order to study the current situation of globalization in Ukraine and to develop practical recommendations, it would be advisable to use SWOT analysis as an element of strategic management that has a significant impact on the process of globalization in Ukraine, as it allows systematizing information about internal and external factors that affect the country's economic development.

SWOT analysis includes internal and external analysis, which are divided into two components, as shown in Fig. 3.

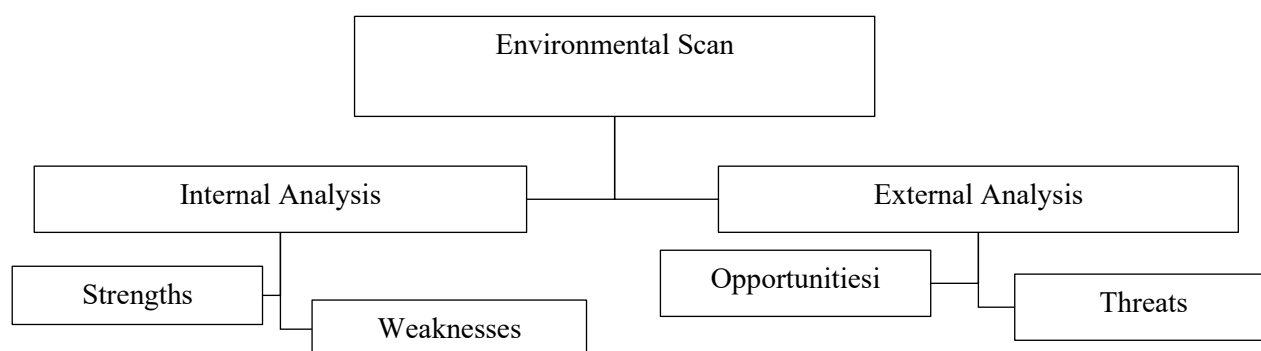


Fig. 3: SWOT.

Source: Materials of presentations of the University of Applied Sciences Mittweida (Germany) in the discipline "International Management", 2024.

First, the identification of Strengths and Weaknesses helps to determine the competitive advantages of Ukrainian enterprises in world markets, which is critical for integration into the global economy. For example, the availability of a highly skilled labor force and natural resources can be the basis for attracting foreign investment.

Secondly, the Opportunities and Threats analysis allows Ukraine to adapt to international trends, such as changes in technology or global economic crises. This provides flexibility in development strategies, which increases the country's resilience to external shocks.

SWOT analysis not only increases the effectiveness of strategic planning, but also creates favorable conditions for Ukraine's active participation in globalization processes, which in turn can have a positive impact on economic growth and social development. Therefore, it will be appropriate to use it in further planning the implementation of processes that will positively affect globalization in Ukraine.

Using strategic management, we offer recommendations for the development of effective public policies that will facilitate Ukraine's integration into the global economy and achieve competitive advantage. The main areas of focus include supporting innovation and technology through funding and tax incentives, modernizing infrastructure to reduce logistics costs, improving education in line with global needs, ensuring legal stability and intellectual property protection, attracting foreign investment through tax holidays, developing international trade, supporting small and medium-sized businesses, integrating environmental standards into economic policy, active diplomacy, and ensuring social stability. Implementation of these recommendations will strengthen Ukraine's position in the international arena.

Conclusions

In our view, the analysis of the reduction of tariff and non-tariff barriers, the formation of trade blocs, the reduction of the role of governments as producers and consumers, and privatization in state-dominated economies is critical to understanding economic reforms. However, in the context of a full-scale war in Ukraine, these factors require additional analysis, as the conflict is modifying these processes, creating new challenges to economic stability, such as increased tariff barriers and disrupted supply chains.

Public policy becomes important to ensure economic viability in the new environment. Trade liberalization reduces the cost of goods and services, improving access to international markets and increasing competitiveness. The formation of trade blocs, such as free trade zones, promotes regional economic integration by reducing barriers and increasing trade opportunities.

Reducing state involvement in the economy through privatization and public-private partnerships

increases efficiency and innovation, creating a competitive environment. The privatization process, while complex, promotes economic efficiency and stability, requiring careful management of social impacts.

Thus, these processes are interconnected and critical for sustainable economic development. A comprehensive approach to reducing barriers, forming trade blocs, reducing state participation and privatization, together with appropriate regulation and social policies, will ensure the integration of economies into the global economy.

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TYPOLGY OF INDUSTRIAL COLLABORATIVE IDEALS

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Abstract

University–Industry Collaboration (UIC) has been a well-established field of research for over 50 years, offering insights into best practices, precursors, and supporting factors while acknowledging industry partners as proactive contributors. However, a comprehensive understanding of how industry approaches UIC remains elusive. This study examines industry collaboration strategies with higher education institutions (HEIs) and defines ideal types of industrial collaborators, illustrating their engagement approaches. Using a qualitative, inductive methodology, we conducted 20 semi-structured interviews with senior management and strategic decision-makers from large enterprises engaged in academic collaboration. The data were analyzed following Gioia et al. (2013) to ensure qualitative rigor, and a typology was developed based on the framework of Doty and Glick (1994). Our analysis introduces a novel typology of industrial collaboration ideals, providing a theoretical framework to better understand the complex and multidimensional nature of UIC from an industry perspective. We identify key variations in organizational approaches, infrastructure, and support mechanisms that facilitate effective university engagement, highlighting differences in design and implementation. This study contributes critical insights into the underexplored industry perspective within the Triple Helix framework, offering a benchmark for assessing industry collaboration effectiveness and laying a foundation for optimizing UIC strategies.

Keywords

UIC, Industry perspective, Industry engagement typology, Ideal types, Collaborative approaches.

Introduction

Interest in university-industry collaboration (UIC) from both policy makers and scholars has increased dramatically over the last 30 years, given its ability to generate positive change (Ankrah & Al-Tabbaa, 2015; Tian, Su, & Yang, 2022; Bastos, Sengik, & Tello-Gamarra, 2021; Perkmann, Salandra, Tartari, McKelvey, & Hughes, 2021). UIC not only benefits collaborating partners, for example by facilitating knowledge harvesting and technology transfer (Ponomariov, 2013) and developing graduates with skills and knowledge aligned with the needs of the labour market (Bozeman & Boardman, 2013), it also contributes more broadly to the economic development of countries and regions (Rajalo & Vadi, 2017). Hence, aligned to their leading role they play in higher education and research, UIC has enabled Higher Educational Institutions (HEIs) to assume a prominent role within their regional and national innovation ecosystems (Goddard and Chatterton 1999). The increasing dynamic of the world economy intertwined with ever-changing business needs further the momentum of HEIs to contribute via organized academia-business collaborations (Galán-Muros, Sijde, Groenewegen, & Baaken, 2017).

Lacking the abilities from within, industry is increasingly turning to academia as a source of innovation and new knowledge, in order to achieve or maintain a competitive advantage (O'Regan, Ghobadian, & Sims, 2006; Ankrah & Al-Tabbaa, 2015). HEIs, in turn, benefit from UIC across education, research and commercialization domains (Galán-Muros et al., 2017). The symbiotic relationship of industry and academia is inducing structural changes and enhancements pertaining to the framework of the participating institutions. Specifically, HEIs are increasingly establishing technology transfer offices (TTOs) (Aldridge & Audretsch, 2011; Perkmann et al., 2013) and engagement centers (Shen, Coreynen, & Huang, 2022; Galán-Muros et al., 2017), while businesses utilize internal intermediaries or individuals tasked with strategically developing and/or implementing such linkages. Moreover, policy makers are actively promoting the creation and development of university-industry (U-I) interactions via the implementation of innovation policies (Galán-Muros et al., 2017; Perkmann et al., 2013). An increasing emphasis is placed on the transfer of knowledge not only from academia to industry and vice versa, but also between academia and society.

While being recognized as a separate discipline for the past 30 years (Gulbrandsen, Mowery, & Feldman, 2011; Galan-Muros & Davey, 2019), UIC literature has experienced increasing prominence over the past decade (Perkmann et al., 2021). Authors have generated extensive knowledge regarding the antecedents and enabling factors of UIC (Rybníček & Königsgruber, 2019; Sjöo & Hellström, 2019), including barriers, motivations, and facilitators (Galan-Muros & Davey, 2019; Perkmann et al., 2021). Furthermore, important insights have emerged into collaboration activities (Perkmann & Walsh, 2007) as well as the mechanisms that support cooperation (Villani, Rasmussen, & Grimaldi, 2017).

Yet, despite significant advances in our understanding of UIC, the research field remains fragmented and biased (Galan-Muros & Davey, 2019), characterized by a lack of connections across empirical work and theoretical advancements (Skute, Zalewska-Kurek, Hatak, & de Weerd-Nederhof, 2019). Moreover, the focal point of research in multi-sectoral collaborations is skewed. Despite a vast diversity of participating stakeholders in UIC and despite recognition of industry partners as proactive contributors to UIC (Giones, 2019), much of the extant research focuses on the university and thus the academic perspective of such collaborations, as compared to the external partners (Skute et al., 2019). Notable exceptions have generated valuable insights into the industry partners' motivations and aims for cooperation (Perkmann, Neely, & Walsh, 2011), the effect of spill overs on industry (Martín-de-Castro, Delgado-Verde, López-Sáez, & Navas-López, 2011), the capacity for cooperation (Zahra & George, 2002).

Recently, authors have noted the diversity in collaboration strategies and tactics implemented by industry (Frølund & Riedel, 2018); Skute et al., 2019). However, we are yet to generate an in-depth understanding of existing and developing models utilized by industry for managing and successfully leveraging collaborations with HEIs. The fragmented nature of extant knowledge limits advances, as we lack the foundational understanding on which to advance knowledge and practice. Hence, this research seeks to address the following research question: (1) How do firms approach collaborations with HEIs? To answer the research question and thus to generate a sound conceptualization of firm's approaches to UIC, grounded in managerial practice, we inductively examine existing approaches firms, in particular large multi-national companies, take towards their collaborations with HEIs through a series of in-depth interviews. Taking into consideration the absorptive capacity, economies of scale, and the Schumpeterian hypothesis (Tsai, 2009; Fontana, Geuna, & Matt, 2006; Laursen & Salter, 2004; Fernández López, Pérez Astray, Rodeiro Pazos, & Calvo, 2015) - investigating the collaborative approaches of large enterprises is deemed fit. The analysis yields an in-depth understanding of (1) the dimensions across which organizational approaches to UIC differ, such as infrastructure elements and supporting mechanisms firms utilize to successfully engage with universities, and (2) the variations in the design and implementation of such elements, leading to a typology of industrial approaches to UIC.

The article is organized as follows. The next section details the background of the research including the theoretical underpinnings. The section following is set to provide the research methodology, which is succeeded by the results section presenting the typology of industrial approaches towards collaborations with academia. The article is then finalized by the discussion and conclusion sections.

Background

The participation of the industry in UIC constitutes an utmost vital part of the triple helix model (Etzkowitz & Leydesdorff, 2000). Hence, the widespread recognition of the importance of relations between industry and academia has led to prolific attention across academia (Perkmann et al., 2013; Galán-Muros et al., 2017), industry (Fernández López et al., 2015), and policy makers (Ponds, Oort, & Frenken, 2010; Lehmann & Menter, 2016; Plewa, Quester, & Baaken, 2006) in recent years. The research which specifically focused on the industry

perspective and participation in UIC has primarily addressed the benefit industry partners may gain, and more recently elaborating on best practice examples of strategic industry approaches to UIC (Frølund & Riedel, 2018).

The escalating intricacy and complexity of new technologies stimulates the industry participants to understand their inability to encompass necessary resources and capabilities which technological development and ultimately commercialization necessitate (Hamel & Prahalad, 1994; O'Regan et al., 2006). Industry is increasingly turning their problem-solving needs to the intellectual resources of a university (Elmuti, Abebe, & Nicolosi, 2005; Ankrah & Al-Tabbaa, 2015). A shift in the structure of corporate R&D has been moreover observed by (Arora, Belenzon, & Pataconi, 2018), where large firms are turning away from fundamental internal research and shifting their focus to internal development. Large enterprises are increasingly withdrawing efforts from internal core science research, fueled by technology market and competition growth (Aghion, Bloom, Blundell, Griffith, & Howitt, 2005), difficulties with appropriability, and moreover the increasing short-termism (Marginson & McAulay, 2008). The withdrawal from core research does not imply the complete withdrawal, as minimal investments into the fundamental research and science are hereby required to allow the absorption of externally generated scientific knowledge (Arora et al., 2018).

Indeed, the existing body of literature pertaining to the collaborative sphere of university-industry interactions has been recently transformed into a complex multi-faceted field which exhibits numerous interlinkages and robust interpretations (Perkmann et al., 2013; Petruzzelli, 2011; Teixeira & Mota, 2012; Skute et al., 2019). Yet, the published research in the field of UIC does not appear to comprehensibly intertwine the previously developed empirical models as well as theoretical understandings, impeding the directionality of future research (Skute et al., 2019). Hence, despite the recognition of interdependence and importance of the relations between industry and academia, the research in the field of UIC stands fragmented and incomplete (Skute et al., 2019). Furthermore, there is a prominent lack of conceptual and theoretical frameworks pertaining to the mode of conduct within UIC (Galan-Muros & Davey, 2019; Villani et al., 2017). Due to the lack of a direct theoretical framework pertaining to UIC to utilize as a fundamental reference, aside from the Triple Helix Model (Etzkowitz & Leydesdorff, 2000), this research draws on the theoretical foundations of related disciplines, such as the interplay of relationship marketing, value co-creation, and the knowledge-based organizational theory.

Industry perspective and approaches to UIC

While limited, extant research examining the industry perspective or the role of industry in UIC has offered important insights into the industry partners' motivations and aims for cooperation (Perkmann et al., 2011), the subsequent effects of knowledge spill overs (Montoro-Sánchez, Ortiz-de-Urbina-Criado, & Mora-Valentín, 2011), and the capacity for cooperation (Zahra & George, 2002). The industry engagement has been outlined to be driven by four main reasons (Perkmann et al., 2011). Specifically, academic collaborations are an enabler for firms to access the latest scientific trends and developments within the academia, as well as to participate and contribute to further their R&D success (Perkmann et al., 2011). Firms seek advice and enhancement of their problem solving capabilities, via an extended workbench (Perkmann & Salter, 2012; Frølund & Riedel, 2018) in current R&D programs (Perkmann et al., 2011). Collaborating with the academia moreover allows the industry to attain more strategic objectives such as shaping the required future workforce and identify best talent, for example through engagement in academic curriculum design and delivery (Plewa, Galán-Muros, & Davey, 2015; Meerman et al., 2018). Furthermore, firms seek to leverage their R&D funding by maximizing the utility from their UI collaboration investments via government funding programs. Various governmental public funding programs aimed at firms for R&D activities conducted in conjunction with academia encourage and stipulate the contributions from the industry side (Perkmann et al., 2011).

Foundationally, industrial partners differ in their aims for engaging in UIC (Frølund, Murray, & Riedel, 2017), as evidenced in the type of UIC activities in which they engage, such as talent recruitment, research collaborations or a combination (Giones, 2019). The aims of the industrial partner have a range of implications for the approach taken for cooperation (Frølund et al., 2017). Science-based aims by industry tends to engender a more explicit and direct relationship lending itself to defined knowledge transfer mechanisms such as publications, patents consultancy and spin-offs with low intensity (Gilsing, Bekkers, Freitas, & Steen, 2011). Conversely, a development-based aim relates to more collaborative, localized, informal, and applied collaboration and often occurs involving intermediaries with more collaborative research domains such as joint R&D (Gilsing et al., 2011). Albeit being identified as very influential for improving the competence of firms (Santoro & Chakrabarti, 1999; Kunttu, 2017) the education collaboration aims are neglected in research. Closely aligned with aims is a firm's UIC strategy and the strategic context of the organization in which UIC is embedded (Pertuzé, Calder, Greitzer, & Lucas, 2010).

Other relevant elements of an industrial approaches to UIC noted in the literature are the establishment of

dedicated units for managing UIC (Frølund et al., 2017; Aldridge & Audretsch, 2011) or the establishment of boundary-spanning project managers (Pertuzé et al., 2010). The importance and role of UIC facilitators or intermediaries for UIC is commonly noted in the UIC literature (Malik, Bashir, & Ali, 2021; Howells, 2006), commonly investigated as third parties (Ankrah & Al-Tabbaa, 2015) or as embedded within university as compared to industry organizational structures (Villani, 2013; Villani et al., 2017).

Differences in approaches are likely to emerge depending on the type and extent of collaboration between firms and HEIs. Herein, given that collaborative activities between stakeholders follow multifaceted stages of integration - the seven stages as seen in (Frey, Lohmeier, Lee, & Tollefson, 2006), can be addressed to and aligned with the development of collaborative relationships between industry and universities. This model developed for measuring collaboration levels between grant partners by (Frey et al., 2006), incorporates the agency interaction model by (Peterson, 1991), levels of community linkage model by (Hogue, 1994), (Bailey & Koney, 2000) model, as well as the levels of integration model by (Gajda, 2004). This partnership continuum through the stages entails strategic initiatives being implemented by the industry such as Master Research Agreements, partner networks, and internal intermediaries tasked with strategic development of UI linkages. The continuum and progression of UI relationships through the seven stages does not however imply that multiple stages of collaboration cannot exist in parallel.

While extant literature offers initial insights into the diverse ways in which firms engage with universities, including an indication of ways in which such differentiation manifests, a comprehensive and clear understanding of institutional approaches to UIC remains amiss. To build a strong foundation for future academic and managerial advancement, this research utilizes an inductive approach to conceptualize firm's approaches to UIC, grounded in managerial practice.

Theoretical background

Due to the lack of a direct theoretical framework within the scope of UIC to build on, aside from the Triple Helix Model (Etzkowitz & Leydesdorff, 2000), this research draws on the theoretical foundations of related disciplines, being the interconnection of relationship marketing, value co-creation, and the knowledge-based organizational theory. We define each theory below and interconnect it with our inductive research at hand.

Relationship marketing (RM), is an area of marketing theory which has been thoroughly defined by (Sheth, Parvatiyar, & Sinha, 2015), as "...the ongoing process of engaging in collaborative activities and programs with immediate and end-user customers to create or enhance mutual economic, social and psychological value, profitably" (p 123). Yet the collaborative activities and programs are not only limited to customers and end-users, also comprising vertical and horizontal cooperation partners (Jüttner & Wehrli, 1995). A predominant axiom of the RM definition is that the collaborative interactions with customers and stakeholders lead to market value creation, such that the uniquely created value benefits the involved parties of the engaged relationship (Sheth et al., 2015). It can therefore be derived that relationship marketing exhibits itself through the creation and enhancement of economic, social, and psychological value (Sheth et al., 2015). A relationally oriented approach of RM hence entails long term collaborative relationships yielding value for the stakeholders, which is extended throughout vertical and horizontal cooperation partners (Jüttner & Wehrli, 1995). This falls in line with the concept of value co-creation, as well as closely ties together with university-industry relationships, as defined by (Plewa & Quester, 2007; Rosendo-Rios, Ghauri, & Zhang, 2016; Castro, Calderón, & Fayos, 2016).

Building on the foundations of RM, value co-creation has been conceptualized across service logic (Galvagno & Dalli, 2014) and service dominant logic (Vargo & Lusch, 2011). Drawing on (Grönroos, 2011) and the service logic, in a joint sphere of a firm acting as a value facilitator, and the customer being the value creator, opportunities exist for value to be cooperatively co-created. The service dominant logic furthermore implies that all involved parties whether firms, customers or others are service-providing, moreover value co-creating, hence all exchange can be also considered in the context of business-to-business (B2B) (Vargo & Lusch, 2011). Consequently, in the context of B2B, value can be co-created by organizations with a wide variety of stakeholders (Sarker, Sarker, Sahaym, & Bjørn-Andersen, 2012). For the purpose of this study, the focus lies on co-creating value through resource integration in university-industry interactions and carrying benefits throughout the triple helix (Etzkowitz & Leydesdorff, 2000; Castro, Calderón, & Fayos, 2016; Roser, DeFillippi, & Samson, 2013).

