FROM CODE TO CULTURE: THE ROLE OF AI IN SHAPING ORGANIZATIONAL IDENTITY IN SOFTWARE DEVELOPMENT SMEs IN SOUTHEAST EUROPE

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DEDICATION

This work is dedicated, first and foremost, to my family, to my wife, my son, and my daughter; for their understanding, patience, and love during the many hours I devoted to this research. Their support was the quiet strength behind every page.

It is also dedicated to the students in Serbia who continue to strive not only for their personal growth but for the collective good of society. And to all students around the world who remain committed to the academic path, a path that, in our increasingly phygital world, stands as a true beacon of human progress.

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ABSTRACT

FROM CODE TO CULTURE: THE ROLE OF AI IN SHAPING ORGANIZATIONAL IDENTITY IN SOFTWARE DEVELOPMENT SMEs IN SOUTHEAST EUROPE

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This study explores how Artificial Intelligence (AI) influences and transforms organizational culture and climate within small and medium-sized software enterprises (SMEs) in Southeastern Europe. The study addresses a critical gap in the existing literature, which has predominantly focused on technical and operational outcomes of AI adoption, while under examining its cultural, psychological, and human implications. By investigating how AI affects leadership, communication, employee empowerment, and organizational identity, this research provides new insights into the intersection between technology and culture in a region characterized by post-transition dynamics, hybrid work models, and limited institutional support for innovation.

To capture both measurable patterns and subjective experiences, a parallel mixed-methods design was employed. The quantitative phase involved a customized survey instrument integrating elements from the Competing Values Framework and Grid-Group Cultural Theory, distributed among employees and managers across nine Southeast European countries. Exploratory factor analysis and reliability testing (Cronbach's α) confirmed two primary dimensions of cultural transformation, organizational and personal benefits of AI use. The qualitative phase consisted of fourteen semi-structured interviews with professionals in software SMEs, conducted across different roles and national contexts, to deepen the interpretation of quantitative findings through thematic analysis following (Braun & Clarke, 2006a).

The findings indicate that AI acts as both an enabler and a disruptor of organizational culture. On one hand, AI enhances transparency, efficiency, and knowledge sharing; on the other, it

introduces new challenges related to trust, psychological safety, and leadership credibility. Leaders often face tension between technological optimization and human connection, while employees perceive growing ambiguity in their roles and career development paths. The regional context of Southeastern Europe further amplifies this duality: high adaptability and informal collaboration coexist with structural instability and uneven digital maturity.

The study contributes to the theoretical discourse by integrating AI influence as a determinant of cultural change within existing organizational culture models. It extends the Competing Values Framework by introducing AI as a contextual moderator of cultural dynamics, affecting both deep-seated assumptions (culture) and situational perceptions (climate). Furthermore, it proposes a context-aware framework for assessing AI cultural readiness, emphasizing psychological safety, communication clarity, and value alignment as critical mediators of sustainable AI adoption.

Practically, the study results offer guidance for SME leaders, consultants, and policymakers seeking to align technological transformation with human-centric organizational development. The research highlights the importance of leadership empathy, ethical AI integration, and continuous learning as strategic levers for cultural resilience.

Overall, this study advances understanding of how intelligent technologies reshape the fabric of organizational life, revealing that the success of AI adoption depends not only on infrastructure or skills, but on the culture that surrounds and sustains them.

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KEYWORDS

Artificial Intelligence (AI); Organizational Culture; Leadership; Employee Empowerment; Communication; Software SMEs; Hybrid Work; Organizational Identity; Psychological Safety; Southeastern Europe; Professional Development; Organizational Climate;

LIST OF ABBREVIATIONS

AI	Artificial Intelligence
CVF	Competing Values Framework
DEI	Diversity, Equity, and Inclusion
DevOps	Development and Operations
EFA	Exploratory Factor Analysis
GGCT	Grid-Group Cultural Theory
HR	Human Resources
IP / PII	Intellectual Property / Personally Identifiable Information
IP address	Internet Protocol Address
LLM	Large Language Model
MVP	Minimum Viable Product
NDA	Non-Disclosure Agreement
OCAI	Organizational Culture Assessment Instrument
OECD	Organisation for Economic Co-operation and Development
OCLI	Organizational Climate (Inventory)
QA	Quality Assurance
RPA	Robotic Process Automation
SaaS	Software as a Service
SE Europe / SEE	Southeastern Europe
SME / SMEs	Small and Medium-sized Enterprise(s)
VUCA	Volatility, Uncertainty, Complexity, and Ambiguity

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CHAPTER 1

INTRODUCTION

1.1.Background and Context of the Study

While Artificial Intelligence (AI) has the potential to enhance organizational efficiency, its impact on organizational culture remains ambiguous, does it strengthen cohesion, or does it fragment workplace identity and trust?

Artificial intelligence has demonstrated its disruptive nature in the example of small and medium-sized companies, where AI is the driver of business transformation (Lu et al., 2022). The recent global pandemic only accelerated the digital transformation, and created fertile ground for the post-pandemic development of organizational culture, and especially for the integration of AI into the core of every company's business. That integration brings improvements, but also new, up till now unknown problems in the development of the company's organizational culture (Lu et al., 2022). This literature review aims to synthesize current research in the field of the impact of artificial intelligence on the transformation of organizational culture in SME companies engaged in software development in the region of Southeast Europe.

The technology underlying artificial intelligence, such as machine learning and natural language processing (NLP), has seen great progress, and thus, naturally, in many areas of software development, it has shown enormous potential to cause revolutionary changes in all areas of the life cycle from specification writing to code writing, testing and reflection (Garg, 2023). At the same time, in SMEs, the very implementation of AI shows the potential of a significant impact on the workforce, through the need for necessary training and retraining, all with the aim of adequate adaptation of the workforce to the changing development environment (Morandini et al., 2023). What's more, the introduction of artificial intelligence

into the software development process itself, as well as into other processes in software companies, imposes the necessary consideration of ethics and other risks, as a permanent obligation of organizations (Garg, 2023).

Changes in business and organizations are faster, more complex and with increasingly unpredictable outcomes (Taskan et al., 2022). This acceleration of changes and the growth of their complexity was, among other things, due to the emergence of digital transformation (Ahmed et al., 2022). This new environment is often abbreviated with the acronym VUCA, volatility, uncertainty, complexity and ambiguity (Kaivo-oja and Lauraeus, 2018). The term "volatility" refers to changeability and impermanence in the pace of changes that occur, while "uncertainty" means the absence of predictability, understanding of changes, as well as complete and correct information. The "complexity" of the environment is reflected in the fact that there is no obvious causality. In the end, "ambiguity" highlights a feature of this complex and dynamic environment that confirms the ambiguity of truth (Buchashvili et al., 2022). From a simple acronym, VUCA has become a fundamental basis, synonymous with all internal and external conditions and factors that depress the company (Taskan et al., 2022).

Recently, due to radical changes in business, decentralization, internet technologies, artificial intelligence and machine learning, business models and industries are experiencing radical and irreversible changes (Buchashvili et al., 2022). A world determined by volatility, uncertainty, complexity and ambiguity imposes a challenge on companies when making strategic decisions. That challenge brings the need for quick and timely decisions, because due to the high speed of changes, long-term decisions can easily become ineffective (Turan & Cinnioğlu, 2022). For modern leaders in the VUCA environment, tools such as experience and knowledge are no longer the only factors that lead to correct decisions, made at the right time and effective for business. Already today, AI is showing the ability to match the speed of change in the environment, with its ability to quickly offer solutions and support in decision-

making leadership. In addition, by increasing visibility and predictability, artificial intelligence brings the potential of reducing costs, reducing opportunities for human bias to confuse the choice of clear decisions, as well as increasing the efficiency of top management (Buchashvili et al., 2022).

As illustrated by "*Future of Jobs Report 2025*" (World Economic Forum, 2025), employees can expect that 39% of their existing skill sets will be transformed or become outdated in next five years. However, this measure of “skill instability” has slowed compared to previous editions of the report, from 44% in 2023. and a high point of 57% in 2020. in the pandemic times. Of course, artificial intelligence is first on the list of transformative skills. Relevancy of this data is supported by perspective gathered from 1,000 leading global employers, collectively representing more than 14 million workers across 22 industry clusters and 55 economies from around the world.

The remainder of this paper is organized as follows:

Chapter 2 defines the research problem and outlines the contextual and theoretical gaps related to the cultural implications of AI integration in software SMEs. Chapter 3 presents the proposed conceptual framework and methodological approach aimed at assessing cultural transformation through AI. Chapter 4 outlines the expected results and anticipated outcomes based on the literature review and proposed metrics. Finally, Chapter 5 concludes the paper by summarizing key insights and offering directions for future empirical research.

Organizational culture in SMEs plays important and impactful role in shaping the way knowledge is shared, teams collaborate, communication is in organizations, and innovation finds its place. Unlike large systems, corporations, these systems in the shape of SMEs, often do not have established strict and formalized structures. Due to that, culture is formed through shared values and behaviors of leaders, primarily, and secondary, employees. Consequently, understanding cultural patterns in the SMEs sector, becomes crucial factor for

achievement of long-term sustainability and capacity to adapt to technological changes in software development niche (Shih and Huang, 2010).

The shift in working models, form traditional form of onsite work, to remote and different models of hybrid forms, has fundamentally changed the way employees experience shared values, connectedness, and organizational belonging overall. In software teams, where collaboration and knowledge sharing are vital, introduction of new work models opened up a long list of questions that require answers, like how to maintain trust, team cohesion, and company identity. Global research confirms that telecommuting has positively impacted flexibility and productivity, and at the same time led to erosion of informal cultural ties among employees (Nguyen Duc et al., 2023).