A knowledge based theory, in organizational context refers to the existence of firms in the way that they do, as an outcome of the ability to manage knowledge more efficiently than it is possible under another type of an organizational structure (Miles, 2012). The effective management, discovery, absorption, and the subsequent exploitation of knowledge a firm obtains either from the internal or external environments is vital to the determination of its success or failure (de Castro, Verde, Sáez, & López, 2010; Miles, 2012). Knowledge is a vital resource in this context, as all human productivity is dependent on knowledge, and technology for example is the

subsequent epitome of it (Miles, 2012). Hence, as (Grant, 1996) states, the production and output of a firm necessitates the integration of knowledge from many individuals. The knowledge assets of a firm are manifested through intellectual capital which includes human, structural, and relational capital (Martín-de-Castro et al., 2011; Miles, 2012). The relational, or sometimes referred to as social capital is the knowledge which is rooted within stakeholder relations, and is a form of knowledge integration which stimulates effectiveness through synthesis of information and ideas obtained from external interactions with either employees, customers, suppliers, partners, among others (Adler & Kwon, 2002; Kang & Snell, 2009; Kengatharan, 2019). The aftereffect of the accrued knowledge from networks, relationships, and interactions with external parties, contributes to the efficient processing and absorption of innovation and problem solving, in turn contributing to the firm's efficiency (Youndt & Snell, 2004; Zhang, Qi, Wang, Pawar, & Zhao, 2018).

Relationship marketing exhibits itself as the creation of value through relational, collaborative interactions between stakeholders; value co-creation addresses both multitudes of interactions within the transactional and relational contexts, as value is subjective and does not refer to any particular setting. The knowledge-based theory demonstrates how this value being co-created by a firm using external interactions with a variety of stakeholders, generates knowledge, which is in turn leveraged and utilized by the firm to attain desirable outcomes. The above-mentioned interplay of value co-creation and RM, and knowledge-based theories in the context of university industry relations, can help to understand the complex nature of UIC, while allowing to explore the collaborative boundaries from the industrial point of view.

Research methodology

Sample

To ensure comprehensive understanding of the organization's engagement with HEIs, the suitable interviewees were sought for to be within the roles of management and/or strategic oversight of cooperation with academic institutions within their respective industrial organizations. The focus on large organizations is critical, given the role size and orientation of an organization has in developing a firm's approaches to UIC (Santoro & Chakrabarti, 1999), and in the likelihood of creating an agreement with an academic partner (Fontana et al., 2006). The broader, and more diverse is a knowledge base of firm, the greater is the potential of recombining the acquired knowledge. A high level of absorptive capacity offers an expansion of possible application fields and stimulates their subsequent adoption of the external and new knowledge (Melnychuk, Schultz, & Wirsich, 2021). *Table 1* details the breakdown of the participants (20) by their appropriate industry classification (13).

Table 1: Overview of study participants.

Interviewee Code	Industry Classification	Count of Participants
A100, R100	Automotive	2
B100, Q100, G100, I100, V100	Chemicals/Pharma	5
C100, F100	Defence	2
D100	Oilfield services & equipment	1
E100	Electronics	1
J100	Telecommunications	1
K100	Information Technology & Services	1
M100, N100	Industrial Automation	2
O100	Electrical & Electronic Manufacturing	1
P100	Computer Software	1
S100	Mechanical/Industrial Engineering	1
T100	Semiconductors	1
W100	Social Media	1
Total	13 Industries	20 Participants

A pre-interview survey was sent out to all the study participants, where a question inquiring on the extent of collaboration activities with universities on a scale from 1 to 10. The activities are numbered from 1 to 14 as following: (1) Collaboration in R&D (2) Consulting (3) Commercialization of R&D results (4) Mobility of staff (5) Mobility of students (6) Dual education programmes (7) Joint design of university curriculum (8) Joint delivery of the curriculum (9) Participation in lifelong learning for businesspeople (10) Academic entrepreneurship (11) Student entrepreneurship (12) Governance (13) Shared resources with university (14) University support.

The Collaboration of R&D (1), Mobility of students (5), and University support (14) are the most frequent collaboration activities which were seen across the study participants, as measured by the total sum of scores, respectively. Joint design of university curriculum (7) exhibited the lowest sum of scores across the study participants (*Figure 1*). Despite recognition of importance by (Santoro & Chakrabarti, 1999), collaborative activities with aims set for education are underrepresented by research and are furthermore the least important aim as seen by the study participants. The remainder of the collaboration activities exhibit a uniform distribution across the range.

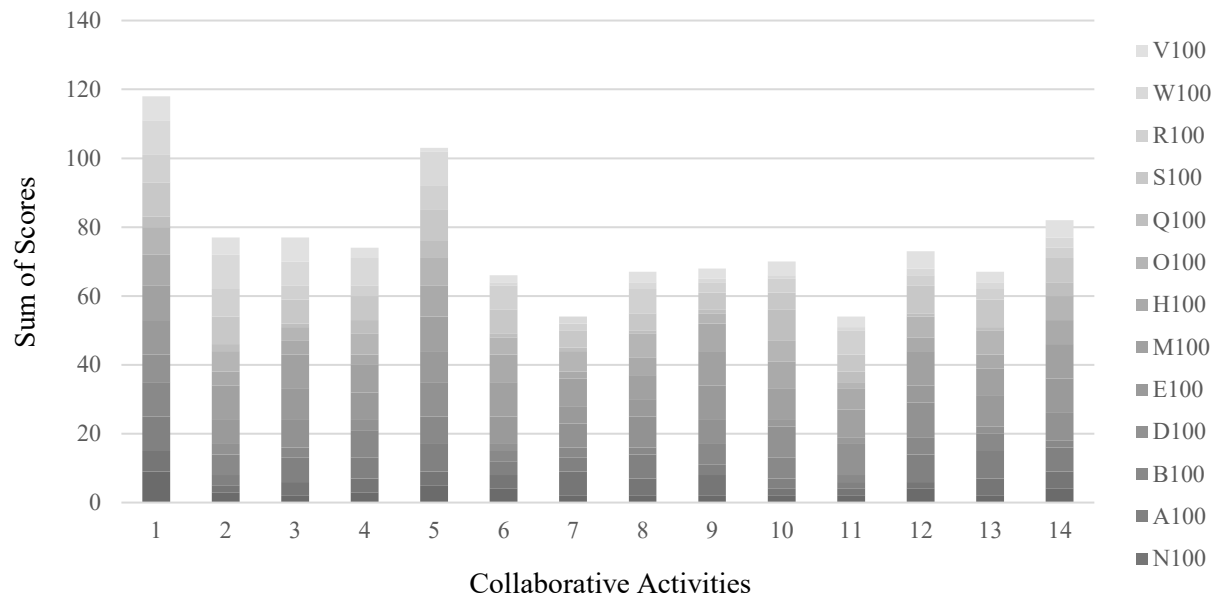


Fig. 1: Pre-interview survey - Extent of collaboration activities of study participants. Perception of extent of engagement in each activity on a 1-10 scale.

Data collection and analysis

The gathering of primary data was conducted via a series of in-depth semi-structured interviews targeting the industry participants of academic collaborations. The semi-structured interview collection of data from large enterprises, proceeded up until saturation of collected data and has yielded a total of 20 interviews. The participation in the study was voluntary, and the potential participants were located and approached using publicly available information. The interviews were 60 minutes in length and were held via online conferencing tools. Semi-structured interviews facilitate the collection of data from people that encompass experience in the research field of interest by obtaining reflective, engaging, and real-world situations/examples (Gioia, Corley, & Hamilton, 2013). The interview protocol was made sure to be thorough and facilitate the information exchange but moreover the effectiveness of the subsequent analysis.

The interviews commenced with an introduction where the participants were asked to provide their overall understanding of collaborations with academic institutions. Following the brief introduction, the interview proceeded in asking specific question regarding company core strategy pertaining to UIC. Specifically, inquiring about the participants collaboration aims, strategies, and research clusters that are utilized in their collaborations with academic institutions. To better understand how the collaborations manifest themselves, the interview proceeded by inquiring on the supporting mechanisms that facilitate collaborations between HEIs and the large enterprise. Specifically, inquiring about the presence dedicated internal functions, existing resource allocations (budgets), managerial sponsorships, and partner co-location. Diving into more detail, the interview proceeds in addressing the UIC mode of conduct of the participant. With the effort to understand and exhaustively collect data on how they conduct and collaborate with academia, specific and concrete questions in terms of type and selection of collaboration partner were enquired. The interviewees were asked to address the type of academic partners their company collaborates with, as well as how are these collaboration partners selected. To grasp the organizational structure, questions in terms of framing of strategic partnerships were posed where information regarding contractual relations was anticipated. Following the introduction and the mode of UIC conduct, the interview proceeded in collecting data by addressing the collaboration models and formats of the large enterprise. Specifically, questions regarding their aims and approaches that the organization engages in and how they have evolved over time. In more detail, the approaches that are undertaken by the organization and how are the UIC activities implemented. Furthermore, the typical temporal timeframes of how their partnerships and projects manifest themselves in were addressed.

The collection of this interview data which took place with senior management and strategic decision-makers from large enterprises engaged in academic collaborations, yielding a comprehensive dataset of how industry conduct their collaborations with UIC. The consensually recorded interviews were transcribed, then sent to the respective participants for verification. Upon confirmation, the qualitative analysis of the obtained interview data was analysed via (Gioia et al., 2013) methodology, with Nvivo12 software. The interview data and analysis

were then discussed among all the authors and the transcription was verified by an independent expert.

This software allows for the organization of non-numerical and unstructured data to be able to classify, sort and arrange information to be able to find links and examine relationships and combine information to build models thus, seek qualitative rigor with the inductive research. The manifestation of which is seen through interview transcriptions being coded to draw out the 1st order Concepts, which were gathered into 2nd order Themes, and subsequently Aggregate Dimensions, forming an effective data structure for further analysis (Gioia et al., 2013). Nvivo12 allows for dynamic mapping and building a model, where the dynamic interrelationships are considered. The arrows between the concepts, themes, and aggregate dimensions reveal the relationships and present the sought for model of qualitative data. Considering the relationships through the formation of arrows among the emergent concepts, this enables the possibility of theoretical insights that would not be identified by only looking at the raw data itself (Gioia et al., 2013).

The 1st-order analysis contains much of the raw interview answers which are categorized under themes (2nd-order). With the 2nd-order analysis, the answers of the interviews have taken a theoretical significance in which suggested concepts arise which may aid in the explanation of what is there and how it is answering the research question. Interestingly, the concepts that may arise that perhaps do not have an adequate theoretical reference in existing literature (Corley & Gioia, 2004) or those that are evidently deviating from what is already known should also be noted. Analysing the interview data, a set of 1st-order concepts, 2nd-order themes, and aggregate dimensions were agreed upon by all authors and has reached “theoretical saturation”. This allows for the data to be structured and generate a grounded model to bring “qualitative rigor” in this qualitative data set. The Nvivo12 mapping and allocation of 1st order concepts, 2nd order themes, and aggregate dimensions were discussed and reviewed by all authors. This analysis method of the data, resulting in the data structure, not only allowed us to create a tangible visual model but allows to comprehensibly understand how the raw data progressed into concepts and themes. The resultant data structure served as a foundation for the development of the typology, following (Doty & Glick, 1994).

Coinciding with the collection of data and following the initial stages of analysis, we proceeded scanning the emerging data, topics, concepts, and dimensions as well as the related literature. This is paramount to ensure precedents for the current findings but moreover to explore if we have discovered new concepts. Hereby, the dynamism of relationships among the 2nd order concepts was investigated in the data structure, contributing to precedents of a dynamic grounded theory model (Gioia et al., 2013). Consultation with relevant literature to cultivate the expression of developing concepts and interactions of concepts was furthermore undertaken (Gioia et al., 2013) and is reflected in the results section.

The data analysed accounts for not only the major emergent concepts, themes, and dimensions, but at the same time for the dynamic interrelationships. With this research, a typology of industrial collaborative ideals was developed which contains the essential concepts, themes, and/or dimensions emergent the data structure. With this typology the dynamic interconnection between these concepts became evident. Due to the authors’ close relationship with the raw data and the in-depth knowledge of the data, thereby considering the interconnection between the emerging concepts, facilitated the understanding of the theoretical insights and the possibility of creating a typological theory. Thereby, the resultant data structure/model served as a foundation for the development of a typology of industrial collaborative ideals, following (Doty & Glick, 1994).

The five ideal types were defined by constructing multivariate models that represent the ideal types of industry collaborators which were derived from the data structure. Specific attributes to an ideal type need to be weighted by its theoretical importance (Doty & Glick, 1994) thus creating elements within the typology with differing significance (Fiss, 2011), is an interplay of the relationships among constructs. This allows for the differentiation of the critical aspects and the nonessential elements in the typology. Literature indicates that ideal types in a typology are the “pure” form of a certain arrangement thereby deviating from this ideal type will result in an aberration from a specific dependent variable (in the case of this research, effectiveness) (Doty & Glick, 1994). It is vital to determine the critical aspects of the typology manifesting in the degree of relative theoretical importance, to understand the causal structure of a type. Theoretical specification of the ideal types of organizations (Doty & Glick, 1994) requires expert raters to assist in empirically modelling a type. One of the study participants who is a valued expert in the industry assisted in providing the relative theoretical importance for each first and second order constructs. These were discussed and agreed upon with the co-authors.

Results

The typological theory exhibits itself through the manifestation of first (X) and second (Y) order constructs in accordance with (Doty & Glick, 1994). *Table 2* highlights the definitions of each of the constructs present in the typology, as well as the relative theoretical importance which is used as the weighting matrix to determine

closeness of fit between an organization and an ideal type. The constructs and sub-constructs were inductively drawn out of the interview data to reflect the reality of industrial approaches towards collaborations with HEIs. The constructs and their respective sub-constructs are detailed in the sections below, across *Table 3* through to *Table 10*. We present a novel contribution in form of a theoretical construct as a typology of industrial collaborative ideals in *Table 11*.

Table 2: Overview of Constructs, their respective definitions, and a relative theoretical importance.

Construct Order ¹	Construct	Definition	Proposed relative theoretical importance (%)
X ₁	Strategy	Design and designation of corporate strategies aimed at developing collaborations with academic institutions.	20
X ₂	Collaborative Aims	The aims are broad goals which are sought to be reached via a strategy, through specified activities, or a range of activities	20
X ₃	Collaboration Domains	Collaborative Aims with the respective Activities, allocated per appropriate collaboration domains.	10
X ₄	Budget Allocation	Source of budgets towards UIC, and their allocation either towards infrastructure, projects, or both.	15
Y ₁	Partner Level	Level of academic collaboration partners.	5
Y ₂	Formalization	Presence of institution-wide framework research agreements.	10
Y ₃	Collaborative Timeframe	Typical length of project lengths collaborating firms engage in.	5
Y ₄	Internal Intermediary	Internal departments tasked with the organizational, legal, financial, and strategic aspects of U-I collaborations.	15

Industrial firms establish collaborations with higher education institutions (HEIs) through distinct sub-constructs of a broader University–Industry Collaboration (UIC) strategy. These sub-constructs define the extent to which firms formalize and integrate academic partnerships within their corporate objectives, shaping the structure and execution of UIC initiatives.

The first sub-construct, **Clearly Defined UIC Strategy**, represents a structured and strategic approach where firms deliberately align university collaborations with corporate goals to maximize competitive advantage. A100 emphasizes that this model ensures all interactions with HEIs contribute to technology leadership by embedding collaboration goals within selection mechanisms, interaction models, and proposal processes. Prior collaboration experiences are leveraged to refine engagement strategies, ensuring alignment between research objectives and corporate innovation frameworks (Todeva & Knoke, 2005; Gajda, 2004). Additionally, the global scope of large enterprises necessitates a strategic approach that accounts for regional differences. K100 highlights that firms operating across multiple continents require well-defined strategies to effectively navigate the vast academic landscape and ensure optimal returns on investment. This sub-construct reflects a proactive stance where UIC is a structured, long-term component of corporate innovation planning, supporting knowledge exchange and competitive positioning under the Triple Helix framework (Etzkowitz & Leydesdorff, 2000).

A second sub-construct, **UIC as Part of Overall R&D Strategy**, represents a more flexible, dynamic approach where academic collaborations are integrated within broader research and development efforts. Unlike firms with a distinct UIC strategy, organizations operating under this sub-construct adjust their engagement with HEIs based on evolving technological and market trends. B100 describes this approach as inherently opportunistic, with collaborations shifting in response to emerging scientific advancements. For instance, developments in artificial intelligence and machine learning have prompted increased engagement with universities due to their potential applications in computational modeling and data analytics. This sub-construct allows firms to maintain strategic focus while retaining adaptability, ensuring that university collaborations remain relevant to ongoing R&D priorities.

The third sub-construct, **No Explicit UIC Strategy**, reflects an absence of formalized or centrally coordinated engagement with HEIs. While firms within this sub-construct may still participate in academic

collaborations, these partnerships emerge on an ad hoc basis, often driven by individual business units or immediate project needs rather than a unified corporate strategy. D100 notes that despite active collaborations with universities, there is no formally documented UIC strategy guiding engagement decisions. This reactive approach means that while firms may benefit from university partnerships, their collaborations lack the structured intent seen in the other sub-constructs, potentially limiting long-term strategic value.

Table 3: Detailed description and definition of X1 Strategy Construct and its sub-constructs.

Construct Order ¹	Construct	Relative theoretical importance (%)	Sub-Construct	Definition
X ₁	Strategy	20	Clearly defined UIC strategy'	A clearly defined stand-alone strategy towards collaborations with academic institutions
			Part of overall R&D Strategy	The strategy towards collaborations with academic institutions is a designed as a modular part of the overall R&D strategy of the firm
			No UIC Strategy	There is no strategy in place

Collaboration aims

The collaborative aims which an institution strives for, are tied to the strategy towards UIC, if in place. The aims are broad goals which are sought to be reached via a strategy, through specified activities, or a range of activities. *Table 4* details the range of aims which were mentioned by the study participants (*Table 1*) as most prominent for their collaborations with HEIs. The collaboration aims construct serves the purpose of stating which aims are most prominent for a particular type, without mutual exclusivity of the existence of additional, less addressed aims. It is fair to say that a company's aims will be driven by the industry they are in, hence the list is non-exhaustive. Below are some of the quotations from the participants of the study, which address the different collaboration domains involved.

Table 4: Detailed description and definition of the X2 Aims Construct and its sub-constructs.