As Murire (2024) points out, the role of AI in organizations goes beyond the domains of technology, it impact much more, the way people work, communicate and make decisions. Integrating AI into the systems that manage everyday business processes, leads to establishment of new boundaries between roles of humans and machines, authorities and intelligence at the end, and thus change of structure of power and responsibility in teams. Such changes make AI not only a technical but also a cultural phenomenon that shapes new patterns of behavior, values and organizational identities within modern SMEs.

According to the findings of Leso et al. (2022) the success of digital transformation in SMEs in SE Europe, largely depends on the way in which organizational culture adapts to local economic and social conditions. In regions where resources are limited, and strong departure trend of highly skilled and educated experts, culture becomes a mechanism of key importance. In this context, the development and evolution of software companies is not only the result of technological investments, but also result of leader's ability to combine well established managerial frameworks and practices with local values and social patterns.

In software engineering, leadership, communication and employee empowerment are key mechanisms through which culture is built and maintained. Wiegers (2013) emphasizes that leaders shape culture not through formal rules, but through everyday patterns of behavior, openness to mistakes, and encouragement of autonomous and proactive work. Similarly, Dubé and Robey (1999) indicate that communication patterns and daily practices in software development are shaped by an organization's cultural perspectives, technical, managerial, and social, with their mutual alignment directly impacting team effectiveness and success of a project.

1.2.Research Problem Definition

1.2.1. Framing the problem

In the modern business environment, organizational culture is more and more recognized as a crucial factor in the success, innovation and resilience of organizations. Specifics of the software engineering, that knowledge, collaboration, and creativity are core resources, makes culture to determine how teams share ideas, solve problems, and make decisions. The last decade accelerated digital transformation and other changes like appearance of different working models. With that change, traditional forms of organizational values and communication patterns have been have profoundly affected. A particularly powerful impact is the integration of AI, which not only changes processes and structures, but also the very essence of the organizational experience, the way employees perceive their work, mutual relationships, leaders and values of the organization (Murire, 2024).

The presence of AI technologies in business processes is growing year by year, but despite this, AI's impact on the cultural and psychological dimensions of organizations remains insufficiently researched. Traditional and research-discredited approaches to the study of organizational culture (Cameron, 1988; Hofstede, 2011; Schein, 1983) assume that

values and norms are shaped primarily by interactions between people, i.e. employees in organizations, while today's environment increasingly shows that digital tools and AI are becoming new actors in this process. SMEs are particularly susceptible to this impact and these changes, because the relationship between culture and performance is more direct, because there are no layered hierarchies that would cushion the impact of new technologies and prolong the changes that need more time to take root.

The region of SE Europe is still facing face economic and structural challenges, and due to that show greater susceptibility to negative outcomes of AI integrations. In this region, AI transformation represents both an opportunity and a risk. It is an opportunity, because it enables global competitiveness and innovation; risk, because it can undermine the existing forms of trust, closeness and identity that are the backbone of small organizations. At the intersection of technological disruption and cultural vulnerability lies the core research problem that this study seeks to illuminate. The purpose of this research is to explore how AI, not only transforms the way we work, our productivity and efficiency, but also reshapes how we communicate, collaborate, and, ultimately, coexist within organizations.

1.2.2. Existing Gaps in the Literature (The "Why")

For decades, organizational culture has been the subject of extensive research through a variety of theoretical frameworks, ranging from Schein's three-level model of organizational culture, artifacts, espoused values, and underlying assumptions to Cameron and Quinn's Competing Values Framework (CVF). However, the influence of AI on the cultural and psychological dimensions of organizations has remained largely on the periphery of scholarly attention. While many authors have explored the impact of AI technologies on operational efficiency, automation, and decision-making (Lu et al., 2022), only a few have sought to understand how these technologies transform values, perceptions, and interpersonal relationships within organizations. This situation points to the existence of a research gap in

understanding the less visible consequences of AI adoption in SMEs, those that are not easily measurable in terms of productivity or efficiency, but manifest instead through shifts in trust, identity, and employees' psychological safety.

Most contemporary studies originate from economically and technologically advanced countries, where organizational structures and management practices are already well adapted to high levels of digitalization and automation. This raises a crucial question: how do companies behave in regions such as Southeastern Europe, where historical legacies and deeply rooted national and ethnic cultural patterns significantly shape organizational culture? Are there measurable differences between international and local companies, and to what extent are these differences related to the implementation of AI solutions across various business domains within software SMEs in this region? As Morandini et al. (2023) emphasize, the pace of technological change, combined with limited opportunities for employee reskilling, creates additional tension in organizations that lack well-developed adaptation mechanisms.

Some studies of culture in SE Europe region have focused primarily on national and value dimensions (Vetráková and Smerek, 2016), while empirical work examining the effects of technology, digitalization, and AI remains scarce. Leso et al. (2023) specifically highlight that understanding organizational culture within SMEs is crucial for the success of digital transformation, yet analyses of how this culture evolves under the influence of AI-driven change are still missing. It is precisely within this lack of regionally contextualized studies that the theoretical and practical significance of this research resides.

1.2.3. Consequences of the Problem

The impact of AI on the evolution of organizational culture and organizational climate should be examined systematically. Otherwise, ignoring these shifts can have deep and long-term consequences for SMEs. Contemporary scholars, across empirical studies and the

broader literature, make clear that technologies such as automation, machine learning, and algorithmic decision-making affect more than just processes; they reshape the very structure of values, communication patterns, and roles within organizations. Vial (2019) argues in the *International Journal of Information Management* that digital transformation, induces significant changes to the organization's culture, including shifts in values, norms, and behaviors. Similarly, Raisch and Krakowski (2021) in the *Academy of Management Review* emphasize that the implementation of AI in a form of automation or augmentation, solely, without planning can trigger processes like employee de-skilling, disrupt established organizational norms and unsettle the balance between technical efficiency and the human values that must be preserved. Taken together, these insights suggest that unless the cultural dimension of AI's organizational implications is understood and integrated into processes, especially strategic ones, organizations will become vulnerable to declining trust and a loss of identity, particularly those with less institutional resilience, such as software SMEs in Southeastern Europe.

For companies characterized by agility but also cultural fragility, leadership and stewardship of shared values become pivotal. In McKinsey's analysis Bughin et al. (2018) shows that SMEs often lack resources dedicated to systematically managing cultural change, making them especially susceptible to AI's disruptive effects. Stahl et al. (2020) further highlight that in a very small share of organizations, the cultural and psychological implications of AI adoption are considered at all, while most studies remain focused on technical aspects such as performance and profitability, giving priority to the technical and economic outcomes. The growing number of research explicitly targeting the psychological and cultural consequences of AI integration is still not sufficient for the SMEs, especially in the region of SE Europe. This fact deprives SMEs of the basis for a systematic and strategic response using proven methodologies. Consequently, the risk of deploying AI in the software

SMEs in SE Europe, without understanding its effects on trust, psychological stability, and interpersonal dynamics becomes highly likely.

If attention is confined solely to efficiency and productivity, without considering how change affects organizational culture, trust and collaboration within teams will erode further. Glikson and Woolley (2020) show that AI systems, particularly those supporting decision-making, can undermine trust when employees do not understand algorithmic processes or perceive them as unfair. AI can lead to increased anxiety, reduce the trust and psychological safety, if leaders don't show readiness to manage uncertainty (Yam et al., 2018). In the context of software SMEs in Southeastern Europe, where teams are typically small and relationships personal, the effects of trust loss, between team members or between employees and management, are even more noticeable. Davenport and Ronanki (2018) warn that firms neglecting the "human side" of AI implementation, its direct and indirect effects on employees, often experience declines in engagement and motivation, as algorithmic task allocation can trigger a sense of diminished control and professional purpose. As Noy and Zhang (2023) note, the productivity effects of a generative artificial intelligence (AI) technology, particularly the assistive chatbot ChatGPT, are positive. The results of one research show that ChatGPT substantially raised productivity of respondents: the average time taken decreased by 40% and output quality rose by 18%. Although AI demonstrably improves efficiency, employees do not necessarily experience productivity gains as compensation for losses of autonomy and recognition.

A failure to understand AI's effects on fairness, autonomy, and employee identity can yield resistance, passivity, and diminished engagement. Frey and Osborne (2017) show that automation fuels fear of job loss, provoking resistance, especially in technology sectors where workers' expert knowledge is central to their professional identity. Dietvorst et al. (2014) in the *Journal of Experimental Psychology* demonstrate that employees often reject

algorithmic decisions, perceiving them as less fair than human judgments even when they are objectively more accurate, an effect known as “algorithm aversion.” H. J. Wilson and Daugherty (2018) argue that employees who cannot see a renewed role for themselves in an AI-mediated environment lose their sense of purpose, dampening creativity and innovation and, ultimately, productivity. Collectively, these findings indicate that misunderstandings of cultural and psychological mechanisms frequently depress the effectiveness of individuals, teams, and entire organizations, a problem especially acute in software SMEs, where project success heavily depends on high-quality communication and collaborative work.

Resource constraints pose a distinct challenge for SMEs in the software industry, as do gaps in formal structures and defined transformation processes. The OECD (2021) reports that SMEs often lack developed mechanisms for cultural change, so procedural responses to innovation are replaced by spontaneous and uncoordinated reactions to technological shifts. In practice, this means that implementing AI, in form of introducing process automation or placing an AI agent within a workflow, can create confusion about roles, authority, and accountability. Stahl et al. (2022) when talk about ethical issues of AI implementations, confirm that such changes destabilize teams and increase turnover, while Schein (2010) stresses that any change touching the organization’s underlying assumptions, such as “we are an innovative and autonomous team”, requires a process of “relearning” culture. In many SMEs, leaders simultaneously take care technical and managerial roles, often favoring the technical; as a result, executing such relearning is difficult and uncertain, underscoring their vulnerability (Bughin et al., 2018; Vial, 2019).