Construct Order	Construct	Relative theoretical importance (%)	Sub-Construct	Definition
X ₂	Collaboration Aims	20	Competitive Edge	"...elaboration on cutting edge technology and research to create competitive advantage in technology leadership" (A100)
			Innovation Scouting	"...collaboration on an insight into technology as it relates to our research goals" (E100)
			External Competencies	"...to access skills, facilities that perhaps we don't necessarily have in house." (J100)
			External Perspective	"Another driving factor for us might be, we had a dataset that we've explored, but we're interested in seeing whether other people with their algorithms or their approaches can get insights that we didn't. What would you characterize that? A new insight on existing data." (W100)
			Early-Stage Innovation	"...to develop science that is ultimately going to build a bedrock, an underlying

				<i>foundation to give us the confidence to invest in something in the future.” (B100)</i>
			De-risking Research	<i>“...to reduce the risk of carrying out research that we wouldn't want to carry all the risk in doing.” (S100)</i>
			IP Generation	<i>“...we're committed to doing research which publishes as well as just generating intellectual property. So we're moving the field forward in key areas for us is also an important aim.” (J100)</i>
			Entrepreneurship	<i>“...from our perspective its usually a joint effort, it could be a joint venture... we look for startups as possible investments.” (Q100)</i>
			Technology Transfer	<i>“...technology transfer in both directions. Those are, in my view, byproducts of collaboration, not the primary purpose.” (P100)</i>
			Funding Leveraging	<i>“take the form of very low TRL research where we would look for leverage from government investment into co-funding of activity.” (C100)</i>
			Access to Thought Leaders	<i>“We do want to have a multi-generational proposal because we're not simply looking at academics just to be a place that we outsource stuff. We really want them to have a vision as well, and tell us something we don't know.” (E100)</i>
			Talent Acquisition	<i>“So today one of the major aim is again, one the human resources views. So ability to get in touch and attract the best brains that are in the market early in the development.” (K100)</i>
			Talent Retention	<i>“...recognizing that our researches have, in some cases forfeited the opportunity of tenure to join W100. So by allowing them to collaborate, if they feel good and they connected with university systems” (W100)</i>
			Reputation	<i>“Shape the image of M100 in the academia.” (M100)</i>
			Shaping Future of Education	<i>“...we are working with academia to actually advise them on what we are expecting from the future graduates. Actually, we are doing this in a different way. We are working with the career services and professors who are teaching and so on.” (D100)</i>
			Obtaining Education	<i>“...if we're new to a field it's an education bringing us up to speed” (G100)</i>
			Social Responsibility	<i>There is a second aspect to this, which is largely philanthropic. Our company came from university research. We feel that we should contribute, and much of industry is advanced by academic collaboration, so</i>

				<i>part of this is a sense of giving back to that community. (P100)</i>
			Social Interactions	<i>“...one of the ways in which do that maybe to sponsor a PhD, which gives you a kind of touch point into a larger academic group, and a way of accessing some of that state-of-the-art thinking and technology.” (C100)</i>

Collaborative domains

Traditionally UIC research focused on commercialization as a central activity (Galán-Muros et al., 2017), the more recent broadening of the UIC concept entails the presence of HEI interactions with the industry across the education, research, and valorization domains (Galan-Muros & Davey, 2019; Davey et al. 2011). Given the non-exhaustiveness of the collaborative aims as seen *Table 4*, which have been identified by the study participants, we include the respective collaborative domains to encompass the extent of collaborations (Galan-Muros & Davey, 2019), carried out by the industry.

Table 5: Detailed Summary of the X3 Collaborative Domains Construct and its sub-constructs. (1 - Galan-Muros & Davey, 2019).

Construct Order	Construct	Relative theoretical importance (%)	Sub-Construct	Definition
X ₃	Collaborative Domains	10	Education ¹	Collaboration for the two-way educational purposes.
			Research ¹	Collaboration for the purpose of conducting, developing, and undertaking research
			Valorization ¹	Any form of valorization of the obtained research results
			Social Responsibility	Initiatives for the greater or public good
			Informal Interactions	Networking between academic and industry counterparts
			Mixed	Any combination of the above collaborative domains

Budget allocation

The allocation of budgets and funding for HEI collaborations follows multiple channels, including direct bilateral agreements and public funding programs. Firms strategically allocate funding from either centralized corporate budgets, business unit (BU) budgets, or a combination of both. A key objective in budget allocation is to maximize the return on investment by leveraging government funding programs that support R&D collaborations between industry and academia (Perkmann et al., 2011). These budgets not only finance specific collaborative projects but also support the internal infrastructure required to oversee and facilitate long-term partnerships with HEIs. The budget allocation construct consists of four sub-constructs, each representing a distinct approach to financial structuring in UIC engagements.

The first sub-construct, **Central Funding for Infrastructure and Projects with BU Contributions**, reflects a model where corporate-level budgets are allocated to maintain a stable funding base for university collaborations, while business units have the option to contribute additional resources. G100 describes how this approach ensures that each strategic university partner has an individual budget assigned, creating a structured mechanism for engagement. In this model, central funding enables the initiation of large-scale projects that individual BUs may not have the financial capacity to support independently. B100 highlights that in cases where collaborations require substantial investment, central catalytic funding is used as a foundational resource, while individual business units contribute additional funding as needed. This structured approach not only ensures financial stability for major collaborations but also strengthens long-term partnerships by providing continuity

despite economic fluctuations. A100 emphasizes that central funding offers resilience in shifting business climates, helping maintain a consistent number of academic alliances and sustaining ongoing partnerships even in uncertain economic conditions.

The second sub-construct, **Centrally Funded Infrastructure with BU-Funded Projects**, represents a model where corporate funding is restricted to covering the internal costs of maintaining UIC infrastructure, while BUs are responsible for financing all collaboration projects. Here, central funding is allocated towards operational overheads, legal frameworks for collaboration agreements, and other institutional costs, but excludes direct project funding. S100 explains that, under this structure, while some strategic corporate-level funding exists, project-specific funding is fully decentralized, with business units taking full ownership of their research initiatives. This approach ensures that BU-led projects remain directly aligned with business priorities, as the units funding the research have a vested interest in its outcomes. The rationale behind this model is to maintain a strong incentive structure, ensuring that business units remain engaged and selective in their academic collaborations.

The third sub-construct, **Decentralized Budget**, refers to a fully decentralized financial structure where all UIC-related costs are independently covered by individual business divisions. Unlike the previous sub-construct, where central funding is available for infrastructure, this model does not provide any corporate-level financial support for maintaining UIC frameworks. D100 describes how, in this case, funding decisions are left entirely to the discretion of engineering centers or other specialized divisions, with allocations varying from year to year. Without centralized coordination, financial support for academic partnerships fluctuates based on BU priorities, leading to a less structured but highly autonomous approach to collaboration.

The fourth sub-construct, **No Dedicated Budget**, represents the absence of any stable financial commitment toward UIC, whether from corporate or BU-level sources. Q100 states that in this model, no internal budget is formally assigned for university collaborations, with the majority of funding instead originating from external investments. While this does not preclude collaboration altogether, engagements occur opportunistically, often initiated by technical leads or specific business units without structured financial backing. The absence of dedicated funding results in a highly ad hoc approach, where partnerships may form on a case-by-case basis rather than as part of a long-term strategy.

Table 6: Detailed description and definition of the X4 Budget Allocation Construct and its sub-constructs.

Construct Order ¹	Construct	Relative theoretical importance (%)	Sub-Construct	Definition
X ₄	Budget Allocation	15	Central funding for infrastructure/projects & BU funded projects	Central sources of funding for the internal infrastructure necessary for conducting UIC, and moreover covers budgets necessary for conducting collaborative projects, in addition to the funding various business divisions can allocate either towards infrastructure, projects, or both
			Central funding for infrastructure & BU funded projects	Central funding is only allocated towards the internal UIC infrastructure, excluding any funding being allocated towards collaboration projects. Business Units must fund all the activities they engage in themselves, whereas the collaborative infrastructure is set centrally
			Decentralized budget	All the funding for UIC related costs comes from the separate business division engaging in collaborations at their own accord
			No dedicated budget	Non-existing budgets whether central or business division driven, towards collaborations with academic partners

Partner level

The partner level construct defines the hierarchical level at which firms engage with academic collaborators, shaping the structure and scope of University–Industry Collaboration (UIC). The collaboration level is closely tied to the formalization construct, as firms that establish Master Research Agreements (MRAs) or framework agreements tend to collaborate at higher institutional levels. This construct consists of four sub-constructs, each representing a different approach to partner engagement.

The first sub-construct, **Individual-Level Collaboration**, represents engagement with specific researchers, professors, or faculty members within a higher education institution (HEI). P100 describes how firms following this approach interact directly with individual academics or research groups rather than forming partnerships at the institutional level. This model allows for highly specialized, targeted collaborations based on the expertise of particular researchers, ensuring flexibility and direct knowledge transfer. However, it often lacks the long-term strategic depth seen in higher-level institutional engagements.

The second sub-construct, **Institutional-Level Collaboration**, involves partnerships established at the university-wide level, often through formalized agreements. O100 highlights how firms adopting this model develop strategic alliances with HEIs, enabling broader, multi-disciplinary collaborations under a structured framework. These engagements often provide firms with access to multiple research groups and facilitate large-scale, coordinated research efforts. Institutional-level collaborations typically involve formal mechanisms such as MRAs, framework agreements, or dedicated university partnership programs that streamline engagement processes.

The third sub-construct, **Hybrid Collaboration (Individual & Institutional)**, combines elements of both individual and institutional engagements. Firms operating under this model maintain flexibility by collaborating with specific researchers while also leveraging formal institutional agreements for broader access. W100 describes this approach as highly inclusive, allowing firms to engage with any academic entity capable of contributing to research objectives. This dual-level collaboration strategy enables firms to benefit from the specialization of individual researchers while also maintaining structured, long-term relationships with universities.

The fourth sub-construct, **Ecosystem-Level Collaboration**, extends beyond traditional individual or institutional partnerships by fostering **multi-stakeholder, networked collaborations**. K100 explains that this approach moves beyond one-on-one interactions, establishing interconnected research networks where firms collaborate simultaneously with multiple universities and stakeholders. This model is characterized by **1:X and X:X interactions**, where knowledge flows dynamically between multiple academic partners, industry players, and research institutions. By developing collaborative ecosystems, firms enhance their ability to co-create knowledge, integrate external expertise, and build innovation networks that facilitate cross-disciplinary research. Such ecosystems are structured to not only strengthen direct firm-university relationships but also to promote inter-university collaborations within the broader network.

Table 7: Detailed description and definition of the Y1 Partner Level Construct and its sub-constructs.

Construct Order ¹	Construct	Relative theoretical importance (%)	Sub-Construct	Definition
Y ₁	Partner Level	5	Individual	Collaborations are typically concluded on an individual level, which involves either particular researchers or whole research groups.
			Institutional	Collaborations are typically concluded on an institutional level
			Mixed	Collaborations are done with a mix of institutional and individual arrangements
			Ecosystem	interactions are individual and institutional, and moreover are conducted on a 1:X and X:X bases

Formalization

The **formalization construct** defines the extent to which firms establish structured agreements with higher education institutions (HEIs) to govern University–Industry Collaboration (UIC). This primarily involves **Master**

Research Agreements (MRAs) or institutional **framework agreements**, which set boundaries for collaboration regarding intellectual property rights, technology transfer, and partner responsibilities (Bogers, 2011; Carson, Madhok, & Wu, 2004). These agreements eliminate the need for repeated negotiations, ensuring efficiency and reinforcing contractual formality and shared governance, both of which enhance collaboration success (Gretsch, Tietze, & Kock, 2020).

The first **sub-construct, Framework Agreements**, reflects firms that engage in structured, long-term partnerships through formalized agreements. K100 emphasizes that having predefined contracts streamlines collaboration, ensuring that key aspects such as IP rights and publication policies are clear from the outset. By establishing agreements with selected universities in advance, firms avoid the inefficiencies of renegotiating terms for every new collaboration, which contributes to stability and trust. I100 further describes how MRAs function as standardized templates that simplify the process of initiating new projects, reducing administrative overhead while fostering long-term relationships.

The second **sub-construct, No Framework Agreements**, refers to firms that do not engage in predefined, institution-wide agreements, instead negotiating collaborations on a case-by-case basis. Without a structured framework, each engagement requires independent legal and administrative setup, which can slow down the process and introduce inefficiencies. While this approach allows for flexibility, it may also limit the scalability and sustainability of academic partnerships.

Table 8: Detailed description and definition of the Y2 Formalization Construct and its sub-constructs.

Construct Order ¹	Construct	Relative theoretical importance (%)	Sub-Construct	Definition
Y ₂	Formalization	10	Framework Agreements	Research framework agreements are concluded with HEIs within the scope of UIC “We've got a list of strategic universities that we work with, and we have set agreements in place with them so it's really easy to execute new projects.” (G100)
			No Framework Agreements	Research framework agreements are not concluded with HEIs within the scope of UIC “There isn't actually, no”. (J100)

Collaborative timeframes

Collaborative timeframes structural construct represents the variation of the typical temporal project lengths, which collaborating firms engage in, as identified by the study participants. It is important to note that there is no mutual exclusivity between the sub-constructs, where a firm which primarily engages in long-term projects with their academic partners, may also engage in short term projects as well. The purpose of this construct is to infer the typical temporal, desired length of collaborative projects.

The temporal range represented in *Table 9* varies from *Short* to *Long Term*, with *Mixed* and *Random* constructs. Long term collaborative timeframes extend above a 3-year period, where Short Term falls under. Mixed implies a mixed variety of project lengths, without a protruding average time length. A Random, opportunity driven construct, is as the name suggests a very opportunistic approach towards collaborative timeframes, where the perceived benefits of a collaboration dictate the subsequent lengths of a project.

Table 9: Detailed description and definition of the Y3 Collaboration Timeframes Construct and its sub-constructs.

Construct Order ¹	Construct	Relative theoretical importance (%)	Sub-Construct	Definition and Quote

Y ₃	Collaborative Timeframe	20	Random	No particular typical length of collaborative projects – infers an opportunistic approach, where the perceived benefits dictate the subsequent lengths of a project. “So, we need the results faster. Therefore, we are looking into different ways of collaboration.” (D100)
			Short Term	Length of projects up to 3 years “...normally we are in the range of 2 to 3 years. So a mid-term” (I100)
			Long Term	Length of projects over 3 years “The majority of our projects we intend to be medium to long term, so typically three years or more.” (P100)
			Mixed	A mixture of short and long terms durations take place. “It's mixed. It depends on the call.” (N100)

Internal intermediary

The **internal intermediary construct** refers to the organizational units responsible for managing the legal, financial, and strategic aspects of University–Industry Collaboration (UIC). These intermediaries, often titled **University Relations (UR), Academic Liaison, or External Innovation**, act as the interface between firms and academia, facilitating partnerships, scouting collaboration opportunities, negotiating agreements, and leveraging funding. Their structure, hierarchy, and influence vary across firms, depending on corporate strategy and the level of investment in UIC management. The **internal intermediary construct** consists of five distinct sub-constructs, each reflecting a different organizational approach to managing academic collaborations.

The first **sub-construct, Central Team – Ecosystem Orchestrators**, refers to an internal intermediary closely linked to the corporate core, typically with direct ties to senior management. This team operates as a central hub, coordinating a broad network of collaboration partners where interactions extend beyond individual engagements. W100 describes its role as building communities of interest around university engagement, functioning centrally while decentralizing execution by enabling business units to engage with academia independently. This approach ensures strategic oversight while maintaining flexibility.

The second **sub-construct, Central Team – BU-Specific Initiatives**, represents a variation where a central UR team exists, but additional UIC efforts are carried out by business units through dedicated personnel specializing in their respective fields. C100 highlights that while the central team provides oversight and support, academic partnerships are often managed within business units by technical staff who balance university engagement alongside other responsibilities. This model retains strategic coordination while allowing domain-specific expertise to drive partnerships.

The third **sub-construct, Decentralized BU-Specific Personnel**, is characterized by complete decentralization, where each business unit independently manages its UIC efforts. Unlike the previous model, there is no central team coordinating activities, leading to multiple UR roles being replicated across different divisions. E100 notes that while divisions collaborate across company lines, each BU maintains its own independent university engagement program, prioritizing local decision-making over corporate-level coordination.

The fourth **sub-construct, Decentralized Intermediary**, represents a bottom-up approach where technical experts initiate and manage collaborations with minimal internal oversight. In this model, operational rather than strategic decisions drive partnerships, with transactional costs dictating engagement rather than long-term institutional benefits (Todeva & Knoke, 2005). D100 describes this process as highly autonomous, where technical experts identify promising academic research and connect universities with internal teams based on interest and alignment.

The final **sub-construct, No Intermediary**, reflects the absence of a formalized UR function within the company. While individual employees may handle specific UIC aspects, such as legal agreements, there is no overarching unit responsible for managing academic collaborations. O100 confirms that in this model, there is no dedicated support structure for university engagement, resulting in ad hoc, unsystematic interactions.

Table 10: Detailed description and definition of the Y4 Internal Intermediary Construct and its sub-constructs.

Construct Order ¹	Construct	Relative theoretical importance (%)	Sub-Construct	Definition
Y ₄	Internal Intermediary	20	Central Team – Ecosystem orchestrators	Internal intermediary which directly linked to the corporate core function, usually with direct ties to the managing board, and serving all functions of the enterprise
			Central Team - BU-specific initiatives	Derivative of an entirely central UR team, whereas there are additional efforts exhorted by various BUs
			Decentralized BU specific personnel	UIC being managed by each a separate BU within their respective fields of expertise
			Decentralized Intermediary	Bottom up: the technical experts are engaging in collaborations they deem suitable with minimal internal support

Typology of industrial collaborative ideals

The typology of collaboration approaches in form of ideal types exhibits itself in five types, ranging from (1) Opportunity – ‘Situationship’, (2) Supplier – ‘Extended Workbench’, (3) Peer – ‘On eye level’, (4) Partner – ‘Strategic Alliance’, and (5) Broad Stakeholder – ‘Research and Innovation Ecosystem’. The is evident progression from Type 1 to Type 5, in terms of presence of structural elements, the abundance of collaborative domains, and importantly the broad outreach of aims. While Types 1,2,3 and 4 are manifestations of increasing focus and strategic organization of UIC, the 5th type brings the presence of a whole collaborative ecosystem with multi-stakeholder engagements (*Table 11*). Each ideal is thoroughly explained in the sections below.

Table 11: Typology of industrial collaborative ideals.

Constructs	Opportunity – ‘Situationship’	Supplier – ‘Extended Workbench’	Peer – ‘On eye level’	Partner – ‘Strategic Alliance’
Strategy	No UIC strategy	No UIC strategy	Part of overall R&D strategy	Clearly defined UIC strategy
Collaboration Aims	Reputation Talent Acquisition	Competitive Edge Innovation Scouting Talent Acquisition	Innovation Scouting Entrepreneurship Talent Acquisition Reputation	External Competencies External Perspective De-risking Research Funding Leveraging Shaping the Future of Education
Collaboration Domains	Education Informal	Research Education	Research Education Valorisation	Mixed
Internal Intermediary	No intermediary	No intermediary	De-centralized BU-specific personnel	Central Team - BU-specific initiatives
Budget Allocation	No dedicated Budget	De-centralized Budget	De-centralized Budget	Centrally funded infrastructure & BD funded projects
Partner Level	Individual	Individual	Mixed	Institutional
Formalization	No framework agreements	No framework agreements	No framework agreements	Framework agreements
Collaborative Timeframe	Random, opportunity driven	Short-term	Mixed	Long-term

Type 1: Opportunity – “Situationship”

A ‘Situationship’ ideal type exhibits itself with an opportunistic approach towards collaborations, where no specific strategy nor intermediary is put in place. The partner level is typically concluded on an individual level, lacking any formalization integrations such as framework agreements. The collaborative timeframes are random and are driven by the presented opportunity. The collaboration domains are focused on Education and Informal Interactions, where the Valorisation and Research domains are less prioritized. The collaborative aims are focused on reputation within the specific HEIs, and outside. Moreover, the ‘Situationship’ type aims to acquire suitable talent sourced from the HEIs.

Type 2: Supplier – “Extended workbench”

An ‘Extended Workbench’ is a supplier relationship between a HEI and a firm, where the interactions are transactional. Much like with the ‘Situationship’ there is no strategy nor an intermediary which concerns UIC. The budgets are however, decentralized where the various business divisions which are engaging in R&D related contract research with HEIs, are funding the said activities. Due to the transactional nature of the 2nd type, the interactions with academic institutions are focused on very particular R&D aspects, hence the typical level of collaboration partners is individual, or specific chairs and research groups. There are no institutional framework agreements set in place. The subsequent collaboration domains are Research, and Education, where the latter is focused on talent acquisition activities, and most activities are carried out in regard to directed research. The aims which the ‘Extended Workbench’ seeks to attain, manifest themselves within the innovation scouting and gaining a competitive edge, as well as aiming to acquire talent. The collaboration timeframes are typically short-term projects, which set to eradicate a particular R&D task in an ‘extended workbench’ format.

Type 3: Peer – ‘On eye level’

The ‘on eye level’ ideal type is a collaboration approach which is more integrated into the existing R&D strategy of a firm, through specifying a strategy for collaborations with HEIs as part of the overall R&D strategy. Moreover, the internal intermediary is allocated within each business division in form of dedicated personnel who concern themselves with division-specific R&D activities. The budgets to support the UI activities are decentralized, where each business division utilizes their R&D allocated funding, as sees fit. The collaborative timeframes and the level of collaboration partners are mixed, yet no institutional framework agreements are being established with HEIs due to the segmented per business division approach to collaborations. The collaboration domains are mixed, where a particular focus often protrudes, depending on the industry. The aims which the ‘On eye level’ seeks to attain are seen through the innovation scouting projects, which could also lead to Entrepreneurship. Reputation often plays a significant role, and this type also aims to acquire suitable talent.

Type 4: Partner – ‘Strategic alliance’

The fourth collaborative approach is very much a relational one, where although the strategy towards UIC is clearly defined – there are prominent differences. In addition to the business division specific personnel, there is central coordination through a central intermediary. This further elaborates in form of centrally funded infrastructure to support the framework agreements with strategic academic partners, as well as the overhead costs for the central academic relations intermediary. The level of collaboration partners is institutional, albeit being one-on-one basis. This indicates relations being established with institutions, and the collaborations occurring between a firm and one HEI at a time. The collaborative timeframes are long term, and the collaborative domains extend from Research, Valorisation, Education to informal domains. Specifically, the aims are to obtain an external perspective on research, de-risk it, and moreover to gain access to certain skills/facilities. The ‘Strategic Alliance’ often aims to engage in shaping the future of education activities.

Type 5: Broad stakeholder – ‘Research and innovation ecosystem’

The fifth industrial ideal type approach towards collaborations with academic institutions, is one that is most advanced in terms of focus, simultaneous engagement of multiple parties, and spanning of boundaries between industry and academia. The ‘Research and Innovation Ecosystem’ is a complete environment set up for collaborations, where there is a very clear, dedicated strategy towards UIC in place. There internal intermediary is further elevated from the ‘Strategic Alliance’ type to ecosystem orchestrators and facilitators. This type often comprehends the benefits that various collaborative engagements bring and focuses on eliminating barriers. The

budgets are allocated centrally towards the infrastructure, moreover for projects, which is in addition to any funding, any particular business division can contribute. A further distinction is the level of collaboration partners is mixed, but in such a way that the partners can be both individual and/or institutional, with interactions between each other, and the firm, creating an ecosystem. This collaborative ecosystem operates on a wide variety of timeframes, along with a whole width of collaborative domains, entailing the whole spectrum of aims and activities. The aims tend to be very forward thinking, where the access to thought leaders, talent retention & acquisition are of importance. The Broad Stakeholder aims to engage in early-stage innovative research as well as obtain education and promote social responsibility.

Beyond the five types

The five industrial approach types towards collaboration with academic institutions serve the purpose of ideals, whilst a simplification they represent a conceptual framework which allows to understand the ways industry interacts and collaborates with academia. There is a possibility for hybrid configurations of the types, which only emerge from a transition from one type to the other.

Typological theory - Modelling and grand theoretical assertions

Following (Doty & Glick, 1994), to clarify the intended purpose of the proposed typological theory, a Grand Theoretical Assertion is in order: Collaborative aims dictate the subsequent approach towards academic collaborations, where the supporting mechanisms are adapted accordingly. Therefore, having a clear focus in a sense of defining a strategy towards UIC, entailing necessary structural mechanisms, will result in efficiency, hence maximization of value being co-created with collaboration stakeholders.

The constructs presented in *Table 2* are segmented in to first order (X) and second order (Y) constructs. The concrete estimates of the relative theoretical importance of each construct are also present. This allows the examination of the extent to which deviation from the ideal type predicts the dependent variable – efficiency. Furthermore, a weighted Euclidean distance formula can be used to assess the deviation from the ideal type (Doty & Glick, 1994). *Figure 2* serves to be a visualization of the Euclidean distances, presented per construct. The closer is the proximity to each construct, the better is the prediction of the dependent variable. M100 was scored by the study participant, in reference to Type ‘*Partner – Strategic Alliance*’. Constructs X₁, X₃, Y₁, Y₂, and Y₄ were given the full score, indicating complete attainment of the manifestation of the mentioned construct. Constructs X₂, Y₃, and X₄ were given a score of 75%, 60%, and 53%, respectively (*Figure 2*). The manifestation of constructs mentioned above, demonstrates the deviation of M100 from the ideal type ‘*Partner – Strategic Alliance*’.

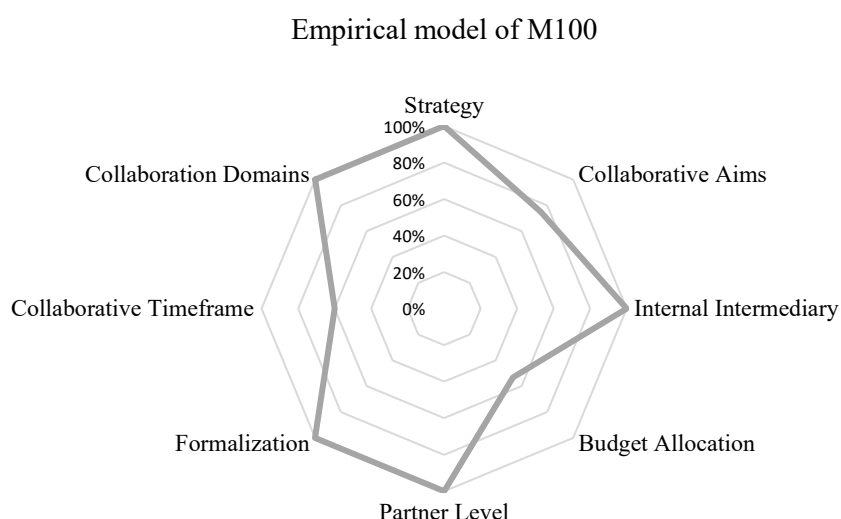


Fig. 2: Empirical model of M100 in accordance with the scope of the Typology of collaboration approaches. Type 'Partner - Strategic Alliance' used as the ideal type of reference. Each construct was given a score by the interviewee based on the relative theoretical importance of each construct.

Discussion

The existing body of literature (Bastos et al., 2021; Perkmann et al., 2021) provides primary insights on best practices (Frølund & Riedel, 2018), success factors (Mora-Valentin, Montoro-Sanchez, & Guerras-Martin, 2004; Albats, Fiegenbaum, & Cunningham, 2018) and recognition of industry partners as proactive contributors to UIC (Giones, 2019). However, the comprehensive and clear understanding of institutional approaches to UIC remains to be deduced (Skute et al., 2019). Our inductive, exploratory analysis has yielded a typology of collaborative approaches which large industrial enterprises uptake towards collaborations with HEIs. As a unique form of theory building, a typology facilitates an understanding of a complex, holistic interface of UIC from the industrial perspective (Doty & Glick, 1994).

Given the grand theoretical assertion that the establishment of goals for the collaboration dictates the subsequent approach and the adaptation of supporting mechanisms – it can be deduced that defining a strategy towards UIC which addresses the necessary structural mechanisms will facilitate efficiency, and hence maximization of value being co-created with collaboration stakeholders. This imperative is reflected through first (X) and second (Y) order typological constructs and the theoretical assertion is evidenced through the ideal types and grounded in supporting theory. An interplay of theories was referenced to, namely how the knowledge-based theory demonstrates the value being co-created (VCC) by a firm using external interactions with a variety of stakeholders (RM), generates knowledge, which is in turn leveraged and utilized by the firm to attain desirable outcomes.

We address our first research question of “*How do firms approach collaborations with HEIs?*” by deriving a comprehensive set of 5 industrial collaborative ideal types, which comprehensively exhibit the approaches which the industry uptakes towards academic collaborations. There is evident development from the *Situationship* ideal type through to *Research and Innovation Ecosystem* ideal type, facilitated through structural elements, collaborative domains, and importantly the broad outreach of aims. Types 1 through 4 are manifestations of increasing focus and strategic organization of UIC, and the 5th type is a more elevated progression of collaborative ideals, bringing the presence of a whole collaborative ecosystem with multi-stakeholder engagements. The second research question of how the collaborative approaches have evolved in practice is supported by the major drivers behind the evolution of aims. As identified by the study participants - the collaboration aims became more strategic, forward thinking, and innovative. This is in line with the progression through the ideal types, and resonates with (Frey et al., 2006) where the partnership continuum through the collaboration levels entails integrations such as strategic initiatives being implemented by the industry such as MRAs, partner networks, and internal supporting intermediaries.

Our analysis provides a much sought-for, in-depth understanding of the dimensions across which organizational approaches to UIC differ. The infrastructure and supporting mechanisms firms utilize to successfully engage with universities are addressed, in addition to the variations in the design and implementation of such elements, yielding a typology of industrial approaches to UIC.

Theoretical contributions

Given that the currently published UIC research (Bastos et al., 2021; Perkmann et al., 2021) does not appear to comprehensively intertwine the previously developed empirical models as well as theoretical understandings, this inhibits the directionality of future research (Skute et al., 2019). With our results we comprehensively intertwine the existing literature and concepts, not only to support our findings but to intertwine the previously developed empirical models as well as theoretical understandings, facilitating the grounds for further research.

Our theoretical contributions stem from developing our conceptual understanding of the industrial collaborative ideals, which depict the different approaches firm’s uptake for their collaborations with HEIs. As an important contribution to the UIC literature, we identify eight main constructs seen in *Table 2* – strategy, collaboration aims, collaboration domains, budget allocation, partner level, formalization and collaborative timeframes and internal intermediary – that reflect and characterize different organizational ideals in the context of UIC, with the subsequent sub-constructs (*Table 3* through to *Table 10*). These dimensions capture both the overall framing of the approach, as well as manifest themselves in describing the set of ideal industrial collaborator types, which is a novel typological theory in the field of UIC. Furthermore, the interconnection of relationship marketing (RM), value co-creation (VCC), and knowledge-based theories – all being sourced from related disciplines serve as a unique theoretical foundation which additionally depicts the phenomenon of UIC and sets the stage for further theoretical development.

We demonstrate, the ordinance of aims in the derivation of the subsequent approach of the industry towards academic partnerships. Not limited to the above, the aims are moreover the driving factor behind the

evolution of how industry collaborates with academia. With the research and findings of this dissertation, the research gap in terms of the underrepresented industry perspective on UIC (Skute et al., 2019) is fulfilled.

Managerial implications

The typology of collaborative approaches furthermore contributes a strong foundation for future academic and managerial advancement. Addressing the research question of how firms approach collaborations with HEIs - our five ideal types of industrial collaborators have been defined across an extensive array of dimensions, and concrete estimates for each construct were provided, facilitating the potential for typological testing. This novel contribution furthermore allows the researcher and practitioner communities to encompass and comprehend the collaboration models established by firms. Furthermore, the typological types, as they are ideals - can serve as a guide for practitioners, who seek to not only understand the ways in which industry collaborates with academia, but moreover to establish collaborations or develop approaches of their own. More specifically, managers can empirically assess their status quo in terms of UIC whereby the ideal types are a benchmark, which can be modelled (as seen in *Figure 2*) hereby deriving weighted Euclidean distances. This allows for practitioners to examine the extent to which their mode of collaboration deviates from the ideal type, thereby depicting closeness to an ideal, and hence achievement of effectiveness as a dependent variable. The relative theoretical importance for each construct is provided, which can serve as a guide for practitioners to apply it to their own collaboration approaches.

Limitations and future directions

The larger and more diversified the company's knowledge base, the greater is the potential to recombine the knowledge gained (Melnychuk et al., 2021). Moreover, given the likelihood of creating an agreement with an academic partner (Fontana et al., 2006), size and orientation of the organization in developing the company's approach to UIC (Santoro & Chakrabarti, 1999), it is critical to focus on large organizations. However, given the extensive opportunities for SMEs to generate innovation and value from engaging with (Kurdve, Bird, & Laage-Hellman, 2020), future research to expand this work across other types of organizations. Another limitation of our research is that the presented aims in *Table 4*, although inductively drawn out of the data, are non-exhaustive. There can potentially be other aims for collaborating with academic institutions, in addition to the ones stated. We tried to mitigate this by bringing in overarching collaborative domains, which encompass more, but due to their granularity level – are less descriptive than specific aims. Furthermore, as already mentioned with our section on the evolution of approaches, we note that the main driver is the evolution of aims. This will continue to occur, and new drivers will emerge, further evolving the approaches the industry exhibits towards their academic collaborations. Hereby, we call for longitudinal research in this regard, to examine the changes, progress the research on UIC from the industry perspective, and further test and develop our typology of ideals.

Conclusion

This study advances the theoretical and practical understanding of how large industrial firms approach university–industry collaborations (UIC) by offering a novel, empirically grounded typology of collaborative ideals. Through an inductive and exploratory methodology, we have conceptualized five ideal types that reflect the evolution and strategic refinement of industry engagement with higher education institutions. These types encapsulate a spectrum of collaboration—ranging from situational, ad hoc engagements to fully developed, ecosystem-based partnerships—characterized by eight interrelated constructs. By synthesizing existing literature and extending theoretical frameworks such as value co-creation, relationship marketing, and knowledge-based theory, our work addresses a significant gap in UIC research: the lack of a comprehensive, industry-centric perspective.

Beyond academic contribution, the typology offers tangible utility for practitioners. It enables firms to benchmark and assess their collaborative approaches, and supports managers in aligning strategy, structure, and aims for greater effectiveness in university partnerships. Despite the focus on large firms, the framework lays a foundation for future research to test, adapt, and expand across different organizational contexts, particularly SMEs. As collaboration aims and mechanisms continue to evolve, we encourage longitudinal studies to trace these developments, refine the typology, and deepen the understanding of UIC from the industry's vantage point. In doing so, future research can build on this study to inform both scholarly discourse and practical innovation in university–industry collaboration.

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CO-CREATION AS A SUCCESS FACTOR: ENHANCING CUSTOMER LOYALTY TROUGH SOCIAL NETWORK ENGAGEMENT

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Abstract

In the context of strategic communication, co-creation has evolved into a vital method for building lasting customer relationships in digital environments. Amid declining efficiency of traditional marketing, brands increasingly adopt participatory models to engage audiences and foster loyalty (Prahalad & Ramaswamy, 2004; Jaakkola & Alexander, 2014). Social media plays a pivotal role in facilitating this shift, offering real-time interaction, content exchange, and collaborative innovation (Mahr et al., 2013; Sarkar & Banerjee, 2021). Co-creation enhances brand communication by promoting emotional attachment, trust, and shared ownership between customers and companies (Breidbach & Maglio, 2016; Oklevik et al., 2022). This paper conceptualizes co-creation as a strategic communication instrument and presents empirical findings on motivational patterns among co-creators. Using a mixed-methods approach, the study identifies distinct user types and provides guidance on aligning engagement strategies with user needs to maximize communication effectiveness and brand loyalty (Bogers et al., 2015; Sarasvuo et al., 2022).

Keywords

Strategic Communication, Co-Creation, Social Media, Customer Loyalty, Engagement Strategies

Introduction

Effective strategic communication increasingly depends on creating meaningful interactions with consumers. With acquisition costs rising (Kumar, 2022), brands must focus on retention through customer-centric strategies. Co-creation offers a framework that integrates consumers as collaborators in innovation and communication processes (Prandelli et al., 2006). Social media platforms are particularly suited for these activities, enabling scalable, real-time engagement (Chesbrough, 2003).

Co-Creation as a Communication Strategy for Engagement and Loyalty

As strategic communication becomes more interactive, co-creation enables customers to participate in shaping brand narratives and offerings. This participation cultivates emotional bonds and trust, key factors in fostering long-term relationships (Fuchs et al., 2010; Hazée et al., 2017). The DART model (Dialogue, Access, Risk,

Transparency) is especially effective in embedding co-creation in branding efforts (Oklevik et al., 2022). Brands that implement these principles enhance their credibility and relational depth (Sarasvuo et al., 2022).

Co-Creators as Communication Actors

Consumers are no longer passive recipients of brand messages; instead, they have become active co-creators of value and meaning (Ramaswamy, 2009). Their engagement is driven by a variety of motivations, including curiosity, a desire for self-expression, and the pursuit of social recognition.

This shift from passive consumption to active participation has significant implications for corporate innovation strategies (Jaakkola & Alexander, 2014). Consumers now contribute their opinions, ideas, and needs to the innovation process, directly influencing the development of products and services (Ranjan & Read, 2014).

Co-creation campaigns illustrate the potential of this approach. A prominent example is McDonald's "My Burger" campaign in Germany, which allowed customers to design and vote for personalized burgers. The initiative resulted in over 116,000 unique burger creations and contributed to a six percent increase in revenue (Hofer, 2012). This case demonstrates how co-creation can simultaneously strengthen customer engagement and improve financial outcomes.

Recent research underscores that successful co-creation goes beyond individual customer interactions. It involves collaboration among various stakeholders, including consumers, organizations, and even suppliers (Sarkar & Banerjee, 2021). By fostering such collaborative ecosystems, companies can enhance product value, deepen customer relationships, and build long-term loyalty (Brand et al., 2025).

Methodology and Typology of Strategic Co-Creators

This study employed a mixed-methods design, integrating qualitative focus groups and quantitative surveys to explore user motivation and classify communication-relevant co-creator types (Dillman et al., 2008).

Qualitative Focus Groups

The qualitative phase of the study involved guided focus group sessions with 20 individuals who had previously engaged in co-creation activities. These semi-structured discussions aimed to explore the main motivations behind participation, perceived advantages, and obstacles to ongoing involvement. Using a thematic analysis approach, the study identified several key drivers: emotional connection to the brand, the desire for social recognition, and the enjoyment derived from creative engagement. Participants also highlighted the importance of transparent corporate communication regarding how their contributions are utilized.

Quantitative Surveys

To examine co-creator typologies and their underlying motivations in a systematic manner, a structured online survey was carried out. The sample size was determined using scientifically accepted methods and calculation procedures. Given the impracticality of surveying all approximately 37 million active social media users in Germany in 2020 (Statista, 2024), a representative sample was selected instead.

To establish the minimum number of participants required, a G-Power analysis was conducted. This statistical method estimates the necessary sample size based on key parameters, including a significance level of 5% ($\alpha = 0.05$), a statistical power of 80%, and six degrees of freedom ($df = 6$) (Klopp, 2010). The result indicated a minimum sample size of 341 respondents. To offset a projected dropout rate of 15%, this figure was increased to 392. A separate sample size calculator—based on a 5% margin of error and a 95% confidence level—produced a comparable estimate of 385 participants (Kraus & Kreitenweis, 2020). The alignment between both approaches confirmed the methodological soundness of the final sample size.

The quantitative data collection was implemented via a structured online questionnaire distributed through the SoSci-Panel platform. A total of 395 individuals participated, recruited using stratified sampling techniques to reflect demographic diversity. The sample included 55.2% female, 43.3% male, and 1.5% identifying as non-binary or diverse, with ages ranging from 18 to over 65. Given the study's focus on social media engagement, only those who used social networks at least once per week were included.

The survey was divided into five sections, addressing demographic characteristics, patterns of social media usage, motivational factors, and prior engagement in co-creation initiatives. Motivations were measured using a 5-point Likert scale, drawing on established theoretical models such as Self-Determination Theory (Deci & Ryan, 1985) and Uses and Gratifications Theory (Katz et al., 1973). The questionnaire design was informed by previous research on customer engagement and co-creation (Geise, 2016). Sample items included statements like:

"I engage in co-creation for social recognition," "I participate in co-creation activities because I enjoy creative challenges," and "I engage with brands on social media to receive recognition from the community."