There are, however, organizations, including SMEs, that succeed in aligning the technical and cultural dimensions of AI implementation and thereby achieve greater “digital maturity.” Westerman et al. (2014), writing in *MIT Sloan Management Review*, explain that digitally mature organizations do not treat technology as an isolated tool but as an extension

of their values and identity. Cameron and Quinn (2011) within the Competing Values Framework, describe adaptive cultures, such as clan and adhocracy, as those that, through trust, dialogue, and collective learning, enable successful change management. A joint study conducted by BCG GAMMA, the BCG Henderson Institute, and the *Annual MIT SMR* revealed that only about 10% of organizations achieve considerable financial returns from their AI investments. Those organizations that do succeed recognize that effective AI adoption depends on a cautiously orchestrated symbiosis between humans and machines, enabling higher levels of organizational learning and long-term growth. The same research, based on a global survey of more than 2,000 managers and interviews with 18 executives, further showed that companies which effectively integrate AI report tangible cultural improvements in collaboration, collective learning, role clarity, and team morale. Specifically, 97% of these organizations reported positive change in at least one of these areas, 89% in two, 76% in three, and 51% in all four dimensions of cultural advancement (Ransbotham et al., 2023). Similarly, J. Wilson and Daugherty (2018) emphasize that approaches rooted in collaborative intelligence, where AI amplifies human capabilities through training and augmentation, lead to substantial increases in employee engagement and productivity, supported by multiple empirical cases from organizational practice.

In this light, understanding and systematically investigating the cultural consequences of AI implementation becomes critical not only for the growth but also for the survival of software SMEs. Otherwise, there is a real danger that AI-induced change, rather than strengthening creativity and reinforcing organizational values, will erode core principles, trust, and even the identity of organizations undergoing AI-driven transformation.

1.2.4. The Specific Focus of This Study

This research does not address the technical aspects of developing or deploying AI; rather, it examines its cultural, psychological, and organizational implications within SMEs in

the region of Southeastern Europe. The study focuses on understanding how AI influences the evolution of organizational culture and organizational climate, with particular attention to changes in trust, communication, leadership, and employee's psychological safety. The integration of AI into various business processes transforms not only how teams work, make decisions, and communicate, but also how employees perceive their roles, purpose, and identity within the organization. Consequently, the study seeks to explore how these transformations shape the culture, values, and norms that form the invisible structure of every organization.

The research concentrates on software SMEs, which represent dynamic, advanced, and agile environments, but at the same time remain highly sensitive to social and organizational change. Compared with large corporations, SMEs are characterized by shorter and more direct communication channels, leadership with a personal dimension, and decision-making processes that are both faster and more visibly reflected in employee's daily work and interpersonal relations. In the specific context of Southeastern Europe, cultural patterns rooted in collective values, hierarchical models, and historical legacies, can further influence how organizations perceive, accept, and adapt to transformative technologies such as AI. Understanding these regionally conditioned factors provides valuable insight into the mechanisms that shape both organizational culture and organizational climate during digital transformation.

Given the complexity of the phenomenon under study and the author's recognition that it can only be understood holistically through a methodology that provides both depth and breadth of insight, the research adopts a mixed-methods approach, combining quantitative and qualitative techniques. The quantitative component, survey research, enables the identification of patterns and correlations between employee's perceptions, the level of AI integration, and the resulting cultural and climate changes. The qualitative component, semi-

structured interviews, offers deeper understanding of individual experiences and subjective interpretations of change triggered by AI integration into organizational processes. This methodological design allows the study not only to describe the phenomenon but also to uncover the mechanisms through which AI influences the cultural transformation of software SMEs.

Ultimately, the focus of this research is to deliver two key outcomes: an empirically grounded framework for understanding and measuring the impact of AI on organizational culture in software SMEs, and a set of practical guidelines for leadership, decision-makers and culture practitioners in these organizations, helping them build sustainable, adaptive, and culturally mature organizations in an era of accelerated AI implementation.

1.2.5. The Problem Statement

Despite the increasing integration of Artificial Intelligence (AI) into software development processes, as well as into the business operations and models of software companies, there remains a notable lack of understanding of how AI integration shapes organizational culture and organizational climate within these firms. On the other hand, numerous studies confirm AI's contributions to operational efficiency, higher productivity, and improved quality, yet there is still an absence of research that simultaneously examines its impact on organizational values, behavioral patterns, interpersonal relationships, and ultimately, on employees' sense of identity. Contemporary scholarship (Murire, 2024; Schein, 2010) consistently reaffirms the importance of organizational culture and its direct influence on the functioning of organizations, thereby raising a critical question: How does AI, when integrated into an organization's business processes, affect this cultural system, and to what extent does it place pressure on it to be redefined? Particularly within SMEs, where work models, organizational structures, and communication patterns evolve rapidly, it becomes

essential to understand how organizational culture adapts to new technological, psychological, and ethical challenges introduced by AI.

This study seeks to fill that research gap by analyzing the cultural, psychological, and leadership-related consequences of AI adoption in software SMEs located in Southeastern Europe. The aim is to identify measurable indicators of these dimensions of change and to provide practical support to software companies through the study's findings, enabling them to design strategies that promote a healthy, sustainable, and well-managed cultural transformation. Special attention will be given to how different work models, onsite, remote, or hybrid, affect the perception of AI's influence on decision-making processes, management structures, trust in those decisions, communication, collaboration, and psychological safety.

The digital transformation of SMEs unfolding in the current competitive environment encompasses multiple interrelated phenomena such as the Internet of Things (IoT), Big Data, and AI (Leso et al., 2022). Together, these phenomena and others yet to emerge, which are likely to be equally disruptive, are reshaping both the external environment in which SMEs redefine themselves and the internal transformations occurring within them. Positioned between theory and practice, this research aims to contribute to academic understanding as well as to offer practical guidance for organizations that, while aware of the challenges posed by AI implementation, seek to preserve and strengthen the resilience of their organizational culture in an increasingly AI-driven environment.

1.2.6. Summary

The research problem of this study does not lie within technology itself, nor in the technical aspects of AI implementation within the business processes of SMEs, but rather in the invisible layer of the organization, in the changes that AI induces in its organizational culture and in its essential dimensions such as the core values and psychological safety of employees. AI does not merely alter structures and processes; it influences the very essence

of organizational life, transforming how employees perceive their identity, purpose, and role within the organization. This represents the central challenge and the focal point that this study seeks to explore. The research aims to address a critical gap in the existing literature by examining cultural transformation not only through structural or productivity metrics, but primarily through shifts in values, identity, leadership, and employee empowerment.

In the following section, the study establishes the foundation for a deeper understanding of the mechanisms through which AI influences the organizational culture and climate of software SMEs in Southeastern Europe, as well as for the development of an empirically grounded framework to guide their cultural transformation.

1.3.Research Aim and Objectives

Building upon the identified research problem, which refers to the lack of understanding of how the integration of AI influences organizational culture and organizational climate within SMEs in the Southeastern Europe region, this study aims to provide both an empirical and theoretical framework for understanding that impact. Business processes today contain AI as an integral part, which means that through interaction with the employees who use those processes, they can be the initiator of changes in employee behavior, leadership style, established values and interpersonal relationships in organizations. In this context, the goal of this research is not to look at the technological aspects of the application of AI, nor only the technical and directly financial effects, such as the impact on productivity and efficiency, but to primarily deal with the role of AI in shaping the organizational culture of organizations, as a key factor in the identity of an organization, and its long-term sustainability.

While many contemporary studies examine the influence of AI on organizational performance, relatively few address its impact on organizational culture. The existence of such research, for instance *"The Impact of Artificial Intelligence on Organizational Culture"*

by Pawar and Shah (2024), confirms the relevance of the aims and objectives of this study. Authors demonstrate that AI has a significant impact on organizational culture by transforming communication, collaboration, and shared values within organizations, fostering a culture of innovation and continuous improvement. This finding underscores the need for a deeper understanding of the specific context of software SMEs in Southeastern Europe. Additionally, a recent regional report on AI adoption in Central and Eastern Europe ('How Do SMEs in CEE Find Their Way in the World of AI?', n.d.) reveals that 61% of employees are actively seeking ways to apply AI in their work, highlighting the growth of an innovation-oriented culture and the need for organizational cultures to adapt in order to maintain competitiveness among SMEs.

The main aim of this research is to examine how the integration of AI technologies affects organizational culture and organizational climate in software SMEs in Southeastern Europe, with particular attention to trust, communication, leadership, values, and employee's psychological safety. This issue holds significance for the broader business community, as Pawar and Shah (2024) further note that AI, in addition to its technical benefits, enables improved performance, sustainable growth and customer satisfaction, which confirms the importance of strategic alignment of AI initiatives with the cultural goals of organizations.

Similarly, in Central and Eastern Europe, where SMEs are key drivers of economic growth, 77% of companies view AI as a competitive advantage, particularly in countries such as Poland. This further highlights the relevance of this research for developing sustainable business strategies within Southeastern Europe, a region not yet comprehensively represented in current studies. Moreover, ('How Do SMEs in CEE Find Their Way in the World of AI?', n.d.), based on a survey conducted among employees in 11 European countries, reveals low awareness of AI regulatory frameworks, limited integration of AI outside IT, marketing, and customer service, and a competence gap, while 60% of SMEs invest in developing AI-related

skills, one in four takes no action, thereby widening the gap between technology leaders and laggards.