To ensure the instrument's reliability and validity, a pilot test was conducted with 50 participants. Internal consistency was evaluated using Cronbach's Alpha, with all constructs exceeding the recommended threshold of 0.7 (Nunnally & Bernstein, 1993). Furthermore, an exploratory factor analysis (EFA) was carried out to confirm the dimensional structure of the motivational variables (Backhaus et al., 2021).

Qualitative Focus Groups

Social media-based co-creation provides companies with the opportunity to directly integrate consumers into innovation processes. To uncover underlying motivational dimensions, a principal component analysis (PCA) with varimax rotation was conducted (Klopp, 2010). The adequacy of the data set for factor analysis was confirmed by the Kaiser-Meyer-Olkin (KMO) measure ($KMO = 0.874$), while Bartlett's Test of Sphericity indicated statistical significance ($p < 0.001$), validating the factorability of the correlation matrix (Dziuban & Shirkey, 1974; Bühl, 2008). The analysis yielded six key motivational factors:

1. **Knowledge Acquisition / Curiosity:** A strong driver behind co-creation is the intrinsic motivation to learn, explore new topics, and take on novel challenges. Participants are often fueled by curiosity and the desire to expand their skills and knowledge. Emotional connection to the brand frequently reinforces this involvement (Füller, 2006; Dahl & Moreau, 2007; Janzik, 2012; Bretschneider, 2012; Mühlhaus, 2013; Geise, 2016).
2. **Brand Enthusiasts:** Brand fans are typically highly engaged and willing to invest time, energy, and resources. Their participation is motivated by a deep sense of identification with the brand, which is further strengthened through shared experiences and interaction with like-minded community members (Stavros et al., 2014; Roose et al., 2017).
3. **Compensation / Monetary Rewards:** Financial rewards, discounts, or access to exclusive products are also relevant incentives. Participants often expect a form of compensation that reflects the level of effort and creativity they invest in the co-creation process (Füller, 2006; Janzik, 2012; Mühlhaus, 2013; Geise, 2016).
4. **Leisure Activity / Entertainment:** For some, co-creation represents a form of enjoyable leisure activity. The pleasure of engaging in creative problem-solving and innovation can itself serve as a motivating factor—making the experience fun and intrinsically satisfying (Schweiger, 2007; Rössler, 2011; Goetz et al., 2013).
5. **Product Improvement:** A significant number of participants are motivated by the chance to enhance existing products or to contribute their own ideas to product development. This factor is especially relevant for technically minded users or those dissatisfied with current product offerings (Füller, 2006; Bretschneider, 2012; Janzik, 2012; Mühlhaus, 2013; Geise, 2016).

Four Types of Co-Creators

A hierarchical cluster analysis using Ward's method was conducted to classify participants into distinct co-creator profiles based on their motivational factors (Janssen & Laatz, 2017). The optimal number of clusters was determined using the elbow method and silhouette analysis, leading to the identification of four primary co-creator types.

The analysis of collected data identified four main types of co-creators who differ in their motivations, demographic characteristics, and level of engagement. These types can be classified according to the following criteria: age, gender, proportional distribution within the co-creator community, and the distinction between intrinsic and extrinsic motivations.

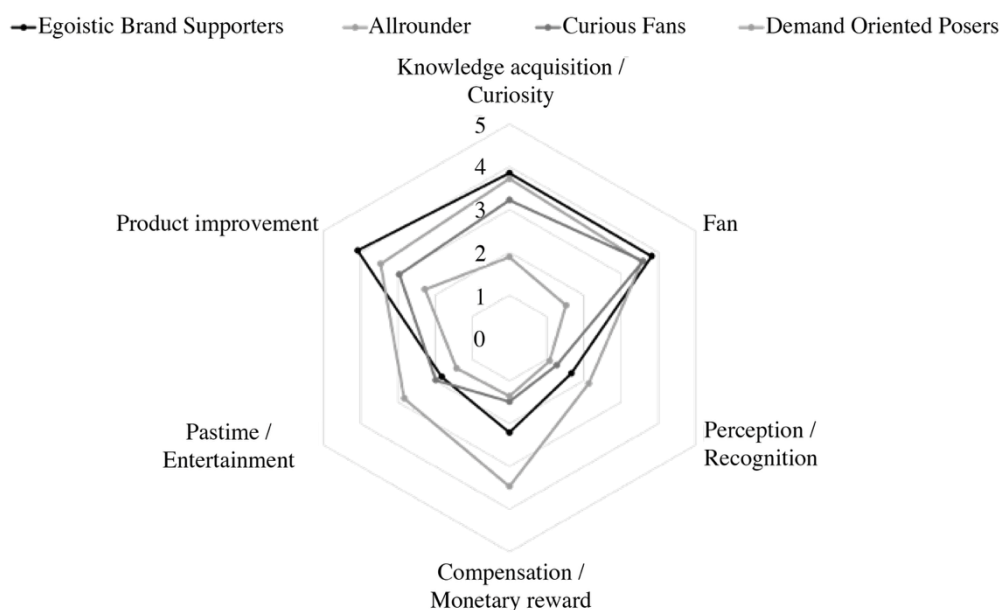


Fig. 1: Cluster Centres of the Motivation Factors of the Four Co-Creator Types as a Network Graph.

Source: Own Representation, 2025

1. **Egoistic Brand Supporters:** This segment is highly active on social media platforms and leverages co-creation opportunities to boost their personal image and influence within the community. Comprising 30.21% of the co-creator population, it represents the largest group identified. Most members fall within the 18–40 age range and are predominantly female (56.90%), followed by male participants (42.24%) and a small proportion identifying as diverse (0.86%). Their engagement is primarily driven by extrinsic motivations: they seek social recognition and aim to position themselves as thought leaders in the co-creation space. Validation from the brand or fellow community members plays a key role in sustaining their participation (see Fig. 1).
2. **Allrounders:** Allrounders are versatile and highly engaged contributors who not only offer innovative ideas but also provide constructive feedback on prototypes, making them valuable collaborators in innovation efforts. This group accounts for 29.43% of the sample and is mainly composed of individuals aged 18 to 35. The gender distribution is relatively balanced, with 51.33% women, 47.79% men, and 0.88% identifying as diverse. Their motivation is a combination of intrinsic and extrinsic factors. They are personally interested in product development while also appreciating external incentives such as acknowledgment and rewards. Allrounders value meaningful contribution as well as recognition and compensation for their input (see Fig. 1).
3. **Curious Fans:** This group is composed largely of younger individuals aged 20 to 45 who show strong enthusiasm for the brand and are eager to gain behind-the-scenes access to innovation processes. Representing 25.52% of the co-creator base, this segment is predominantly female (57.14%), with male participants making up 42.85% and 1.02% identifying as diverse. Curious Fans are primarily driven by intrinsic motivations, particularly curiosity and the desire to expand their knowledge. Their participation is fueled by a personal interest in the brand and a genuine enjoyment of the creative and exploratory aspects of co-creation (see Fig. 1).
4. **Demand-Oriented Posers:** This segment is focused on improving product functionality and contributes significant value to technical innovation. Typically older than other co-creator types, Demand-Oriented Posers are mainly aged between 55 and 64. They make up 14.84% of the sample, with a gender breakdown of 54.39% female, 40.39% male, and 5.26% identifying as diverse. Their motivation is predominantly intrinsic, centered around problem-solving and the enhancement of existing products. They participate not for external rewards but out of a strong personal interest in improving functionality and contributing to product development (see Fig. 1).

Strategic Recommendations for Communication Management

The effectiveness of co-creation in social networks is contingent upon the incentives provided and the communication strategies employed (Mahr et al, 2013). While innovators value the realisation of their ideas, pragmatists require clear and measurable improvements (Füller, 2006). Socialisers are driven by recognition within their communities, necessitating public feedback and acknowledgement of their contributions (Perks et al, 2012; Geise, 2016).

Conversely, passive participants tend to respond more positively to tangible incentives, such as exclusive offers or discounts (Jaakkola & Alexander, 2014). These distinctions highlight the need for businesses to tailor co-creation initiatives to different co-creator segments. The following strategies optimise engagement across distinct participant groups:

- Egoistic Brand Supporters: Public recognition and leaderboards.
- Allrounders: Ideation formats and adaptive incentives.
- Curious Fans: Insight-sharing and educational content.
- Demand-Oriented Posers: Collaborative innovation and feedback mechanisms

6 Conclusions

The success of co-creation initiatives hinges on careful strategic planning that acknowledges the diversity of participant motivations and behaviors (Geise, 2016). Different co-creator types require tailored approaches: innovators benefit from creative freedom, socialisers are primarily motivated by recognition, pragmatists expect transparent and results-oriented collaboration, and more passive participants respond best to structured incentives (Ranjan & Read, 2014).

To ensure long-term engagement, co-creation strategies must balance intrinsic and extrinsic motivators. This includes offering meaningful opportunities for contribution while also providing recognition, feedback, or tangible rewards. Transparency in communication and clarity regarding how participant input is used are critical for building trust and sustaining commitment.

Beyond enhancing innovation, co-creation enables brands to move from one-way communication to authentic dialogue. By understanding user motivations and designing inclusive, engaging experiences, companies can strengthen brand loyalty and encourage advocacy. Looking ahead, future research should examine the potential of AI-supported co-creation models and their ability to personalize strategic brand communication (Oklevik et al., 2022; Ramaswamy, 2009).

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Digital Leadership in Medical Technology – Developing an Innovative Competency Profile for Successful Leadership in the Digital Age

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Abstract

This paper explores how leadership can be effectively applied in the medical technology sector amid digital transformation. The study addresses the central research question: “How and in what form can digital leadership be implemented in medical technology with regard to the competence requirements for leaders?”

To answer this question, qualitative expert interviews were conducted to identify the key challenges for leaders in the digital age. These include maintaining trust in remote settings, increasing communication demands, ensuring customer and employee engagement, managing generational differences, supporting digital transformation in clinics, and addressing high psychological stress among employees.

Based on these findings, a competency profile was developed, outlining the essential skills for successful leadership in a digitalized environment. The study reveals a shift in leadership focus from predominantly professional-methodical competencies toward social-communicative skills, while still recognizing the relevance of all four fundamental competency fields: personal competence, activity- and action-related competence, professional-methodical competence, and social-communicative competence.

The proposed competency profile includes key skills such as empathy, communication, employee development, teamwork, adaptability, trust, self-management, speed, technological understanding, analytical skills, goal-oriented leadership, initiative, and a systematic-methodical approach. These competencies provide a foundation for leadership selection, evaluation, and development programs, ensuring that leaders are equipped to navigate the complexities of digital transformation in the medical technology sector.

Keywords

Medical Technology, Digital Leadership, Competency Development, Innovation, Artificial Intelligence.

Problem statement

Digitalization has permeated all aspects of human life, impacting social, economic, and corporate structures (Handelsblatt 2023). In an increasingly digitalized and globalized world, business leaders face mounting challenges in navigating complex transformation processes. The concept of the VUCA world—an acronym for Volatility, Uncertainty, Complexity, and Ambiguity describes the unpredictable and rapidly evolving nature of

digital transformation, creating a challenging market environment characterized by information overload and instability (Lenz 2019; Bennett & Lemoine 2014a; Bennett & Lemoine 2014b; Ciesielski & Schutz 2016; Jordaan 2019). In addition, crises such as the COVID-19 pandemic have intensified the need for decentralized and flexible work models, accelerating the shift towards remote work and virtual collaboration (Handelsblatt 2020).

Under these conditions, leaders face increasing pressure to act quickly and decisively despite uncertainty and disruption (Meyer, Meijers & Hoppe 2020). However, fear of the unknown and doubts about effective adaptation strategies often lead leaders to rely on traditional leadership approaches, without assessing whether these methods are suited to the digital era. In contrast, agile leadership requires the ability to adapt dynamically, switch between leadership styles, and foster innovation (Meyer, Meijers & Hoppe 2020). The growing need for a new leadership paradigm - one defined by entrepreneurial thinking, digital fluency, and adaptability; raises the critical question of how leadership should evolve in the workplace of the future (Jordaan 2019).

Relevance of the chosen topic

One industry that has undergone profound transformation due to digitalization is the medical technology sector. The integration of advanced digital solutions, including robot-assisted procedures, artificial intelligence, imaging technologies, and telemedicine, has not only revolutionized patient care but has also fundamentally reshaped internal workflows, collaboration, and leadership dynamics (Fraunhofer 2023). The successful implementation of these technologies requires organizations to restructure traditional processes, foster digital competencies among employees, and embrace new forms of leadership. Furthermore, organizations in the medical technology industry must develop agility and adaptability to maintain a competitive edge in an environment shaped by regulatory changes, technological advancements, and global health crises (Meyer, Meijers & Hoppe 2020).

Recognizing these shifts, companies must invest in leadership development, equipping managers with the skills necessary to navigate digital transformation, drive innovation, and foster a digital mindset. In this context, digital leaders play a crucial role in facilitating knowledge transfer, enabling cultural change, and ensuring the long-term success of digital transformation initiatives (Handelsblatt 2022).

Analysis of recent research and publications

The German government, through its “Hightech-Strategie 2025,” has introduced a funding program aimed at positioning Germany as a leading producer of medical technology within the ongoing digital transformation of healthcare. This initiative specifically supports small and medium-sized enterprises (SMEs) in the medical technology sector, enhancing Germany’s role in medical technology while fostering promising technological trends (BMBF 2023). E-health applications, such as the electronic patient record (ePA) and the e-prescription, have paved the way for the future of digital healthcare in Germany. Laura Richter, a partner at McKinsey, emphasized that these digital innovations play a key role in laying the foundation for the upcoming transformation in the healthcare sector (McKinsey & Company 2022). The introduction of the ePA on January 1, 2021, aimed at improving patient care, is set to evolve into a mandatory, universal system by 2024, allowing patients to actively decide on access to their data and its use for research purposes (BMG 2023). In addition, the e-prescription for prescription medications will replace the paper prescription starting from January 2024 (KBV 2023).

Artificial Intelligence (AI) is revolutionizing diagnostics and treatment strategies by enabling faster and more precise diagnoses (Malviya, Rajput, Roy, Ahmad & Srivastava 2025). AI is also being explored for broader applications beyond diagnostics, including patient triage in emergency settings, chatbot communication, Augmented Reality-based patient education, and the development of AI-powered medical apps for preventative healthcare strategies (Fraunhofer 2023). In the field of surgery, digitalization has shown considerable potential, especially with the introduction of advanced surgical robots. These robots, such as the Da Vinci Xi, enable highly precise operations with minimal invasiveness, guided by AI-supported systems. The integration of AI and human expertise offers significant promise, with studies indicating that AI currently achieves lower error rates than human experts in specific applications, such as breast cancer detection through MRI scans (Asadizeidabad, Hosseini & Vetshev 2024).

Despite the promising opportunities presented by digitalization in healthcare, several challenges and barriers to the development of digital solutions and medical devices remain. One significant challenge is the Medical Device Regulation (MDR), which mandates a new certification process for existing and new medical technologies. Over 450,000 products will need to undergo re-evaluation, slowing the market introduction of innovative medical technologies (BVMed 2022). Additionally, the rising investment costs for new technologies can represent a significant burden, with estimates suggesting they could account for up to 10% of a company’s revenue (BMWK 2023). Another challenge is the increased focus on data privacy and cybersecurity as the

digitalization of patient data continues to expand, requiring stringent standards for secure data processing (Wenner 2022). The modern economy is increasingly shaped by the concept of VUCA (volatility, uncertainty, complexity, and ambiguity), forcing companies to rethink their strategies in the face of rapidly advancing technological developments (Kühl & Schäfer 2019).

Digital transformation is driven by three key factors: exponential technological growth, economies of digitization, and technological compatibility (Petry 2019). Recent research highlights that digital transformation is not merely about implementing new technologies but also requires profound organizational, strategic, and cultural changes. Companies that do not perceive digitization as a purely technical issue but as a fundamental shift secure significant competitive advantages. Alongside these technological advancements, the demand for digital leadership has also become increasingly evident. As the medical technology sector undergoes digital transformation, effective leadership is crucial in driving these changes. Leaders must be able to foster digital competencies within their teams, encourage creative risk-taking, and establish collaborative structures that facilitate innovation (Deloitte 2023). However, despite the growing importance of digital leadership, the healthcare sector has been slow to adapt. This has resulted in a research gap regarding the competencies required for digital leadership in the industry. The present study aims to address this gap by developing a comprehensive competency profile for digital leadership in the medical technology sector, incorporating various competency frameworks from existing literature (Matusiewicz, Henningsen & Ehlers 2020).

As digital technologies continue to evolve at an accelerating pace, companies must not only integrate new tools but also redefine their competitive strategies. Whereas factors such as market access, customer relationships, and infrastructure were previously considered key competitive advantages, scalable digital business models with high levels of innovation and adaptability have now come to the forefront (Petry 2019). The increasing use of Big Data, real-time analytics, and direct digital customer interaction forces companies to accelerate their transformation processes (Bergamin, Braun & Glaus 2020). These developments demonstrate that digital transformation is not merely about technological advancements but also entails significant leadership challenges.

Purpose of the article

The primary objective of this paper is to identify the key components of successful leadership in the context of the digital transformation, new leadership models, and particularly within the medical technology sector. This study aims to provide insights into the competencies that digital leaders will require in future collaboration with employees. By doing so, it seeks to identify actionable success factors of digital leadership, which will lay the foundation for a sustainable corporate culture in the medical technology industry. The title of this paper narrows the research framework to the areas of digitalization, medical technology, and digital leadership as shown in Fig. 1.

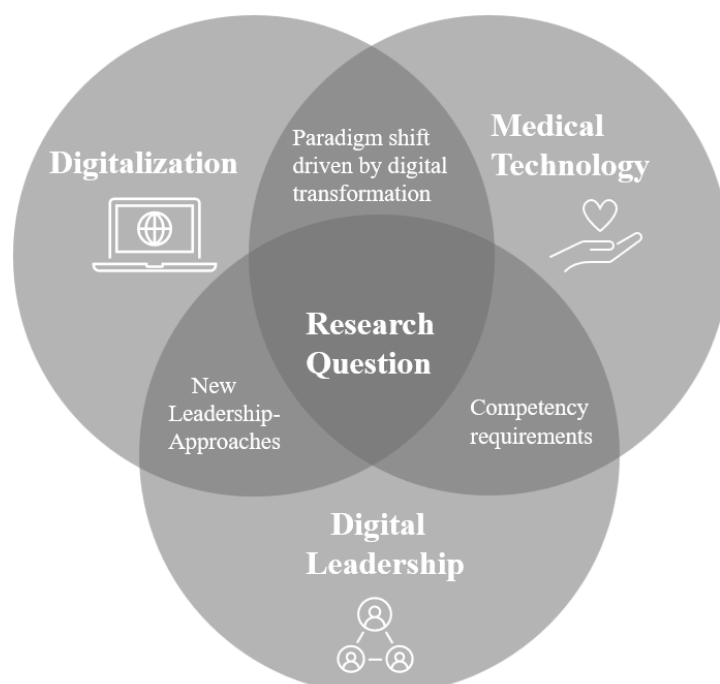


Fig. 1: Research Framework

Source: Own illustration

The intersection of these three fields results in the central research question addressed by this paper: How and in what form can digital leadership be implemented in medical technology with regard to the competencies required of leaders? In order to answer this central research question, it is necessary to break it down further and address the following sub-questions:

- What impact did the Covid-19 crisis have on the digital transformation in the medical technology industry?
- What challenges do digital leaders face?
- What are the most important key competencies for digital leadership?
- Which competency areas will gain the most importance in the future?
- What practical recommendations can be derived for the industry?

This paper aims to contribute to the ongoing discourse on leadership in the digital age, with a specific focus on the medical technology sector, and provide valuable insights for both academic and practical applications in the field of leadership development.