In accordance with the set goals, the research of AI's impact on SMEs in Southeastern Europe is structured around the following specific objectives:

1. Analysis of the impact of AI on the key elements of organizational culture, values, norms and patterns of behavior.
2. Analysis of the behavior of leaders in software SME companies using AI tools in team management and decision-making, and how this affects employee trust and engagement.
3. Analysis of the impact of AI on communication processes and collaboration channels in different work models (onsite, hybrid and remote).
4. Assessment of how employees perceive their psychological security, autonomy and professional development in the context of increasing automation and digitization of business, and under the direct influence of AI.
5. Propose guidelines for building sustainable and adaptive organizational cultures.

The goals will be achieved by applying a combined methodological approach (mixed-methods) that connects quantitative and qualitative methods; in order to get a complete picture of the phenomenon, the quantitative part will ensure the measurement and identification of patterns, while the qualitative part will enable a deeper understanding of the experiences and meanings that employees attach to the changes caused by the integration of AI.

1.4.Research Questions and Hypothesis

The key stage of any scientific research is the formulation of research questions and hypotheses, because this connects the theoretical framework with the empirical research of the phenomenon. Within the mixed methods approach, research questions include both

qualitative and quantitative dimensions of the phenomenon, while hypotheses are formulated primarily for the quantitative part of the study, where relationships between variables can be statistically examined (Creswell and Plano, 2018). The qualitative part of the research has no formal hypotheses, but focuses on understanding the meanings, patterns and experiences behind the observed relationships, thus complementing and deepening the quantitative insight (Yin, 2017).

The literature often emphasizes that each hypothesis should offer a specific and measurable claim about the expected relationship between the variables, and that this claim should be based on existing theory or the findings of previous research (Bronet, 2025; Saunders et al., 2023). The importance of hypotheses is particularly evident in quantitative studies, based on survey research, because they direct the collection of data, analysis and interpretation of results. Bronet (2025) claims that for each research question theoretically there can be one or more hypotheses that predict the expected outcomes, while in practice one hypothesis per research question is the most common and effective approach. The most important condition that the hypothesis must satisfy is that it be concrete, and also that it unambiguously indicates the direction of the relationship (positive, negative) or the difference between groups (larger, smaller), in order to be empirically verifiable.

Guided by the above, this research uses the following research questions, formulated to cover the quantitative and qualitative aspects of the phenomenon of the impact of (AI on organizational culture and climate in SMEs in the region of Southeast Europe:

Research questions:

To what extent does artificial intelligence affect organizational culture?

How does AI reshape organizational culture and climate?

What are the implications for leadership, teamwork, and employee well-being?

How does AI impacts SMEs productivity?

What strategies can SMEs adopt to align AI usage with healthy cultural development and employee engagement?

Central hypothesis: Embracement of AI, beyond its functional impact, acts as a catalyst for deeper alterations in organizational culture and climate, subtly reshaping leadership patterns, team dynamics, and the psychological contract between employer and employee.

Based on this central hypothesis, five specific sub-hypotheses (H1–H5) were formulated that are in line with the research questions and enable empirical testing of the assumed relationships:

• H1: A higher level of integration of AI technologies in SME companies is positively associated with more pronounced changes in organizational culture, especially in the direction of increased innovation and adaptability.

• H2: The implementation of AI in SME companies has a positive effect on the organizational climate through the improvement of cooperation, communication and decision-making based on data.

• H3: The use of AI technologies has a positive effect on the effectiveness of leadership and the quality of teamwork, but it can simultaneously increase the psychological tension of employees if there is no adequate trust and support.

• H4: The application of AI tools in software SME companies has a positive effect on organizational productivity, expressed through an increase in process efficiency and employee performance.

• H5: SME companies that develop strategies for the use of AI based on training, participation and empowerment of employees achieve a higher level of engagement and a healthier cultural development compared to companies that do not apply such approaches.

Guided by the principles of clarity, measurability and theoretical grounding (Bronet, 2025; Bryman, 2016), these hypotheses were formulated. This ensures consistency between

the research questions and the analytical approach, while the qualitative part of the research, through interviews and thematic analysis, enables a deeper understanding of the mechanisms behind changes in the culture and climate of organizations (Creswell and Plano, 2018). With this approach, the author believes that the research questions and hypotheses will together form an integrated framework that will successfully connect the theory, empirical research as well as the methodology of this work.

1.5.Significance of the Study

The theoretical importance of this research is reflected in its contribution to understanding the dynamics of organizational culture due to the integration of AI into the organizational context, especially within SMEs. Previous literature has paid most attention to the technical, technological and economic effects of AI implementation, while the impact of AI implementation in the business processes of software SMEs in SE Europe has remained beyond the scope of interest. This study will deal with the impact of AI, in the mentioned context, primarily on values, norms and interpersonal relations within organizations. That dynamic is precisely the focus of the analysis, with the desire to contribute to the development of a theoretical framework that connects technology, AI above all, with organizational culture. Some new studies may, after this or under the slight influence of this research, deal with changes in organizational culture under the influence of AI, and in other organizations, not only companies that are from the IT domain and deal with software development.

The practical contribution of this work is reflected in the potential for its findings to be placed in the fundamental foundations of HR strategies in SME software companies that start AI integration processes or create a strategy to face the challenges that AI integration brings. Research can potentially provide a greater understanding of how AI affects leadership,

communication, trust and professional development, and provide guidance on how to design these processes to support, rather than undermine, existing cultural values. The list of roles that can find potential guidelines and insights in this research include managers, HR experts as well as consultants on the topic of organizational culture, primarily because this research does not only deal with the effect of AI integration into business processes on efficiency and productivity directly, but also on employees in SMEs, their communication, satisfaction, psychological safety, and the organizational culture itself.

The research also has regional significance because it focuses on the SE Europe region, a region in which SMEs represent the core of economic development, and at the same time face numerous challenges such as limited resources, a lower level of digital maturity, and pronounced cultural specificities. Accordingly, Leso et al. (2022) point out that the success of digital transformation in SME companies depends on their ability to develop organizational cultures that support innovation, collaboration and continuous learning, which is especially important in the context of a region that is rapidly, but unevenly, adapting to global digitization trends.

Finally, the importance of this research lies outside the narrow technical and business framework, by contributing to the understanding of the relationship between technology, i.e. AI as one of its elements, and culture, by confirming that the success of AI implementation does not depend only on the technological capacity of the organization, but also on its ability to preserve the key values of its culture in an era of accelerated technological changes.

1.6.Research Scope, Assumptions, and Limitations

The subject of this research are SME software companies in SE Europe, whether they are local or have subsidiaries in those countries. The focus of the research is on the impact of AI integration into business processes, on changes that subsequently occur in values, leadership,

communication and psychological security of employees. Technological aspects of AI integration and implementation are beyond the scope of this research. The research exclusively focuses on the human, organizational and cultural implications arising from the application of AI. The research has a regional character and is limited to the region of Southeast Europe due to its specific cultural patterns and the structure of the SME sector. The assumption is that the findings can be used for comparative studies with other European regions.

The starting assumption is that the SMEs that are the subject of the research have to some extent already integrated AI in a certain form into the business processes of all organizations participating in the study, either through the use of automated tools in non-production activities such as marketing, HR, etc. or through the tools used in the software development process, like Copilot software and others. The research is based on the assumption that survey participants, as well as interviewed managers, will honestly and objectively express their perceptions and experiences, and that their answers will reflect an authentic understanding of organizational culture and the changes they experienced in the context of AI integration. It is also assumed that participants have sufficient experience in working with AI tools and technologies, which should allow their observations to be as relevant and reliable as possible for analysis.

Every study has certain limitations, especially studies dealing with modern complex technological and social phenomena. First, the size and representativeness of the sample may be limited, as the research is focused on a specific sector (software SME companies) and a specific geographic region (Southeastern Europe). Second, language and cultural differences among participants may affect the way they understand and interpret the questions, despite the use of English as a common means of communication. Third, the time frame of the research limits the ability to observe the long-term effects of AI integration on organizational

culture. Although present, these limitations do not represent weaknesses, but a framework for interpreting the results and their contextual relevance. As stated by Yin (2018), the researcher should not only understand but also openly acknowledge the strengths and limitations of his own research, as each method has its own complementary advantages and disadvantages. A good researcher, Yin adds, strives for the highest ethical and professional standards: honesty, responsibility, and scientific precision, and is obliged to transparently state the methodological limitations, context, and limits of application of his findings, thus ensuring the credibility and reliability of scientific work.

1.7.Structure of the Thesis

This chapter provides an overview of the structure of this dissertation, and explains the flow of research that goes from setting the research problem to theoretical insights, empirical results, and practical recommendations. The structure is designed to guide the reader through the process of understanding the relationship between AI and organizational culture in SMEs in the SE Europe region.

Chapter 1 - Introduction represents the introductory framework of the research and it presents the research problem, objectives, questions and hypotheses, the theoretical and practical significance of the study, as well as its scope, assumptions and limitations. The chapter also describes the structure of the paper, which lays the foundation for understanding further chapters.

Chapter 2 - Literature Review explores the existing theoretical and empirical knowledge about organizational culture, organizational climate and the application of AI in modern business. This chapter addresses key theoretical frameworks (Schein's model of culture, Cameron & Quinn's CVF, and GGCT), as well as contemporary work on the cultural implications of AI integrations. Special attention is devoted to the identification of a research

gap, the lack of empirical studies examining the cultural and psychological aspects of AI integration in the context of software SME companies in Southeast Europe. This lays a solid theoretical foundation for the methodological part of the research.

Chapter 3 - Research Methodology describes the methodological approach that was applied in the research, including the philosophical foundations, the research design and the rationale for choosing a mixed methods approach. Procedures for collecting primary data through quantitative surveys and qualitative interviews are presented in detail, as well as steps in data analysis, with an explanation of methods of triangulation, validation and ethical guidelines. The chapter also explains the sample selection process, questionnaire development and interview coding, thus ensuring methodological transparency and reliability of the results.

Chapter 4 - Results contains the results of quantitative and qualitative analysis and their interpretation in relation to the set hypotheses and research questions. The quantitative part includes statistical analysis, measuring correlations between dimensions of organizational culture and the degree of AI integration, while the qualitative part brings a thematic analysis of the perceptions and experiences of employees and managers.

Chapter 5 - Discussion and Conclusions presents a synthesis of key research findings and their implications for theory and practice. And before that, the Discussion connects the findings with theoretical frameworks and previous research, highlighting patterns, differences and possible implications for the future development of SME organizations in the digital environment.

This chapter draws conclusions about the impact of AI on organizational culture and climate, confirms or rejects the hypotheses, and provides guidance for leaders, HR professionals and decision makers in SME companies. The chapter also includes practical recommendations for developing cultural resilience, adaptive leadership, and the ethical

application of AI, as well as suggestions for future research that could further deepen the understanding of the relationship between technology and culture in different regional and industrial contexts.

Appendices contain appendices that include research instruments, survey questionnaires, interview guides, and supplementary tables with statistical data.

This structure ensures a clear, systematic and methodologically consistent research flow, from theoretical reflection to empirical contribution, and allows the problem to be explored in its full complexity, linking technology, culture and human behavior within contemporary software SMEs in SE Europe.

CHAPTER 2

LITERATURE REVIEW

2.1. Introduction

2.1.1. AI as a Transformational Force in Organizations

AI has been said to have the ability to revolutionize a variety of fields and businesses, including medicine (Mettler et al., 2017), the automotive industry ('AI in the Auto Industry.', 2024), supply chain management (Jauhar et al., 2024), software industry, performance (Malik et al., 2021; Noy and Zhang, 2023; Peng et al., 2023; Vetráková & Smerek, 2016), and even the human capacity (Dwivedi et al., 2021).

Based on research of Korteling et al. (2021), it can be argued that it's more and more important that human professionals working with advanced AI systems, army, police, law enforcement & legislatures, develop a proper attitude and awareness about the different cognitive capacities of AI systems in relation to humans. The relevancy of this issue will be increased, when AI systems become more advanced and are deployed with higher degrees of autonomy, taking the decision-making roles in the future, from the role of augmenting human effort in transforming organizations, that they perform now, through the role of pointing brainstorming of transformational directions, to the role of shaping the organizations solely. In addition to the now widely present concerns, and the polemics that have been going on for some time about the impact of artificial intelligence on employment and the amount of work expected of employees, as well as the need for new employees, the evidence itself at the company level is scarce and imprecise. This was also recognized by this study and the author Yang (2022) on a sample of Taiwanese companies, at the level of the companies themselves examine the impact of AI technology on company productivity, employment and the composition of the workforce. It can be said that this study has a contribution to the literature,

and it is one of the first, but it also leaves room for research into deeper and longer-term implications for the transformation of production processes, work organization, and even the organizational culture of companies.

An implementation of Artificial Intelligence in organization, in the form of Generative AI tool ChatGPT has strong transformational force, and this has been demonstrated in the study (Noy and Zhang, 2023). They claimed that the availability of ChatGPT to employees influence job satisfaction in various ways. It has the potential to enhance satisfaction by automating repetitive or tedious tasks, allowing employees to complete their work more efficiently and focus on more engaging aspects of their daily routine. Equally, it could reduce job enjoyment if it automates the more enjoyable parts of a task. Additionally, it may increase self-efficacy by providing employees with a powerful tool to enhance their capabilities, yet it could also lead to feelings of redundancy if employees perceive their contributions as less valuable (Noy and Zhang, 2023).

2.1.2. Context of Software Engineering SMEs in Southeastern Europe

A research with geographical context should be built upon understanding of cultural differences in national and intercultural setting (Vetráková & Smerek, 2016). There is a high probability that different cultures have different levels of cultural basis, which setup base for occurrence of misunderstandings and various conflict situations. Consequently, discovering and understanding the value characteristics and cultural differences is a prerequisite for effective work and efficient communication in any national and intercultural setting. Hofstede (2011) points out that those cultures that individuals adopt from early childhood, such as social, national and gender culture, are much more deeply rooted in the human mindset than professional cultures acquired during schooling and education or organizational cultures adopted at the workplace. While professional and organizational cultures are of temporary nature and subject to change when an individual changes jobs, social cultures persist through

underlying values that shape the perception of desirable states in society. On the other hand, organizational cultures rely more on visible and conscious practices, shaping the way employees perceive and interpret events in their organizational environment. Therefore, the national cultural component that makes the organizational culture of the same company specific in relation to the country in which the office of that global company is located, must not be ignored either.

Morandini et al. (2023) highlight that the digital era demands increasingly rapid adaptation from organizations, with the window of opportunity for employee reskilling and upskilling narrowing due to the accelerating pace of technological change. It is expected that in the next five years, the list of key skills required for work will be significantly different from today's, with 50% of all employees needing additional training to meet the emerging expectations. In the context of Southeastern Europe, where training resources are more limited compared to more developed regions, the need for tailored strategies for SME companies becomes even more pronounced.

2.1.3. Objectives of the Literature Review

Small and medium-sized enterprises (SMEs) are the main driving force of employment and economic growth (Rakshit et al., 2021). The objective of this literature review is to systematically examine existing research on organizational culture in software SMEs, with a particular focus on Southeastern Europe. This review explores key cultural dimensions, including leadership, values, employee empowerment, communication, and the evolving role of artificial intelligence separately and as a driving force that impacts not only organizational culture in general, but also all of its key dimensions separately. By identifying gaps in current literature, particularly regarding AI's impact and regional cultural factors, this study aims to provide a robust theoretical foundation. Additionally, it evaluates various frameworks for measuring organizational culture, ensuring methodological rigor in assessing

its impact on business performance, employee satisfaction, and retention. Ultimately, this review will inform the research design and contribute to a deeper understanding of how culture shapes organizational success in artificial intelligence-driven environments.

2.1.4. Rationale for Literature Selection

With an aim to ensure both theoretical and empirical robustness, a structured and multi-faceted approach was used in the selection of literature for this study. A blend of systematic and narrative review methodologies was implemented, incorporating core elements from PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) while also leveraging conceptual and integrative literature review principles. (Moher et al., 2009) with PRISMA targeted on randomized trials; not limiting to it, and leaving its framework adaptable for systematic reviews of various research types, particularly for evaluating interventions. PRISMA can serve as a tool for critical appraisal of published systematic reviews. It is imperative to note that while PRISMA framework offers a structured approach for reporting, it is not intended to use it as an instrument for assessing the quality of a systematic review. This “the realist systematic approach” safeguards that relevant studies are systematically identified, critically appraised, and synthesized to provide a comprehensive understanding of the research domain.

2.1.5. Initial Literature Identification: Seed Articles and Snowballing Approach

Having in mind the novelty of the research topic, initial searches in academic databases, based on keyword combinations, often returned a limited number of results with questionable relevance. To improve the coverage of high-quality studies, a snowballing approach was implemented. A set of seed articles, which were acknowledged as foundational or highly relevant to the research question, served as the opening point. The references within these articles, as well as the references of citations in those articles, were systematically reviewed to expand the list of potentially valuable studies.

The snowballing method proved effective in discovering high-impact articles that were not always surfaced through direct database searches. This iterative expansion allowed for the identification of hidden but valuable research contributions. In addition to academic databases, LinkedIn discussions, industry white papers, and specialized academic journals provided useful leads to relevant studies. These non-traditional sources were particularly useful in tracing the latest trends in AI's impact on organizational culture and climate in software SMEs.

Selection Criteria

The recency of publications was key selection criteria, particularly for group of studies that directly researched the impact of AI on organizational culture and climate. For these, only articles published within the past five years were included. Nevertheless, inclusion of foundational theoretical articles on organizational culture and climate, was not limited by their publication year, and those articles were retained if they continued to be widely cited and influential within the field, or important particularly for this study.

Additional consideration was the language of publication, as only studies available in English were included. This decision ensured accessibility and broader academic acknowledgement, but introduces a potential selection bias by excluding relevant research published in other languages. Knowing this limitation, limited efforts were made to cross-reference findings with non-English abstracts and summaries where available.

Due to the relative novelty of AI's influence on organizational culture, many selected studies were published in the last two years. Citation count was not used as an exclusion criterion, as newer studies had not yet accumulated substantial citations but were nonetheless methodologically strong and relevant. This decision was particularly important given the rapid pace of AI developments and their implications on the organizations, their culture and climate.

Review Methodology and Justification

After piloting several approaches to the literature selection process, a combination of systematic, narrative, and conceptual review was chosen to capture both the breadth and depth of existing literature. Several review methodologies were considered:

- Systematic Review (Appliance of PRISMA Framework): Employed for its structured approach in ensuring transparency and rigor. Used primarily for screening, selection, and flow tracking.
- Narrative Review: Chosen for its flexibility in synthesizing findings from diverse methodological backgrounds and providing contextual interpretations of various literature sources.
- Conceptual Review: Chosen to identify key theoretical constructs and trace their evolution over time.
- Scoping Review: Considered but not selected as the research focuses on in-depth analysis rather than mapping the breadth of literature.

The decision to implement a hybrid methodology was influenced by the nature of the topic, which requires both empirical validation and theoretical exploration. Systematic review principles were used for rigor and transparency, while narrative and conceptual review elements ensured a more holistic synthesis of findings.