Presentation of the main research material and results obtained

This study examines the application of Digital Leadership in the medical technology sector and the corresponding competency requirements for executives. Through a comprehensive analysis based on empirical expert interviews, the research explores the multidimensional nature of Digital Leadership and its significance for modern leadership culture. The findings highlight that defining Digital Leadership is inherently complex due to its diverse elements. Beyond the mere application of digital tools, intangible factors such as trust, empathy, and sensitivity emerge as critical components for success. In defining Digital Leadership, 14 key elements were identified, as visualized in the following word cloud in Fig. 2.



Fig. 2: Word Cloud on the Definition of Digital Leadership

Source: Own illustration

Another key focus of the study was analyzing the impact of the COVID-19 crisis on the digitalization of the medical technology sector. The findings indicate that, despite an accelerated transformation, the industry remains in an early stage of digital adoption. While the pandemic acted as a catalyst, significant challenges persist regarding the acceptance of new digital approaches by medical institutions and patients.

Additionally, expert interviews identified specific leadership challenges in the digital era. The Top 6 leadership challenges include:

- Maintaining trust despite physical distance
- Increased communication demands
- Sustaining relationships with customers and employees
- Managing generational differences
- Supporting healthcare institutions in their digital transformation
- Addressing employees high psychological stress levels.

A significant emphasis was also placed on identifying the key competencies necessary for successful leadership in the digital era. The study reveals 14 core competencies (summarized in Tab. 1), with a particular focus on social and communicative skills such as empathy, effective communication, and understanding. These competencies are grouped into four categories:

Table 1. Key Competencies for Success

No	Core Competencies
	Personal Competencies
1.	Employee Development
2.	Trustworthiness
3.	Self-Management
	Activity & Action Competencies
4.	Speed
5.	Goal-Oriented
6.	Initiative
	Methodical Competencies
7.	Technological Understanding
8.	Analytical Skills
9.	Systematic-Methodological Approach
	Social & Communicative Competencies
10.	Empathy & Understanding
11.	Communication Skills
12.	Teamwork
13.	Employee Orientation
14.	Adaptability

**compiled by the author based on his own research*

Experts were also asked which competency field would gain the most importance in the future. The results indicate a clear shift towards social and communicative competencies, emphasizing the increasing relevance of interpersonal interaction and effective communication in a digitalized work environment. Interestingly, technical-methodological competencies were not explicitly mentioned by any expert, possibly suggesting that they are either assumed to be a given or are being overshadowed by the growing emphasis on human-centric leadership skills. This finding highlights the evolving dynamics of leadership competencies in the digital transformation era.

The study underscores the need for a fundamental shift in leadership culture—from transactional leadership, based on control, to transformational leadership, which fosters trust, collaboration, and engagement. Leadership today is no longer about micromanagement but about coaching, vision-setting, and empowerment.

The research question “How can Digital Leadership be applied in the medical technology sector, considering the competency requirements for executives?” can be answered as follows:

- The definition of successful leadership has evolved in the digital era, incorporating 14 essential competencies (though not claiming to be exhaustive).
- The most critical competencies include empathy, communication skills, and employee development.
- Social and communicative competencies are increasingly seen as the foundation for future leadership success.
- The identified competencies provide a framework for the future development of leadership models, ensuring they meet the demands of an increasingly digital work environment.

It is crucial for leaders to flexibly adapt their competencies to changing circumstances. Mastering the 14 key competencies and applying them situationally will be essential. These competencies should not be seen in isolation but as part of an interconnected system.

The development of leadership competencies in the digital transformation era must be an ongoing process, not a one-time effort. To ensure effective leadership in the German medical technology sector, continuous learning and adaptation are required.

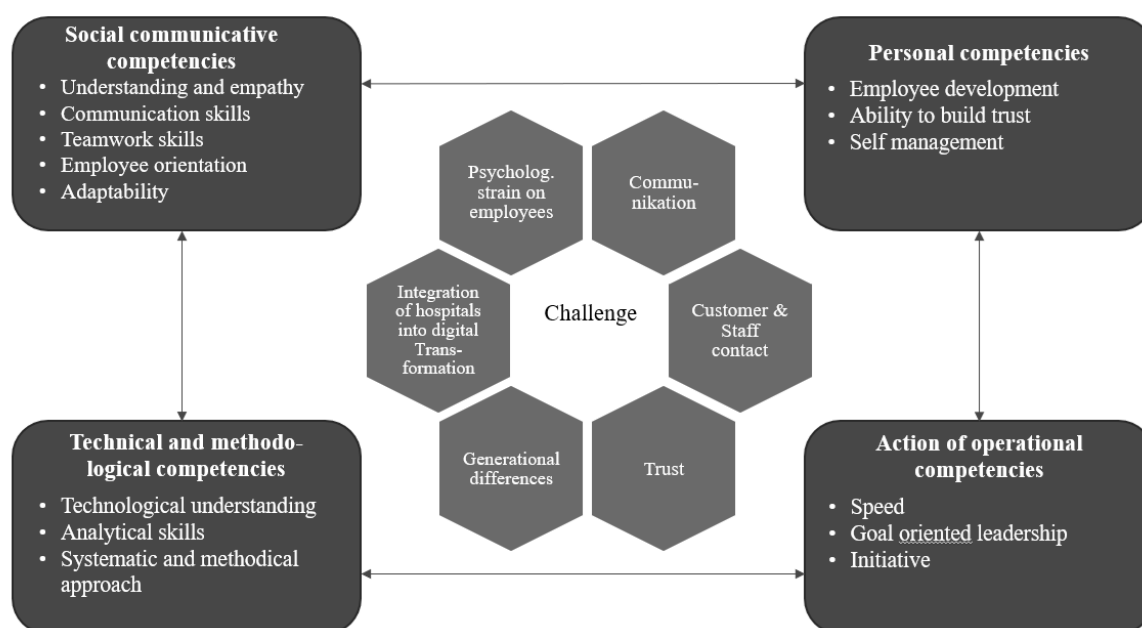


Fig. 3: Recommendation for Action

Source: Own illustration

Based on these findings, 14 strategic action maxims can be derived that characterize successful leadership in times of digital transformation in the medical technology sector. It is important to emphasize that this list should not be seen as exhaustive or universally applicable. Rather, it serves as a foundation and guideline for digital leaders in medical technology to develop their leadership competencies and shape their approach to leadership. The following maxims are versatile and may vary depending on the context. Nonetheless, they provide guidance and a foundation for leadership success:

- Empathize with your employees and make yourself understood!
- Communicate openly and purposefully with others!
- Promote and develop your employees!
- Work successfully with teams and strengthen cohesion!
- Keep your employees at the appreciative focus of your leadership actions!
- Adapt to changing environments and work processes!
- Trust in the skills and motivation of your employees!
- Shape your own actions!
- React quickly to changing situations!
- Integrate knowledge of information technologies!
- Analyze facts and problems deeply!
- Align others toward goals!
- Initiate actions proactively and embrace innovation!
- Pursue action goals systematically and methodically!

These maxims are designed to provide leaders with a framework to act adaptively and successfully in the rapidly changing digital landscape of medical technology. In general, shifts in the requirements for leadership compared to the pre-digital era are evident. The focus has shifted from technical-methodical competencies to a greater appreciation for social-communicative competencies. The competency profile created serves as a guide for leaders to succeed in the digital age of medical technology. The results of this research offer important insights into how digital leadership can be successfully applied in the medical technology sector and which competencies leaders need to develop for this purpose. They thus make a valuable contribution to the development of future leadership concepts in an increasingly digitized work environment.

Conclusions

In summary, this study highlights the growing significance of Digital Leadership as digital transformation continues to reshape industries, including the medical technology sector. The findings underscore that successful leadership in the digital era requires a fundamental shift from traditional, control-based leadership approaches to more adaptive, visionary, and people-centered leadership models. As organizations navigate the complexities of

digitalization, leaders must embrace trust, communication, and agility as core competencies to drive sustainable success.

The path to becoming a successful leader in digital medical technology is not optional—it is an inevitable evolution driven by the increasing integration of advanced technologies, new work environments, and shifting employee expectations. Executives who fail to recognize these fundamental shifts risk falling behind in an era where digital competence and human-centric leadership are key differentiators.

A Chinese proverb states: “When the wind of change blows, some build walls, while others build windmills” (Trieschmann 2019). This wisdom is particularly relevant to leadership in digital transformation. Leaders who attempt to resist change by holding on to outdated models will struggle in the face of rapid technological advancements. Instead, the leaders of tomorrow must learn to harness the momentum of digital transformation, using it as an opportunity to foster innovation, drive cultural change, and continuously develop their own leadership competencies.

Ultimately, Digital Leadership is not merely about technological proficiency—it is about creating an environment where people and technology work together seamlessly to shape the future of healthcare. Organizations that invest in cultivating adaptive, empathetic, and visionary leaders will be best positioned to thrive in an increasingly digitalized world.

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PARTNERING WITH ACADEMIA: INDIRECT INDICATORS OF SUCCESS

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Abstract

Industry stakeholders invest heavily in academic collaborations, making it essential to define success measures. Evaluating UIC helps focus efforts and allocate resources effectively, yet assessing knowledge value and partnership status is challenging due to their dynamic nature. These complexities hinder the establishment of rigid success criteria. To address this, we conducted semi-structured interviews with executives from global conglomerates across 13 industries. This diverse sample allowed us to examine direct and indirect metrics used by multinational companies to assess academic partnerships. We analyzed best practices and assessment frequencies, developing a comprehensive scheme of proxy indicators. This framework incorporates qualitative and quantitative measures, capturing both success factors and failure indicators. Our findings fill a gap in industry perspectives on UIC, offering an extensive, inductively derived scheme of proxy indicators. These reflect industry considerations regarding success, failure, and partnership evaluations. By expanding theoretical evidence and refining proxy measures, our research provides new insights into academic collaboration assessment.

Keywords

UIC, industry perspective, industry collaboration evaluation, evaluation scheme, success factors, failure indicators

Introduction

Being aware of the success measures and evaluations of university-business collaborations allows participants to focus their efforts, account for behavior, and manage the way the resources are allocated (Koppenjan 2008). Industry participants spend considerable amounts on academic collaborations (Perkmann et al. 2011), and this expenditure necessitates to be justified. Therefore, it is important for businesses to be able to assess the state of their partnerships and collaborations. The aptitude to quantify the value attained through collaborative activities, proves to be difficult even when the worth is evident (Perkmann et al. 2011).

Recent studies (Al-Ashaab et al. 2011; Albats et al. 2018; Mora-Valentin et al. 2004; Rossi & Rosli 2014) provide some success factors for the evaluation of the university industry alliances, which whilst valuable, do not exhibit any specific metrics (Perkmann et al. 2011). The latest endeavor by Frølund and Riedel (2018) explicitly elaborates on five vital best practices for academic collaborations, taking the rarely addressed industry perspective. While contributing significantly to the systemization and support of setting up an efficient collaboration network for the industry (Frølund & Riedel 2018), the literature nonetheless lacks proxy indicators which would allow researchers and managers to account and measure for benefits outside of the direct project outputs (Perkmann et al. 2011).

Understandably, success measures are likely to differ greatly from stakeholder to stakeholder, as a collaborative environment entails multifaceted perspectives of the participants due to contrasting disciplinary approaches and organizational bias (Head 2008a). Such a cultural divide poses challenges not only in the decision making process but also in the success and the assessment of a collaboration's performance (Rajalo & Vadi 2017). It is vital to recognize that all institutions differ by their strategy, goals, areas of research, industry etc. Hence, to derive the suitable KPIs (key-performance-indicators) for the success of UIC, case-specific metrics need to be applied from a broad set of metrics, which would allow the evaluation to be best tailored to the collaborative activities at hand (Rossi & Rosli, 2015).

Due to a lack of literature investigating the industry perspective regarding success measures of university relations (Perkmann et al. 2011; Skute et al. 2019; Albats et al. 2018), our research seeks to explore and develop a scheme of proxy indicators for evaluating the effectiveness and success of an organization's academic collaborations. We address this with our research question - what proxy measurements of success can businesses utilize to assess their collaborative partnerships with academia?

Through semi-structured interviews, we inductively examine the existing direct and indirect measurements which large multi-national companies utilize to determine success of their UIC partnerships. Taking into consideration the absorptive capacity, economies of scale, and the Schumpeterian hypothesis (Tsai 2009; Fontana et al. 2006; Laursen & Salter 2004; López et al. 2015) - investigating what indicators of success specifically the larger enterprises consider in terms of UIC partnerships, is deemed fit. Proxy indicators for business to assess UIC is derived through qualitative and quantitative measurements, where the success factors and failure indicators are considered. An important role is attributed to the frequency as well the internal hierarchy at which the varying levels of evaluations take place. This research seeks to address the literature gap of the underrepresented industry perspective in UIC in terms of how success can be facilitated in academic partnerships. Moreover, this paper presents a novel scheme of proxy indicators of success shaped through success factors, failure indicators, qualitative and quantitative indicators. These are further appropriated with the corresponding stages of collaboration development. This interconnection allows for this scheme to be applied as a tool for other industries or academic institutions to advise and facilitate success within their partnerships.

Relevance of the chosen topic

The participation of the industry in UIC constitutes an utmost vital part of the triple helix model (Etzkowitz & Leydesdorff 2000). Hence, the widespread recognition of the importance of relations between industry and academia has led to prolific attention across academia (Perkmann et al., 2013; Galán-Muros et al. 2017), industry (López et al. 2015), and policy makers (Ponds et al. 2010; Lehmann & Menter 2016) in recent years. The policy makers have been traditionally addressing the area with top-down tactics (Mowery & Sampat 2001). The research which specifically focused on the industry perspective and participation in UIC has primarily addressed the benefit industry partners may gain, broad (Mora-Valentin et al. 2004) and micro (Albats et al. 2018) level contextual and organizational success factors, performance of research focused centers supported by industry and government (Gibson et al. 2019) and more recently elaborating on best practice examples of strategic industry approaches to UIC (Frølund & Riedel 2018).

The ever-changing developments and advancements of new technologies triggers the industry participants to evaluate and comprehend their shortcomings in the resources and capabilities which naturally, innovative technological developments and commercialization require (Hamel, G., Prahalad, C.K. 1994; O'Regan et al. 2006). Hence, the industry is progressively seeking innovative solutions by engaging with the intellectual resources of a university (Dealtry et al. 2005). From a strategic perspective of the industry, where strategic refers to maintaining alignment with business goals - in order to leverage UI partnerships efficiently there are five main best practices which enable the potential for success. As outlined by Frølund and Riedel (2018), it is important to (1) initially define the focus areas for research in alignment with business goals, such that top-down and bottom-up approaches are balanced (Eichmeier & Storim 2018). Furthermore, it is vital to continue considering the strategic business goals when it comes to the (2) collaborative partner selection and (3) collaboration format. The criteria for the selection of a suitable collaborative partner should be based on the chosen collaboration format, which in turn is derived from the anticipated strategic needs of the company. A dedicated (4) internal governing body and processes which oversee and manage the collaborative process are of importance as well. Once in place, the academic collaborations need to be (5) continuously evaluated and monitored. The meaning of success and how it is evaluated will vary among different stakeholders. Nevertheless, the formulation of various evaluation metrics is possible via the emerging added value (Head 2008) throughout the four stages of an alliance – inputs, in process activities, outputs, and outcomes (Brown 2007; Perkmann et al. 2011). Differences between UIC participants can be portrayed as the antagonist and eliminating them can be thought to facilitate a successful

collaborative environment. On the contrary, managing these differences creates opportunities which in turn become the source of innovation, progress, and success within UIC (Frølund & Riedel 2018). Moreover, the different outlooks and point of views of the participating stakeholders working together can further contribute to exploration (Lester & Piore 2004; Perkmann et al. 2011) and new thinking (Head 2008). While the extensive differences between Industry and Academia are a crucial reason to stimulate and foster such interactions (Silva & Rossi 2018; Rosli et al. 2018), it leads to challenging perceptions of UIC. As found by Silva et al. (2021), negative practical implications arise, driven by the negative correlation between the perceived challenges and perceived benefits. As derived by Ryu (2014), optimistic perceptions of potential benefits are pivotal in the ultimate success of the collaboration at hand. More so, the likelihood of repeat engagement in future UIC are positively correlated with the perceived benefits (Ryu 2014). Given such perceptions, Silva et al. (2021) demonstrate that it is paramount for the collaborators themselves to cultivate positive affective evaluations of the undertaken collaborations in order to disconnect the established negative correlation between the perceived challenges and negative affective evaluations mentioned above.

Analysis of recent research and publications

Value co-creation has been conceptualized across service logic (Gummesson et al. 2014) and service dominant logic (Vargo & Lusch 2008), leading to a range of definitions as well as levels of perspectives on this phenomenon and a prolific stream of research. Drawing on Grönroos (2011) and the service logic, in a joint sphere of a firm acting as a value facilitator, and the customer being the value creator, opportunities exist for value to be cooperatively co-created. The processes of a service provider together with those of a customer flow by means of mutual influence, thereby developing a fused, dialogical process permitting the cross operation and cross participation (Grönroos 2011; Grönroos & Voima 2013). These joint collaborative activities between actors involved in direct interaction, create unique value for participating parties and beyond (Gummesson et al. 2014; Lusch & Vargo 2016; Grönroos 2011). The service dominant logic furthermore implies that all involved parties whether firms, customers or others are service-providing, moreover value co-creating, hence all exchange can be also considered in the context of business-to-business (B2B) (Vargo & Lusch 2011) in addition to main research on VCC within the business context relating to business-to-customer (B2C) (Payne et al. 2008). Consequently, in the context of B2B, value can be co-created by organizations with a wide variety of stakeholders (Sarker et al. 2012). For the purpose of this study, the focus lies on co-creating value through resource integration in university-industry interactions and carrying benefits throughout the triple helix (Etzkowitz & Leydesdorff 2000; Moreno de Castro et al. 2016; Roser et al. 2013).

As value can only be captured once its created or co-created, it is vital to comprehend the numerous stages within the UIC development, through which, the participating stakeholders are able to create, co-create and capture value. Therefore, by being able to continuously evaluate and monitor UIC, the value, whether created or co-created, can be efficiently captured to the maximum potential. The initial stages of the UIC partnership process will see the academic stakeholders create a vast proportion of value, which is in turn captured by the industry stakeholders (Chen et al. 2019). These proportions are dynamic, where the creation and capture of value becomes comparable across the stakeholders, given that the partnership process and engagement is longer term. As derived by Chen et al. (2019), the mechanisms of VCC process within the scope of UIC are aggregated into three aspects, seen through the shared vision between partners, the production of genuine products for the public, as well as respect for the field of expertise of each stakeholder.

The above-mentioned interplay and importance of value creation, co-creation, and its subsequent capture, can help to understand the complex nature of undertaking evaluations of UIC, while allowing to explore the collaborative boundaries from the industrial point of view.

Purpose of the article

The purpose of this study is to investigate how businesses can assess the effectiveness of collaborations with academia through indirect indicators of success. By exploring industry perspectives, the research aims to derive a comprehensive scheme of proxy measures that reflect both qualitative and quantitative dimensions of university-industry partnerships. The specific objectives of the study are to:

- Examine the criteria and processes multinational firms use to assess academic collaborations.
- Identify success factors, qualitative and quantitative indicators, and failure signals in UIC.
- Develop a structured framework that aligns these indicators with stages of collaboration development.

Research sample

The research targeted senior executives from 20 major global conglomerates across 13 industries (*Table 1*), explicitly those with strategic oversight of their organizations' collaboration with academic institutions. These participants were selected for their potential to provide detailed insights into the strategic management and evaluation processes of university-industry collaborations (UIC). Given the scale and scope of these large organizations, they represent a crucial subset of firms for examining UIC dynamics, as organization size and strategic orientation significantly influence the formulation of UIC approaches (Santoro & Chakrabarti, 1999) and the likelihood of forming academic partnerships (Fontana et al., 2006).