Systematic Review Process – PRISMA Framework

The review process followed PRISMA guidelines to ensure methodological consistency:

1. Define Research Question and Selection Criteria

   The study employed the PICO(S) framework (Population, Intervention, Comparison, Outcomes, Study design) to define inclusion and exclusion criteria.

The first step was to clearly define the research question using PICO(S) variation for the social sciences as:

- Population: Employees in the IT SME companies in the Southeast Europe
- Intervention: The impact of organizational culture on performance, productivity, employee satisfaction
- Comparison: Different work models (remote vs. onsite), different leadership strategies
- Outcomes: Employee satisfaction, Employee Retention, Company profitability
- Study design: Includes qualitative, quantitative, longitudinal studies, etc.

2. Search for Literature

   Databases searched: Google Scholar, Scopus, EBSCOhost, ResearchGate, Emerald Insight, IEEE Xplore.

   Keywords used:

   ("organizational culture" OR "corporate culture" OR "organizational climate") AND ("software engineering" OR "IT industry") AND ("performance" OR "employee retention") AND ("Southeastern Europe")

3. Duplicate Removal

   Automated deduplication was performed using Zotero to eliminate duplicate records across databases.

4. Screening of Titles and Abstracts

   Titles and abstracts were manually reviewed to exclude clearly irrelevant studies. This process appliance ensured that only studies directly related to the research objectives were retained.

5. Full-Text Review and Final Study Selection

   Full texts of shortlisted articles were assessed against predefined inclusion criteria. Articles that failed to provide empirical or theoretical relevance were excluded at this stage.

6. PRISMA Flow Diagram

   The process was documented using a PRISMA flow diagram to visually represent study selection (Figure 1).

7. Data Extraction

   Key study attributes, including authorship, methodology, focus, gap, findings, and relevance to this literature review, were systematically extracted into a structured table.

8. Critical Evaluation of Study Quality

   The starting point was to evaluate most used and potentially applicable frameworks:

- Critical Appraisal Skills Program (CASP) – for qualitative and mixed-methods studies.
- Cochrane Risk of Bias Tool – for empirical research.
- Mixed Methods Appraisal Tool (MMAT) – for studies combining qualitative and quantitative approaches.

At the end of this segment of research, choice was to use custom methodology that will alleviate the limitation of lack of time and at the same time make this literature review feasible

9. Synthesis of Findings

   Selected studies were synthesized to identify key themes, methodological trends, and gaps in the literature. Special attention was given to studies addressing AI's impact on workplace culture, leadership, and employee engagement.

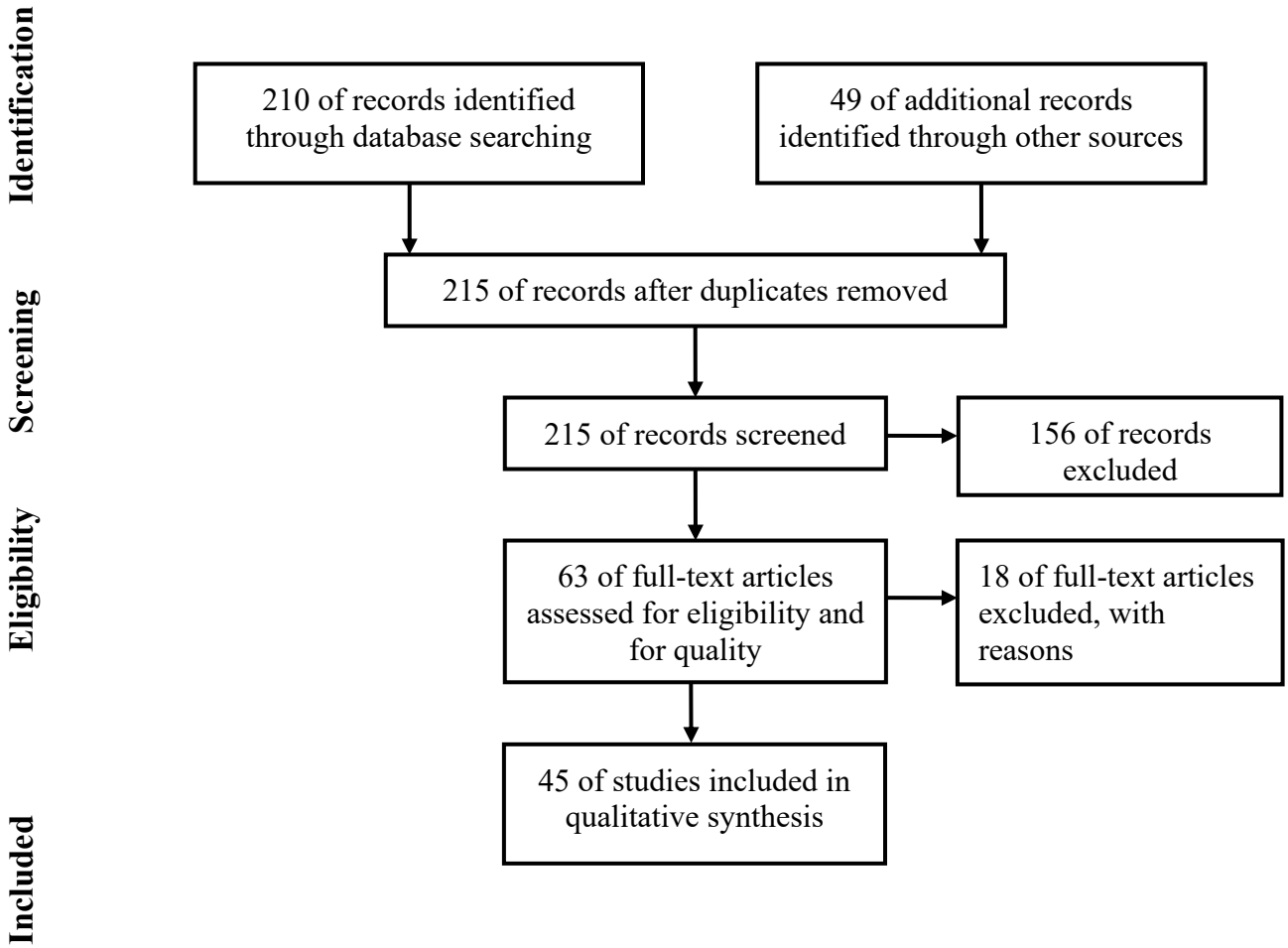


Figure 1. Flow of information in different phases of a literature review

Note: Adapted from Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & Group, T. P. (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *PLOS Medicine*, *6*(7), e1000097.

Addressing Potential Selection Bias

Another key limitation was the time constraint faced by the researcher. Given the extensive volume of potentially relevant studies, it was not feasible to thoroughly analyze every paper that appeared promising during the selection process. Instead, a structured approach was adopted where a shortlist of the most relevant articles was identified, and only these underwent detailed review and analysis.

A custom evaluation framework was developed, to manage this constraint, by incorporating indexed criteria to assess the relevance and quality of shortlisted studies. The framework assigned weightings to key factors such as theoretical contribution, empirical rigor, and contextual relevance. The following table illustrates an example evaluation for (Cameron, 1988), a seminal work in organizational culture:

Evaluation Criteria	Assessment for Cameron (1988)	Score (0-9)
CASP (Theoretical Strength & Clarity)	Strong theoretical foundation but lacks empirical validation	**8/9**
Cochrane Risk of Bias (Empirical Reliability)	Not applicable to theoretical works, but potential theoretical bias	**5/9**
MMAT (Mixed Methods Rigor)	Not applicable due to lack of empirical data	**3/9**
Contextual Relevance	High importance in defining organizational culture, but lacks specificity for software SMEs	**7/9**
Temporal Weighting	Older study but remains highly cited and influential	**6/9**

Figure 2. Custom Evaluation Framework

Note: Own research

Starting with goal to optimize the literature selection process within this study's time constraints, this custom framework, yet insufficiently researched and tested, appears promising for future research exploring efficient methodologies for literature review, selection, and synthesis. Evaluation of the effectiveness of such frameworks could be a potentially valuable direction for further academic inquiry.

To mitigate selection bias, several measures were taken to:

- Balancing between foundational and contemporary studies: Ensuring that both historical perspectives and the latest research are represented.
- Accounting for linguistic limitations: Recognizing the exclusion of non-English studies as a potential limitation.

- Acknowledging emerging research: Avoiding over-reliance on citation counts for exclusion.
- Diversity in methodological approaches: Integrating AI-driven, qualitative, quantitative, and theoretical perspectives.

Aim holistic approach in valuating study quality: Considering relevance that is beyond traditional citation metrics, allows newer studies with high methodological rigor to be included.

Final Literature Selection Strategy

The final literature selection integrates systematic rigor with conceptual depth, ensuring that both empirical evidence and theoretical foundations inform the study. By engaging a mix-method strategy in literature review, this research provides a comprehensive, transparent, and methodologically sound foundation for analyze the impact of AI on organizational culture in software SMEs.

This methodology not only ensures a structured literature selection process but also allows for a more nuanced and interdisciplinary synthesis of findings, bridging theoretical insights with real-world applications. The approach balances methodological rigor with flexibility, ensuring a robust foundation for the study's conclusions.

2.2. Theoretical Frameworks and Key Concepts

2.2.1. Organizational Culture: Definitions and Perspectives

Classical definitions (Schein, Hofstede, Cameron and others)

Clear understanding, what is organizational culture is unquestionably necessary starting point for every research that aims to define, redefine, how to study and at the end, how to measure it. Research made by Verbeke et al. (1998) reported 54 different definitions of organizational culture. So, let's start from the main contributors.

"Organizational culture is the pattern of basic assumptions which a given group has invented, discovered, or developed in learning to cope with its problems of external adaptation and internal integration, which have worked well enough to be considered valid , and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems" (Schein, 1983).

Schein (1983) emphasizes that the outcome of change in organizations and organizational culture can be successful only with a good understanding of how culture learns and evolves. In other words, before starting to change the culture of the organization, a deep understanding of the dynamics of the evolutionary forces that govern the development of that culture is needed. In the context of modern organizations, including the one in Southeast Europe, this means that leaders must understand how employees learn and adapt to new changes in order for initiatives to be accepted and increase their chance of being integrated into the existing culture.

Hofstede (2011) identifies six dimensions of national culture: Power Distance, Uncertainty Avoidance, Individualism vs. Collectivism, Masculinity vs. Femininity, Long-Term vs. Short-Term Orientation, and Indulgence vs. Restraint.

Cameron (1988) identifies several key dimensions of organizational culture that are often cited in research papers and that make the foundation for a deeper understanding of its characteristics. The first dimension is cultural strength, which refers to the ability of culture to shape and control the behavior of organizational members. Cultural congruence describes the degree of homogeneity and alignment among cultural elements, while cultural type emphasizes the dominance of certain thematic patterns in an organization. Cultural continuity measures the consistency and sustainability of culture over time, while cultural distinctiveness indicates the unique characteristics that distinguish an organizational culture from others. Finally, cultural clarity reflects the degree to which the values and norms of the

organizational culture are clearly defined, understood, and consistently represented within the organization. These dimensions enable a deeper understanding of how organizations develop and maintain their culture, which is particularly relevant in the context of changes in SMEs in the software industry.

Hofstede (2011) defines culture as the collective programming of the mind that distinguishes members of one group or category of people from others. In the context of the impact of artificial intelligence on the organizational culture of software SME companies in Southeast Europe, this implies that AI may become a new factor in the "programming" of organizations. The integration of AI can influence the values, norms and behavior of employees, transforming the way they make decisions and adapt to new work practices. In the formulation of the concept of organizational culture, Denison (1993b) claims, there is a tendency to choose a multi-level structure, where visible artifacts and formal structures serve as external manifestations of deeper, rooted values. The behavior of employees is strongly influenced by these values and assumptions. Often these values are unrecognized and very resistant to change. This perception of organizational culture is in contrast to the organizational climate, which in its manifestations shows easy perceptibility and transience.

Measuring Corporate Culture

The challenges facing the successful measurement of organizational culture are, first of all, conceptual ambiguities and methodological inconsistencies, similar to the challenges faced by organizational climate research. Many of previous researches highlight the difficulty in distinguishing between individual climate perceptions and collective cultural norms. This issue is particularly relevant in software development SMEs, where teams work in hybrid and remote environments, which complicates the assessment of shared cultural values limitations (Glick, 1985). To ensure a rigorous approach, this study intends to integrate multi-level assessment methods, building on established cultural measurement frameworks while

addressing their known. Clearly Grid Group Cultural Theory provides a valuable perspective for organizational culture. But going deeper, and measuring organizational culture brings at least two challenges: defining unit of analysis and dimensions of culture (Wouters and Maesschalck, 2014). Obviously, there are so many dimensions, and one study can't measure them all, so natural solution is measuring specific dimensions like leadership, or impact of technology/AI. Apart from that, there are certain methodological challenges, like potential bias of objectivity is.

The evidence supports that remote work has affected organizational culture to some extent (Eriksson and Santesson, 2021). From an integration perspective, the most pronounced change relates to the increased consensus around transparency and the perception of equality, since all employees have the same working conditions when working remotely. And, from a differentiation perspective, a lack of agreement is noticed, especially regarding socialization and fragmentation of teams. From a fragmentation perspective, tendencies towards ambiguity were observed, especially in relation to employee responses to initiatives undertaken to compensate for the lack of social interactions. The gap in this study is the timing, where interviews were conducted. Due to a pandemic situation, the authors could not execute interviews in a desired way, so interpretation of body language and gestures is missing.

Culture as shared values, norms, and behaviors

Denison (1993a) claims that it is the theoretical roots that most distinguish organizational culture and organizational climate, and not methodological differences. While research on organizational climate is largely derived from psychological and social-ecological theories (for example, Lewin's field theory), research on organizational culture has been shaped by symbolic interactionism and social constructivism. This statement is consistent with Cameron (1988), who emphasizes that organizational culture emerges from shared values and collective meaning creation, while organizational climate reflects how

employees perceive working conditions. Both perspectives highlight organizational culture as deeper and more stable, while organizational climate remains dynamic and more susceptible to managerial influence.

2.2.2. Organizational Climate: Distinctions from Culture

For the purpose of this study, organizational culture is considered as long-standing shared values and beliefs, whereas climate describes how employees perceive their workplace at a particular moment in time (Denison, 1993b).

Climate as the perceived work environment and psychological impact

Unlike Denison (1984) and Glick (1985) who deny the existence of significant, or at least any, difference between organizational culture and organizational climate, Cameron (1988) makes a distinction between organizational culture and climate, emphasizing that while climate consists of attitudes and emotions that can be measured through surveys, organizational culture is rooted in core values and assumptions that are more difficult to quantify. This distinction is crucial in researching AI-driven transformations in small and medium-sized enterprises, as it suggests that understanding cultural change requires deeper analysis beyond employee sentiment surveys.

In the past, in the nineties of the last century, the concept of organizational climate was often the subject of discussion and polemic, and especially the topic was objective conditions versus subjective perceptions. Some scientists base the concept of organizational climate on a set of measurable environmental factors (management style, reward system, etc.), while others claim that it is shaped by the way employees perceive these conditions (Denison, 1993b). From the perspective of the fluidity of the climate and its susceptibility to the interventions of managers, and a culture that is deeply embedded and much more active in changes, this polemic does not lose its value even today.

AI's influence on climate through digital tools and automation

Findings of Murire (2024) builds a strong foundation for understanding influence of Artificial Intelligence on organizational culture and its transformation, making it a valuable addition to this study. Due to its broad scope, there is a necessity for further contextualization, in order to fully align it the focus of this research on software SMEs in Southeastern Europe. As illustrated by Noy and Zhang (2023b) exposure to Generative artificial intelligence tool, ChatGPT increases job satisfaction and self-efficacy and heightens both concern and excitement about automation technologies.

2.2.3. Organizational Identity in the Age of AI

AI's role in shaping corporate identity and employee belonging

According to Schein (1983) definition, the culture of an organization is a set of basic assumptions that team members developed in order to solve the challenges of external adaptation and internal integration. In the context of the changes in the organizational culture caused by the application of artificial intelligence technology, this perception of organizational culture implies that successful AI adaptation will end up on the list of proven and accepted work methods. New practices, such as, usage of AI tools, must be proven as good enough, to be accepted as valid and then transferred to new members of the organization as the correct way of working in the changed circumstances. Hofstede (2011) defines power distance as the degree to which less powerful members of organizations and institutions accept an uneven distribution of power. Depending on how hierarchically the organization is set, in software SME companies, the role of the leader in achieving results in the implementation of artificial intelligence can be crucial. In companies with a high-power distance, employees will probably wait for instructions that the leadership team should propagate from above before adopting AI tools, while in organizations with a lower distance,

there may be a greater tendency to experiment and independently apply AI technologies, by employees, without direct instructions from the leadership.

Cameron (1988) categorizes organizational cultures into four distinct types: clan, hierarchy, adhocracy, and market. These classifications help explain how different organizations adopt Artificial Intelligence and other rapid and disruptive technological innovations, as hierarchical cultures may face more resistance to change, while adhocratic cultures may be more adaptable and innovation-driven. Naveed et al. (2022) conducted the study with findings that indicated that organizational culture that supports innovation positively influences organizational effectiveness. The positive influence of organizational innovation on organizational effectiveness is greater among individuals who embraced improvements rapidly than among those who did not.

AI as a force in employer branding and workforce perceptions

Schein (1983) points out that solutions to problems in the field of organizational culture, in new groups and organizations, mostly come from the founders and the first generation of leaders. They are the ones who set the basic values and ways of working by advocating certain principles and approaches, which are then tested in practice and retained or rejected depending on the success. In small and medium-sized software firms, especially those in Southeast Europe where the founders are often also operational leaders, this principle means that the founder's attitude towards innovations such as artificial intelligence can very easily be positioned as a key moderator of the overall culture. If the leadership team encourages experimentation with AI solutions from the beginning, it is more likely that such practices will take root as part of the organizational culture.

2.2.4. Artificial Intelligence: Definitions and Terms

Artificial Intelligence is used almost everywhere, and already considered as the key skill for today and for the future (Jiang et al., 2022). Although focus in this research is not on the technical aspect of AI, we need to briefly get into the theoretical foundation.

Marvin Minky, one of the pioneer researchers of the AI, defined AI as enabling machines to do things that require human intelligence.