These conglomerates' extensive knowledge bases and resources amplify their capacity to engage in and derive innovative applications from UIC. Typically, the larger the organization, the more robust its absorptive capacity, which enhances its ability to internalize and apply new knowledge effectively (Melnychuk et al., 2021). This attribute makes large organizations particularly valuable for studying the range of evaluation characteristics and performance indicators that define successful academic collaborations. By focusing on this specific group, the study leverages the depth and variety of strategic interactions available within these impactful enterprises to extract generalized and relevant insights about the mechanisms and outcomes of UICs.

Table 1: Overview of study participants.

Interviewee Code	Industry Classification	Count of Participants
A100, R100	Automotive	2
B100, Q100, G100, I100, V100	Chemicals/Pharma	5
C100, F100	Defence	2
D100	Oilfield services & equipment	1
E100	Electronics	1
J100	Telecommunications	1
K100	Information Technology & Services	1
M100, N100	Industrial Automation	2
O100	Electrical & Electronic Manufacturing	1
P100	Computer Software	1
S100	Mechanical/Industrial Engineering	1
T100	Semiconductors	1
W100	Social Media	1
Total	13 Industries	20 Participants

Research data collection and analysis

Primary data were gathered via semi-structured interviews with senior executives from 20 major global conglomerates engaged in strategic collaborations with academic institutions. These participants, chosen based on their authoritative roles with complete strategic oversight of their respective company's university collaboration engagement and strategy, were identified through publicly available information. Ethical clearance was secured prior to the interactions, and informed consent was obtained for the voluntary, online interviews that averaged 60 minutes each (Gioia et al., 2013).

The interview protocol was meticulously designed to extract comprehensive insights in a single session to maximize efficiency and minimize the need for follow-up interviews. Discussions probed deeply into the structures and strategies of university-industry collaborations (UIC). Participants provided insights into supporting mechanisms, modes of conduct, collaboration models, and multifaceted evaluation processes. Interview questions specifically focused on the criteria that define successful collaborations, encompassing the scope of evaluations, key performance indicators (KPIs), and strategic partnership assessments.

The recorded content was transcribed and affirmed by the participants to ensure accuracy. Analysis of the transcripts was conducted using NVivo12 software, following the structured approach outlined by Gioia et al. (2013). This qualitative analytic methodology facilitated the organization, coding, and categorization of the data into first-order concepts, second-order themes, and aggregated dimensions, revealing intricate patterns and relationships.

This rigorous analytical process distilled extensive executive insights into a comprehensive set of theoretical constructs that describe the strategic dynamics of managing UICs. The analysis achieved theoretical saturation (Glaser & Strauss, 1967), which was validated by an independent expert and the research authors, establishing a strong foundation for developing the subsequent evaluation framework discussed in this paper.

This framework articulates both qualitative and quantitative performance indicators, tailored to different phases of the collaboration lifecycle, from inception through to final outcomes. It portrays the critical success factors and potential failure indicators, providing a detailed, strategic view of industry standards and practices in UIC assessments. This structured analytical model, enriched with executive insights from leading global entities, offers an authoritative perspective on the effectiveness of UICs and introduces the evaluation scheme delineated in the following section.

Results

The analysis first presents novel data obtained from study participants pertaining to the general frequency and process of evaluation. This provides insights into the overarching methods and processes that are undertaken by the industry. Later, the paper discusses how the industry establishes effective academic partner evaluations, supported by corresponding quotes. Building on this, the analysis gives insights on the underrepresented industry perspective, specifically what the industry is seeking and how they determine their evaluation scheme. Given that the findings reveal that there is no 'one size fits all' evaluation per company or partnership, a scheme of proxy measures was developed and is subsequently discussed, including success factors, failure indicators, and qualitative and quantitative evaluation metrics. Finally, the results are considered in relation to stages of collaboration development, visualizing their interconnected relationship.

1. Frequency and process of evaluations

Evaluating University-Industry (U-I) collaborations of a firm is undertaken at various rates of recurrence, and at different levels – the project level and the partnership level. Although the project and partnership levels are interconnected, it's crucial to relate the two through engaging specialists who can translate the project results into context. This allows for an understanding of results, their evaluation, and most importantly, leads to the overall monitoring of the partnership. Participant S100 explains that their organization conducts an annual review for most of their partnerships, where they combine the types of work that have been done. This isn't just about presenting project results; it involves engagement with specialists who can contextualize the work so that it becomes comprehensive for those comparing different partnerships.

To ensure that evaluation becomes a regular practice, it's necessary to set suitable milestones well in advance. Participant N100 emphasizes the importance of setting milestones, possibly including them in contracts, which also provides a good opportunity to conduct lessons learned sessions. According to N100, lessons learned are a cultural aspect, and without plans for such sessions or proper KPIs to evaluate, they are likely to be overlooked.

Continuous presence and ongoing check-ins are advocated by Participant K100 to facilitate engagement and ensure that any barriers or problems are promptly and efficiently addressed. K100 highlights that this practice helps to surface and swiftly resolve any problems that may arise in the collaboration. Without regular feedback loops and active steering groups, these problems might remain hidden due to participants not encountering them directly, or because department heads try to resolve issues internally without broader communication.

Although the frequency of evaluations varies depending on the partnership and project at hand, Participant K100 believes in the importance of having a feedback loop as often as possible to foster effective collaboration.

Finally, evaluations should be continuous, and this includes well-planned and organized final reporting. Participant A100 outlines that project must submit a formal final report, followed by an interview to assess the success of the projects. Additionally, alliances are evaluated continuously, not based on a punitive approach but rather in a merit-based competitive proposal selection process that occurs annually. This method ensures ongoing assessment and adjustment where necessary, fostering improvement and accountability in U-I partnerships.

2. Establishing effective evaluations of U-I partnerships – aims contingency

Collaborations are not all the same, and the success of collaboratively engaging with Higher Education Institutions (HEIs) will be measured and perceived based on the originally established short-term aims and long-term goals. Participant K100 highlights that the nature of collaborations varies greatly depending on the objectives set by the company. For instance, if a company aims to enhance its technical recognition and share of voice within a specific field, the success metrics can include the number of invited talks at conferences or publications in top journals before and after the collaboration. This makes it relatively straightforward to measure the impact over time by tracking these specific metrics.

The intricacy of evaluations lies in determining the deliverables which are based on the aims sought within a collaboration. However, the concrete boundaries of these aims might not be clearly defined initially. According to K100, specific aims might develop and become clearer as the collaboration progresses. For example, the focus might shift from increasing share of voice to assimilating the development of a particular technology or improving gender diversity and hiring in a certain region. Each of these objectives requires its own unique set of measurements.

It is evident from K100's explanations that evaluations, Key Performance Indicators (KPIs), and measurements cannot adopt a 'one size fits all' approach. They must depend on the established or evolving aims and goals of the collaboration. Value add-ons that develop during the collaboration also add dynamism to the evaluation metrics, undermining the utility of general metrics. K100 underscores that overly general metrics could lead to disappointments, as optimizing one facet may deoptimize others.

Participant W100 echoes the challenges in formalizing concrete evaluation criteria and measurements. They state that despite having a framework for evaluation, it is seldom utilized because the focus is often on preventing bad outcomes, functioning more as an insurance policy than a proactive tool. Furthermore, evaluating thousands of individual interactions, projects, and engagements within a partnership may not always be worthwhile or feasible due to the immense effort and resources required. W100 elaborates that in cases where there are numerous small engagements, spending millions on evaluation is not justifiable, suggesting that understanding the overall benefits of partnerships with HEIs and focusing on eliminating collaboration barriers may be more beneficial. Scheme of Proxy Indicators of Successful Partnerships

3. Scheme of Proxy Indicators of Successful Partnership

In this section, the four areas which constitute the scheme of proxy indicators are presented below. Given the interviewees responses the data obtained was analyzed and connected to create a scheme comprising of success factors, failure, qualitative, and quantitative indicators. The results presented here are providing exhaustive lists of what and how the industry consider to be success factors when collaborating with academia, the failure indicators which could signal when the collaboration could fail, and specific qualitative and quantitative evaluation metrics that the industry uses to evaluate their partnership with an academic institution. Each area of the scheme is thoroughly discussed, and the connections are outlined in the sections below.

3.1 Success Factors for University-Industry Partnerships

Collaboration success stories of how an idea originated from one collaboration can ultimately affect the organizations' strategy, research direction, or even products. These individual instances are qualitative measures of success, however, numerous such 'success stories can ultimately strengthen and influence an academic collaboration program. There are hence a number of critical success factors which qualitatively indicate the probable effectiveness and success of academic collaborations. In addition to indicating the probable success, they are factors, on which the achievement of specified objectives depends. For the purpose of this research, the overall objective being pursued is the effectiveness and success of academic partnerships. Table 2 highlights the extent of Success factors for University-Industry Partnerships as identified by the study participants - expressing the causal relationship they exhibit on success. The critical success factors furthermore correspond to precursors and processes of UIC partnerships (*Figure 1*) and are organized by the overarching theme: *Alignment, Interaction, and Commitment*, with subsequent sub indicators, described with a defining quote. Corresponding quote source is specified in brackets.

Table 2: Success factors for U-I Partnerships.

Success Factors		Definition	Defining Quote
Alignment	Goals	Mutual alignment on goals	"...mutual alignment, internal people and external people interested in achieving the same goal." (P100)
	Culture	Collaborators who have industry experience	"Collaboration works better when you are collaborating with an organization that share the same culture and principle around innovation." (K100)
	IP	Cooperative and not competitive on IP	"If the university comes at it from the idea that we're going to get rich by getting royalties off of patents, they're going to argue very hard for IP, they're not going to give you good terms, and things aren't going to work well. If they realize, if we're cooperative on IP, they're going to spend a lot more research money here on campus." (A100)
	Model Acceptance	Willingness to embrace the industry collaboration model	"... the willingness of the University to embrace our model. If we were going to a new school to do an alliance, we're not starting from a clean sheet of paper." (A100)
	Personal Fit	Sharing a common belief, ability to work intra-team.	"...it's about interaction with people I'm going to be working with for maybe three of five years. Do I get on with these people? Do they resonate? Are they motivated? And do they see the similar goals and share the same aspirations? Because if I'm pushing the elephant up the stairs all the time that's not what I want to be doing for long. Yeah, there's a scientific part as well, which is going to be important of course. But it come second to, what's the team on the other side, do we get on with them? Are they engaged? Are they going to get on with the teams at our side? Do we share a common belief?" (Q100).
	Understanding Competencies	Alignment on partner-specific competencies	"...make sure that everybody understands what kinds of things university researchers are good at and where their work can best contribute, which is very different from where companies can best contribute, so finding ways of making sure that the fuzzy middle ground isn't where people land" (P100)
Participation	Interaction Patterns	Continuous communication and status reporting.	"... If things don't go well, you don't change the whole system, through good communication and being fair and open and transparent, you can get to where you need to be." (B100)
	Proactivity	Partner inclusivity	"...they think of us and they include us, we become part of that, their sort of family. Those are good indicators for us. Just as are we in their minds that they include others?" (W100)
	Involvement	Co-location, healthy dialogue, knowledge sharing.	"... one of the things that's really important is the engagement of the researcher or researchers that we're working with... sometimes you can tell quite early on if they are keen maybe to co-locate for part of the time or they need to speak to us." (J100)

Commitment	Institutional Partnerships	Institutional Framework Agreements	<i>"I do think it's a lot institutional, and our strategic relationships are with the institutions... the institutions themselves have that track record of supporting professors in the areas we care about and intervening when there are problems. And also facilitating full agreements into things. So that's where our primary commitment is. For instance, if a professor leaves an institution the project does not follow the professor. Our allegiance is also to the institution."</i> (G100)
	Senior Management	Commitment of senior management	<i>"... it is about the people that are involved and about commitment from the senior levels of the university as well."</i> (C100)

3.2 Success Factors for University-Industry Partnerships *Qualitative Indicators of Successful University-Industry Partnerships:* Qualitative measurements are an invaluable part of assessing the effectiveness and success of partnerships in general, and UIC specifically (Perkmann et al. 2010). Deliverables and other quantitative indicators are not immediately available as their development is time-dependent, hence being aware of a variety of qualitative indicators is vital. As T100 explains:

"To some extent, the setting up of a new direction or the setting up of a new partnership tends to be more qualitative than quantitative, because sometimes it takes years for something to develop, so it's not as quantitative, but we wish it would be."

Objective evaluation of the ROI (return on investment) is difficult to achieve, as it is an aspect under constant evolution, being fueled and dictated by the goals and importantly the reason why the collaboration is taking place. As these are not the same, the quantitative evaluation aspect proves to be tough in its objectiveness. As K100 details:

"This evaluation of the return of investment, it is something that is in constant evolution. And it is relatively very difficult to evaluate in an objective way. It depends on the goals that you put behind, and on the reason why you're doing the research collaboration. And these goals are not the same." (K100)

Caution is advised with regards to selecting collaboration partnerships based just on the quantitative aspect of how good an institution is, or the apparent likely fit, as determined by people who not directly involved in the said collaborations. Qualitative, proxy indicators such as interpersonal relations play a very important role establishing whether a partnership will efficiently yield results. As S100 details the importance of qualitative indicators:

"... I've seen plenty of them; sometimes they work, sometimes they don't. They don't work because those criteria are met, they work quite often because the people want to work together; you have an alignment of goals. Now, on a personal basis, as well as an organizational basis."

Table 3 highlights the extent of Qualitative indicators for success within University-Industry Partnerships as identified by the study participants. They are organized by the overarching theme: *Engagement, Interpersonal Relations, and Perception*, with subsequent sub-indicators, described with a defining quote. The qualitative indicators correspond to precursors, processes and outcomes of UIC partnerships (Figure 1).

Table 3: Qualitative Indicators of U-I Partnerships

Qualitative Indicator		Definition	Defining Quote
Engagement	Level of engagement	Degree of qualitative partnership engagement	<i>"...we have a scale from zero to five, qualitatively, of becoming acquainted, having regular discussions, actively collaborating on publications or projects. ...it's an exponentially increasing scale,</i>

			<i>so we track whether or not engagement has improved or has gone backward.” (P100)</i>
	Effort and Impulse	Integrity	<i>“We'd much prefer a partner that told us that things are going sideways, rather than one that pretends everything's fine when it isn't. ... And we see what people do and we see how much they want to talk to us. So people take the money and then don't want to talk to us. That's fine. That's okay. We didn't say you had to, but you're not going to get any more, all right? It's throwing the sort of seeds out there a little bit and seeing what germinates.” (W100)</i>
Interpersonal Relations	Ease of cooperation	Willingness to sustain a two-way conversation.	<i>“You know the definition of the word collaboration, right? How it is that we work together. If the collaborative partner is a person that is willing to listen, discuss, and decide, it tends to be a very successful one, and then it's not a metric. You know, right? How good is the collaboration? We can ask ourselves that, but there's basically that willingness to have a two-way conversation, and this is challenging.” (T100)</i> <i>“Qualitatively, are they cooperative? Are we having problems with them? Are we arguing with them? Are we debating about who are inventors?” (A100)</i>
	Relationship building	Experience based interpersonal relationship building.	<i>“From a qualitative point of view, it's a narrative that goes with it of, "We've done this, and because of this we now know this. So it shows us that we should do this, or we can't do this, or we need to stop doing that.” (J100)</i> <i>“You communicate, you learn something from them, you bring, you exchange ideas, they learn from you learn from them. And this is how it evolves. And it's very difficult to materialize this in numbers.” (D100)</i>
Perception	Reputation	Perceived reputation among the stakeholders.	<i>“...it's very important for us also to understand how we are perceived externally when we do collaborations” (K100)</i>
	Satisfaction	Feeling/perception of the participants of this partnership.	<i>There is of course also an evaluation of more or less soft facts. I mean how satisfied are the collaborators on both sides on the collaboration, on the interactions...How did they feel in this collaboration? ... was it something where you had the impression that both parties more or less worked independently from each other on these kinds of topics. (I100)</i> <i>“There is of course a lot of this kind of what's the overall feeling, vibrance of the collaboration. I would say that's really, is it lively? Is it more than transactional?” (O100)</i>

3.3 *Quantitative Indicators of University-Industry Partnerships*: Table 4 highlights the extent of Quantitative measurements within University-Industry Partnerships as identified by the study participants. They are organized by the overarching theme: Financials, Interactions, IP, and Academic Metrics, with subsequent sub-measurements, described with a defining quote. The quantitative indicators correspond to outcomes of UIC partnerships (Table 4).

Table 4: Quantitative Indicators of U-I Partnerships

Quantitative Indicator		Definition	Defining Quote
Financials	Budget	Financial proportions	<i>"We will look at finance; where the money is coming from, how the money is spent, what it costs."</i> (S100)
	Donations	Tangible/intangible goods donated or lent	<i>"Amount of software donations."</i> (D100)
	Financial Strength	Derived margin	<i>"Financial strength of the project. The number of projects we're identifying. Ultimately the margin, the financial elements of those various projects through the lifetime."</i> (Q100)
	Funding Leveraging	Access to external funding programs	<i>"An aspect you look for things like are we winning funding, winning bids together."</i> (C100)
	Facilities	Access to special facilities	<i>"Availability of specialist facilities."</i> (J100)
	Spinoff Creation	Entrepreneurial contributions, whether financial or cognitive	<i>"...some of our investments have generated a new company, and that is also a very positive metric."</i> (T100)
	Talent Acquisition	Acquired or transferred talent for any term	<i>"...are we hiring talent out of that collaboration? Like I said at the beginning, some of the money goes towards students' education, or are we hiring?"</i> (T100).
Interactions	Lectures/Conferences	Educational Interactions	<i>"The number of lectures which we gave at the universities."</i> (D100)
	Communication Patterns	Frequency, level, and amount of communication	<i>"...if you're working with a university, we'd expect you should be speaking to them at least every other month. We'd expect you should be visiting them at least probably once a year. They ought to visit us at least once a year."</i> (J100)
	Repeat Collaborations	Continuity of partnership, or creation of new projects with the same team	<i>"Would you collaborate with this academic again?"</i> (B100)
	Proposal Rates	Internal or external call for proposal for collaborative projects	<i>"We would look at is how many proposals came in, and how many were selected. So what's the conversion rate of proposal with a particular school versus the approval rate?"</i> (A100)
IP	Identified Risk	The derivation of outcomes which lead to change in direction of research from either side	<i>"Has the collaboration identified an area of risk that will stop us exploring that technology for a reason? ... You know, to take risks, and when you take risks, sometimes you find out that something was a really bad idea. It's</i>

			<i>wonderful to know. The earlier you know that it's a bad idea, the better it is, so we are given credit for what we call showstoppers, something that we find in the technology that leads us to conclude that this is not a good path to move forward.” (T100)</i>
	Tech Transfer – Tech Translation	Advancement and absorption of technologies that facilitate impact across and outside of direct stakeholders	<i>“The highest level would be if those collaborations were materially influenced in academia and/or the industry and/or the company, so that would be evaluated through artifacts like adoption of technologies or significant pickup on research directions or potentially things like patents and what have you, as an indicator. Some of those have very fine-grained sub-evaluations associated with them. For example, tracking the degree of tech transfer or idea transfer. We actually have models of how that process tends to work, and we try to track progress through such a process.” (P100)</i>
	Tech Transfer – Talent Acquisition	Open-source releases leading to external research advancement, resulting in talent who is already familiar with the particularities of internal technologies	<i>“Another KPI might be, we released some code and we've seen a year or two later that 15 of the top 30 labs working in a particular area, picked it up and started working on it. And so that KPI would be, and they published the paper, so we can track it because they published the paper that uses the technology, which means necessarily, there are PhD researchers and maybe some post-docs in those groups that know about our tech, which means I'm going to recruit them and there's a lower friction for them to annul.” (W100)</i>
	Publications	Direct outcomes in form of literature	<i>“We have some kind of KPIs related to more or less the scientific outcomes mostly, so it can be number of publications.” (I100)</i>
	IP Rights	Proportion of shared/non shared IP	<i>“How often do we take IP rights? That signifies value if something's developed and we're willing to pay for IP costs versus times when we're not.” (A100)</i>
Academic Metrics	Research Metrics	Consideration of impactful research metrics, which describe and benchmark the scientific output of an institution/researcher	<i>“Reputation/excellence of the university and individual academics in the area of the work we want to collaborate in.” (J100)</i>

3.4 Collaboration Failure Indicators: It is necessary to comprehend and be aware of the indicators which signal that a collaboration has indeed lost its momentum, or things have taken a turn. As indicated by the study participants, it's not necessarily that collaborations fail, but rather they exhibit varying

degrees of success. This is quite in line with the dynamism presented by the development of evaluation metrics, which themselves are intertwined with the anticipated aim/goal. In order to facilitate a higher percentage of perceived successful collaborations, there are some indicators which signal potential failure or derailment of a collaboration. The failure indicators exhibit qualitative proxy indicators of the collaboration downturn.

Table 5 highlights the extent of Failure indicators of University-Industry Partnerships as identified by the study participants. They are organized by the overarching theme: Behavioral, Misalignment, and Academic Metrics with subsequent sub indicators, described with a defining quote. The failure indicators correspond to precursors, processes and outcomes of UIC partnerships (Table 5).

Table 5: Failure Indicators of U-I Partnerships

Failure Indicator	Definition	Defining Quote
Behavioral	Aggressive entrepreneurial behavior	Thorough due diligence with regards to IP and entrepreneurial practices of the academic counterparts <i>"We're now looking at schools that are going to be diligent to make sure that as they launch startups, that those startups are not going to cannibalize or cause problems with existing sponsored research... universities are betting so much on startups, they're leaving some wreckage in their wake. And the schools that proactive, we realize startups and existing sponsored research has to coexist peacefully, both schools are going to end up being the winners, and the schools that just blindly chase their startup dreams without watching the collateral damage, they're going to find money moving away from them."</i> (A100)
	Continuous Engagement	Sudden changes in delivery of contributions/deadlines not met <i>"What we also need is constant engagement because I think this has been one of the other issues, is that where we lose a connection with a professor, and mostly it's because of our failure to have these regularly schedule meetings."</i> (E100)
	Inefficient Problem Solving	Escalation to management without appropriate efforts to mediate prior <i>"... if the team members of the research talk to each other and don't find a solution, they escalate and then the principals... Which is also okay, but it's not my preferred mode of working because those guys down the line should have figured out a solution a bit more."</i> (N100)
	'Hit and run'	Acceptance of contributions, yet no willingness to reciprocate <i>"Very, very rarely we get an academic who's completely non-responsive. I call them, take the money, and run people."</i> (B100) <i>"...of course, willing to take the money but will not work for the topic. We had this kind of collaboration in the past. You will never know... It's for sure an illusion that 100% of the collaborations will be successful at the end."</i> (I100)

	Motivation	Semi-unrelated results, lack of willingness and enthusiasm to contribute	<i>"if you have the impression that the collaborator doesn't really care for the research plan and the topics you have agreed on. He'll do something but more or less not related to the work you have agreed on and you get the impression that he presents some data to you but this is maybe always the same data but in a different format ... Or you have that impression this data is not really related to the topic you are looking at and it seems that this comes from another project..." (I100)</i>
Misalignment	Expectations	Failed to align or discuss details to an extent which would liaise appropriate expectations	<i>"I've seen engagements, for example, where people in the company did not meet the expectations of an academic partner. The root cause tended to be that there was too big a gap in interests and/or time horizon. You have to be very careful about figuring out who can engage respectively and making sure that everybody is on the same page about the expectations for the engagement. (P100)</i>
	Personal	Misconnection on a personal, scientific or any other level, leading to inability to work together	<i>"If they're all talking at each other, and one person just keeps banging on about one particular success metric, and another one keeps banging on about their success metric, that's a good indicator that something might not work here." (S100)</i>
	Objectives	Misalignment or lack of transparency regarding objectives of a partnership or project at hand	<i>"...it often it would stem from misalignment on the project almost from the beginning. Where we have really different objectives. And so that's where you're never able to get that win-win. I think also there have been some cases where there's been reluctance in sharing the output back to us, so that can be a challenge." (G100)</i>
	Strategic Partner – Oxymoron	Misleading use of the term strategic partnership to attain other objectives	<i>"They reach out and they say, we want you to be a strategic partner, they always use that phrase. ... We need you to write a support letter and ... we need your letter in three or four days...So it's like last minute hideously, and short deadline and no conversation. And the very fact, so it's such an oxymoron, the strategic partner, but we don't actually care about what your view is on the research topic that we're going to go and ask the 10 million, whatever currency, right? I know. It's laughable, but it happens every month or two." (W100)</i>
Academic Performance	No publications	Lack of scientific outputs and	<i>"If we see no publications coming out that raised a red flag. Because universities like to publish." (G100)</i>

		contribution in any form of literature	
	Proposal author leaves	The proposal author leaves the research group or project	<i>"... projects should rotate people. The person who writes the proposal with the professor, he or she needs to be engaged throughout the end. Whenever we see one person just leaving, say midway through, that just does not work."</i> (E100)
	Poor PhD Supervision	Lack of an engaged supervisory relationship, failure to lead the PhD research project – signifies the risks of encountering similar practices on larger scaled projects	<i>"It doesn't seem to be very good supervision at all, which is not good, which makes us kind of concerned about the quality of the research that's going on."</i> (J100)

4. Appropriation of the Scheme with Stages of Collaboration Development

The scheme discussed above exhibits the multi-faceted aspects of what the industry considers to be success factors, failure, qualitative, and quantitative indicators when collaborating with an academic institution. Due to the nature of the data sample, this scheme can most certainly be applied to other university industry collaborations where practitioners can directly utilize the factor/indicator from the scheme and apply it to their own case-scenario. Figure 1, as an incremental visualization, does not only combine the valuable insights provided by the quantitative, qualitative, failure indicators, and success factors, it moreover develops the derived scheme by facilitating the split between precursors, process, and outcome related indicators/factors. Precursors are those pre-hoc indicators and factors of success, process is as the name suggests, UIC process-related indicators/factors, and the outcomes are strictly post-hoc measurements. All the indicators/factors on the right-hand side of Figure 1 exhibit a unilateral connection to either precursor/process/outcomes, except "Reputation" which is connected to both, process, and outcomes of success, given the nature of what reputation is.

The 14 Precursors, channel into Alignment/Misalignment, Commitment, and Behavioral indicators, all while accumulating attributions from Success and Failure indicators. These are the critical indicators and are a cause of success and success facilitation – hereby failure prevention. The 10 Process indicators, channel into Interpersonal Relations, Participation, Engagement, Behavioral, Academic Performance, and Perception, all while accumulating attributions from Success, Failure, and Qualitative Indicators. The 23 Outcome indicators, channel into Behavioral, Academic Performance, Perception, Financials, Interaction, IP, and Academic Metrics, all while accumulating attributions from Quantitative, Qualitative, and Failure Indicators.

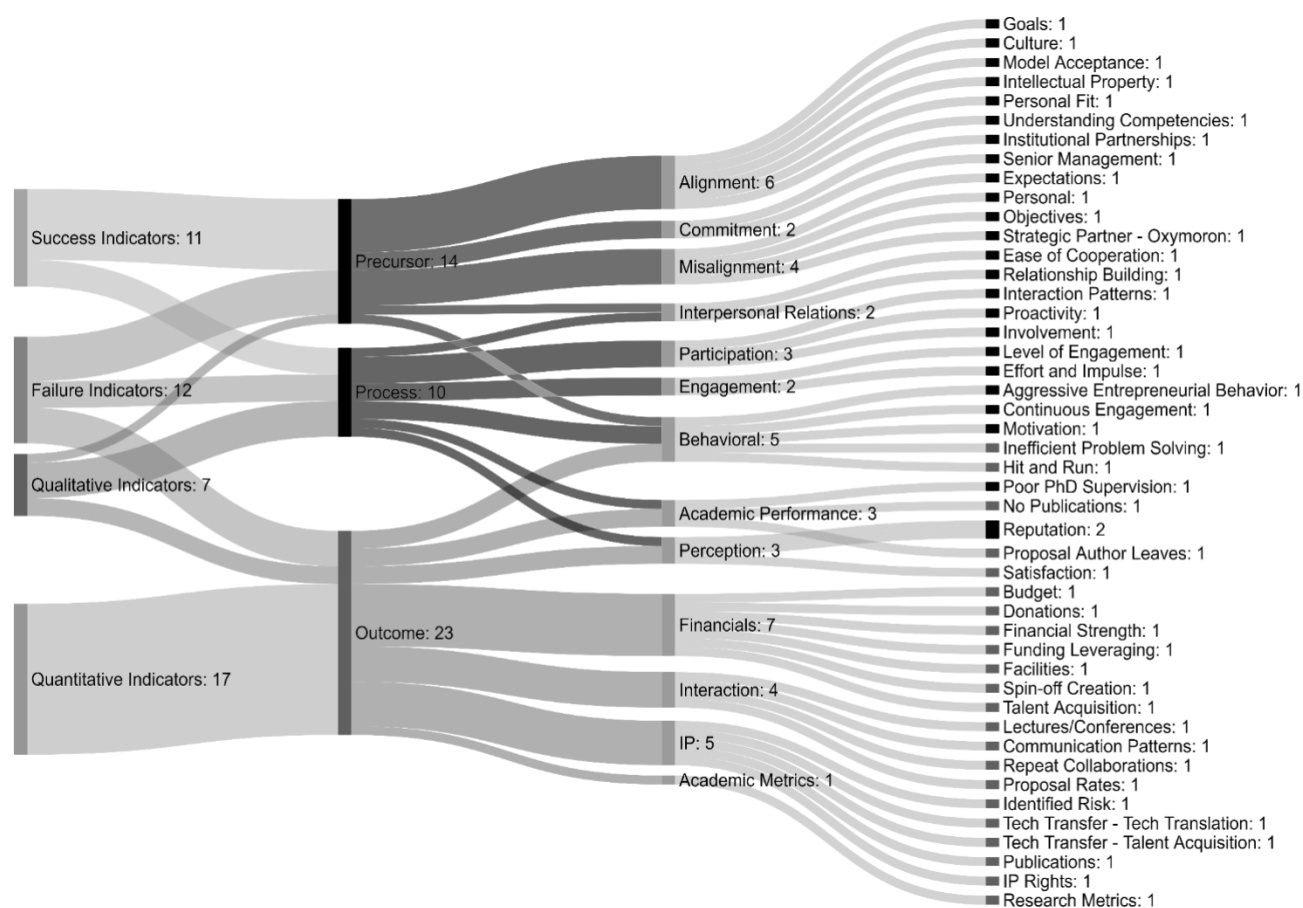


Fig. 1: Diagram depicting the interconnection of Success, Failure, Qualitative, and Quantitative Indicators through Precursors, Processes, and Outcomes of Successful UI collaborations.

Discussion

In recent years, industry participants have increased their focus in establishing strategic partnerships with academia. Nevertheless, the research remains limited in the understanding of how these partnerships can be efficiently evaluated, outside of the direct deliverables (Perkmann et al. 2011; Al-Ashaab et al. 2011). More so, there is limited understanding with regard to measurements that can be utilized to evaluate UIC success (Perkmann et al. 2011) and capture maximum potential co-created value. While Mora-Valentin et al. (2004) quantitatively identify those contextual and organizational factors which contribute to success of cooperative agreements between firms and research organizations. With our research, we build upon the previously derived variables: such as commitment, initialization, communication, trust, reputation and conflict (Mora-Valentin et al. 2004), and expand them through derivation of more granular proxy measurements of successful academic partnerships. We widen the theoretical and empirical evidence through qualitative analysis of the quantitative, qualitative, success and failure indicators, as identified by large enterprises (Table 1), while appropriating the indicators in accordance with the corresponding states of collaboration development (Figure 1). As all of our study participants are conglomerates/large enterprises with a strong global presence – their views and methods of UIC conduct represent the overall status quo of the field from the industry perspective.

Our findings are many-fold - we inductively confirm the latest research by Frølund and Riedel (2018) who explicitly elaborate on the systemization and support of setting up an efficient collaboration network for the industry. In line with Frølund and Riedel (2018), our study finds that defining the focus areas for research in alignment with business goals, such that top-down and bottom-up approaches are balanced (Eichmeier and Storim 2018) facilitates the foundation for partnership evaluation. Moreover, continuous evaluation and monitoring of the academic partnerships ensures maximization of value captured. According to Bailey and Koney (2000), “Alliances yield the greatest impact from evaluation if it [is] used to provide continuous assessment of the alliances process and content throughout all phases of development”. Understandably, the evaluation and meaning of success will differ among the stakeholders. Yet, the derivation of proxy evaluation indicators and/or metrics is

possible via the emerging added value (Head 2008) throughout the four stages of an alliance – inputs, in process activities, outputs, and outcomes (Brown 2007; Perkmann et al. 2011).

We have therefore identified an extensive scheme of quantitative, qualitative, success, and failure proxy indicators for the success of academic partnerships by industry. The scheme, albeit not exhaustive, it brings to light those quantitative and qualitative indicators which are of utmost importance – as perceived by the industry leaders. Moreover, the critical success factors and failure indicators enhance the extent of measurements by providing the valuable insights as to what really drives success and how to curb failure within UIC. A visualization of which indicators contribute as precursors, processes, or outcomes of success, explicitly depicts, intertwines, and translates the scheme into a usable tool. It can be therefore utilized and applied by other industry or academic institutions in evaluating their own collaborations. The valuable contribution lies in the fact that the identified indicators that are the proxy measurements of success, be that quantitative or qualitative. This is important in its nature – the indirectness of what is to be measured or considered, in order to maximize the potential for success.

Theoretical contributions

UIC and the triple helix of collaborations (Etzkowitz & Leydesdorff 2000) address industrial stakeholders whose participation is imperative, yet the existing research and literature is mainly focused on the academic perspective of collaborations. With these findings we address the exact gap of not only underrepresented industry perspective on UIC (Skute et al. 2019), but moreover derive an extensive scheme of inductively deduced and highly representative indicators of what the industry considers in terms of facilitating success of their academic partnerships. We widen the theoretical evidence through qualitative analysis of the quantitative, qualitative, success and failure indicators, as identified by large enterprises being the study participants. The granularity level of the proxy measurements of success addresses the gap by providing a novel contribution which ties into and builds on the phenomenon and prolific stream of research on value co-creation and importantly value capture. As value can only be captured once its created or co-created, it is vital to comprehend and be able to continuously evaluate and monitor UIC in order for the value, whether created or co-created, to efficiently captured to the maximum potential.

The additional theoretical contributions of our study find their significance in facilitating an environment for U-I partnerships to maintain and advance mutual benefit into the future. This is manifested in the derivation of the ability to continuously facilitate successful partnerships, curb failure, and enable the drivers for collaboration. Accordingly, this research has contributed to the UIC discipline via building on the relevant existing literature, establishing necessary linkages to the previously developed theoretical foundations, and moreover provided the missing insights into the industrial point of view onto UI collaborations.

Managerial implications

Evaluating the success of collaborations can be very intricate as it involves the examination and interpretation of deliverables (tangible or not) which are based on the aims and goals of the specific collaboration. Collaborations are not all the same, and the success of engaging with academia will be measured and perceived based on the originally established short-term aims and long-term goals. Yet, the distinct boundaries of the particular aims and goals may not be clearly understood or known from the initial establishment of the collaboration. It is possible, that aims, and goals can evolve, and take further shape as the collaboration is underway – hence, the evaluation factors of a successful collaboration can proportionally take shape.

It is clearly evident that discrete evaluations, KPIs and success measurements cannot be “one size fits all” and are strongly contingent on the aims and goals that were initially established and/or are continuously taking shape within the collaboration. There are many various value add-ons which develop once the collaboration is running (Head 2008), attributing dynamism to the evaluation metrics, and at the same time are limiting the strength of general metrics. Given the dynamic nature of collaborations and the necessity to tailor them to each collaborative interaction, the ability to derive specific and rigid success evaluation criteria and measurements is difficult and inefficient. Moreover, a collaboration may involve an innumerable number of precise interactions, unique projects, and intricate engagements. The efforts to evaluate each and every single one might not be worthwhile and efficient. On the contrary, comprehending the potential benefits a particular collaboration with HEIs entails and prioritizing the elimination collaboration barriers might be an approach worth considering for managers and practitioners, as seen in the study participants.

Although we provide quantitative metrics, which managers could consider in their process of tailoring

their evaluation processes and measuring outcomes – deliverables and other quantitative indicators are not immediately available as their development is time dependent. Managers and practitioners are hence encouraged to consider the qualitative - precursor, and process related metrics as seen in Figure 1, and described in detail in Tables 2-5. The presented figure allows a further insight and an interpretation, suitable for use as a toolbox for managers and practitioners to derive and setup those evaluations, they see fit in accordance with their aims/goals toward UIC. Given the separation by precursor, process, and outcome, our scheme of proxy measurements of success allows practitioners the prospect of effectively evaluating pre and post hoc academic partnerships.

It could be worthwhile to identify the collaborators/collaborations within UIC whom experience or perceive barriers and attempt to direct them towards a more positive view of the collaboration which could increase the perceived benefits of the UICs and ultimately, their overall success (Rosli et al. 2018). Not only is this vital from the managerial point of view, but collaborators themselves should adopt positive affective evaluations of their UIC which would disrupt the negative relationship between perceived challenges and negative affective evaluations, and increase the perceived benefits – ultimately, driving successful collaborations (Rosli et al. 2018).

Limitations and future directions

Our study presents an extensive quantitative and qualitative scheme of proxy measurements of successful academic partnerships as derived by the industry participants. Our study participants are spread across 13 industries and are all large enterprises with a global presence. Moreover, we have interviewed those participants who have strategic oversight of their respective company. Still, not every possibility and every indicator can be mentioned, due to the nature of UIC, dynamism of the evaluations, and their dependency on the desired outcome/aim of the collaborative interaction. The main limitation of our findings is hence seen through non-exhaustiveness of the identified indicators. Furthermore, the identified indicators are not all equal in their impact and importance. We tried to mitigate this by presenting figures which visualize the frequency of mentions of each indicator and measurement by the participants.

Conclusions

This study addresses a critical gap in understanding how industry stakeholders evaluate university–industry collaborations (UIC), moving beyond direct deliverables to capture broader, co-created value. Drawing from semi-structured interviews with senior executives from 20 multinational conglomerates across 13 industries, the research develops an extensive scheme of proxy indicators comprising success factors, failure indicators, and qualitative and quantitative measures aligned with different stages of collaboration development. Findings reveal that UIC evaluation is inherently dynamic, with metrics shaped by evolving short- and long-term objectives rather than a “one-size-fits-all” approach. Success factors center on alignment of goals, cultural fit, commitment, and proactive engagement, while failure indicators highlight misalignment, disengagement, and poor communication. Quantitative measures, such as financial leverage, IP outcomes, and talent acquisition, complement qualitative indicators like relationship quality, perceived reputation, and stakeholder satisfaction. The study’s framework positions these metrics within precursor, process, and outcome phases, offering a practical tool for tailoring evaluations to specific partnerships.

Theoretically, this work enriches the UIC literature by foregrounding the underrepresented industry perspective, integrating concepts of value co-creation and capture, and providing granular, inductively derived evaluation criteria. Managerially, it equips practitioners with a flexible, actionable evaluation model that emphasizes early alignment, continuous monitoring, and the mitigation of collaboration barriers. While comprehensive, the scheme is not exhaustive, reflecting the inherent variability of UIC contexts. Overall, the research advances both theory and practice by offering a nuanced, industry-driven blueprint for assessing and enhancing the success of academic partnerships, thereby maximizing mutual benefit and long-term value creation.

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