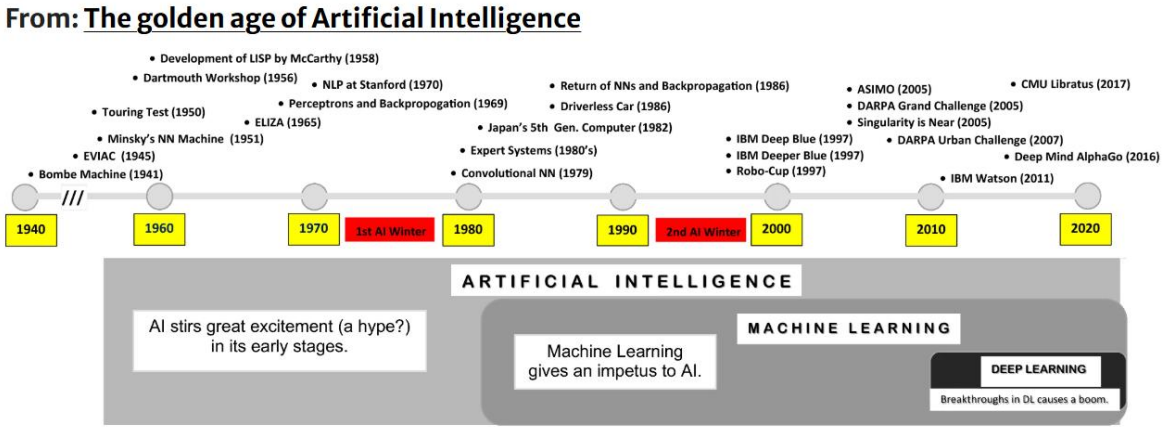


Figure 3. The timeline of Artificial Intelligence

Source: Kaynak, O. (2021). The golden age of Artificial Intelligence. *Discover Artificial Intelligence*, *1*(1), 1.

In the past decade, machine learning got into speed and enormous amount of data become available, giving the necessary fuel for the AI development. Together with increased computer power, development of new processors and Graphical processing units (GPU), majority of bottlenecks were removed, and AI could start getting into real life applications.

AI enhances decision-making process in an organization by providing data-driven insights, reducing human biases, and identifying hidden patterns, making groundwork for AI augmented business strategies. This is particularly relevant in software development SME organizations in Southeastern Europe, where AI-driven analytics can optimize organizational culture metrics and improve leadership, communication, and professional development strategies. The integration of AI with other technologies such as blockchain and IoT further

strengthens the digital transformation of these organizations, fostering a more innovative and adaptive organizational culture (Javaid et al., 2022).

This research will analyze AI tools relevant to business processes in software SMEs that will participate in surveys, and that are used by employees that will be interviewed, including, but not limited to GitHub Copilot for software development support, AI tools for image generation and marketing content (e.g., Midjourney, DALL·E), as well as AI-powered solutions for audio and video processing (e.g., Descript, Runway ML). Additionally, other generative AI models (Claude AI, Gemini, Llama, Mistral) that go beyond traditional chatbot systems will be examined to understand their impact on organizational culture, productivity, and creative processes within organizations.

In light of these shifts in leadership responsibilities, psychological safety, and workplace openness, it is yet unclear how AI adoption in software SMEs is actively changing corporate culture. This gap forms the basis of our research question: To what extent does AI impact culture formation and retention?

2.2.5. The Multi-Domain Impact of AI

Introduction: AI as a cross-functional catalyst

It is increasingly visible that AI is moving beyond its initial technological context, its role as a tool, and a helper, and is becoming an organizational catalyst that affects not only how products are designed and developed, but also how people communicate, decide and learn. In software SMEs, this process is particularly noticeable, due to their flexibility in the organization, due to the shallow hierarchy and dependence on the expertise and initiative of employees (Dwivedi et al., 2021; Papagiannidis, 2022).

Each software development process has its own life cycle (as shown on figure 4).

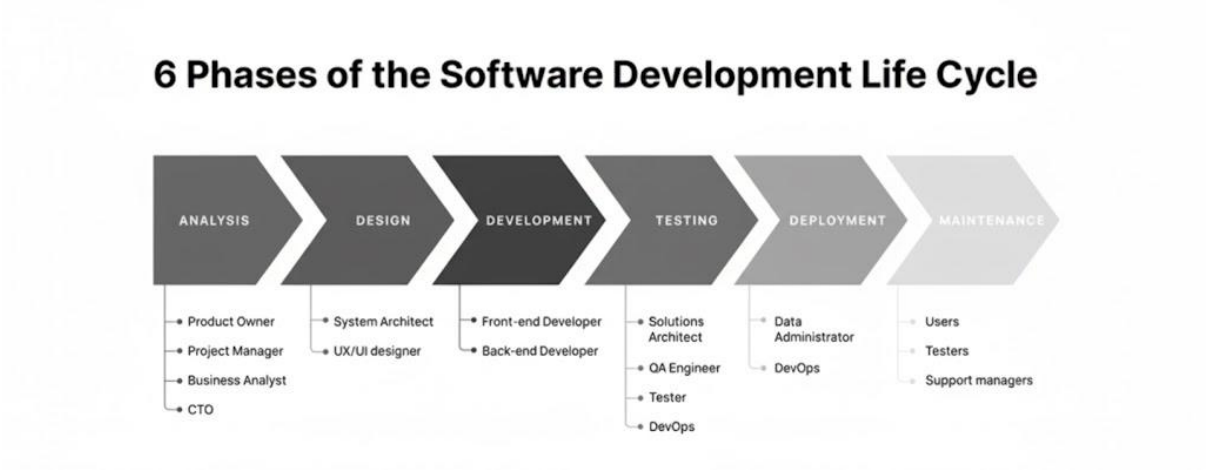


Figure 4. Six phases of SDLC

The main stages of the software life cycle are planning, requirements analysis, design, development (or implementation/coding), testing, deployment, and maintenance. These phases provide a structured approach to creating and maintaining high-quality software, from initial concept to long-term support. It is noticeable that today there is not a single phase of the SDLC software development life cycle in which the application of AI has not found its place, its appliance. Today, there is not a single role that participates in the SDLC as an actor that does not rely to a greater or lesser extent on AI tools. Also, the stages that precede the software development process itself, such as resource planning and predictive risk analysis, rely on the use of AI tools. This has made AI not just a technical tool, but a ubiquitous layer that is transforming the entire software development lifecycle and redefining the role of humans within it.

Earlier research mainly focused on the effects of applying AI through the prism of automation and productivity, while more recent works emphasize its impact on deeper, cultural dimensions: leadership, trust, psychological safety and shared values (Korteling et al., 2021; Murire, 2024). The existence of those two sides, technical and non-technical, of every AI implementation, makes it a unique challenge for the culture of software SMEs organizations.

In the context of SE Europe, the implications of AI integration into business processes gain additional complexity. According to the *AI Chamber CEE report* assembled by Stefanova (2025), more than 75% of SME companies in the region use AI in some form, but only 25% implement it widely. The most common forms of applying AI in daily work are: data analysis (40%), some type of task automation (28%). However, cultural and organizational barriers slow down deeper transformation, as many as 40% of companies in Croatia and Bulgaria cite lack of staff and resistance to change as the main obstacles. Only 39% of respondents are familiar with the requirements of the *EU AI Act*, which illustrates low institutional preparedness (Stefanova, 2025). Such data indicate that in lean structures, which are characteristic of SEE SME companies, the adaptability they possess is the main factor of successful AI integration. Companies up to 2 years old on average show greater digital maturity (69% digitally engaged), compared to companies that have existed for a number of years and show traditional patterns of behavior and management.

In the niche of software SMEs, the data is different and shows a higher degree of AI integration, which the author has shown through this research.

Product-oriented and service-oriented SME companies

In order to better understand the context of software companies, we will accept the division into product-oriented and service-oriented software companies (Liu et al., 2023)

Product-oriented companies develop their own software solutions, often based on SaaS or generative AI platforms, where AI itself becomes a central part of the value proposition, whether it is the integration of an AI-based service, i.e. the integration of AI into a software solution, or an independent custom AI solution, where a custom LLM model is developed or similar. In such companies, AI goes beyond the perception of tools and becomes part of the core value of the product, mission and vision of the company. The culture of such

companies most often fits into the adhocracy type according to Cameron and Quinn (2011), with a focus on innovation, experimentation and a high degree of autonomy.

Service-oriented companies, on the other hand, provide customized software solutions to clients, whether it is outsourcing, out staffing or some other type of cooperation with clients. The use of AI in projects in which such companies participate, largely depends on the client, and his requests and understanding of the value of AI. Regardless of that, software engineers in the actual process of development and work on a specific project rely on AI to speed up the creation of prototypes, MVPs, or generally deliver the final solution faster. So, most often AI is not just a product, but a tool that makes product generation faster or easier or both. The culture of such companies is closer to a combination of member and hierarchy types: they are collaborative, but also procedure-oriented, with an emphasis on reliability and client satisfaction.

The integration of AI deepens these differences between the two types of organizations, including cultural ones. While product-oriented firms experience a deepening of their identity as AI becomes an integral part of their organizational DNA, service-oriented firms face identity stretching, balancing between traditional craftsmanship and digital automation. In the SEE region, where SMEs are often both project-oriented and client-dependent, AI often functions as a mirror of existing values, not as their replacement (Buchashvili et al., 2022). How AI affects product-oriented and service-oriented software companies could be the focus of some subsequent research.

Typology of AI technologies in the software industry

The heterogeneity of AI technologies is not only reflected in the technical complexity and number of domains in which AI technology has brought changes, but also in the social and cultural consequences that each of them produces.

Generative AI and LLMs

ChatGPT, GitHub Copilot, Amazon CodeWhisperer, and Gemini for Workspace are just some of the tools that have transformed, or significantly contributed to changing the way code is written, technical documentation is written, and even project proposals are created.

Depending on the process in which AI is involved, the changes in the organization may or may not be more impactful. For example, in the software development sector, there may be a radical change in the role of the software engineer from the role of "I am a programmer" to the role of "I am an AI supervisor", which directly affects the loss of the sense of craftsmanship, the loss of pride in the "handmade" code, and the alienation or redefinition of the role appears.

Generative AI and large language models (LLM): tools like ChatGPT, GitHub Copilot or Gemini enable the generation of code, documentation and materials used for communication purposes, emails, various reports. These tools shorten feedback loops and reduce the dependence of junior developers on mentors, thus transforming patterns of learning and collaboration. The consequence for culture is increased autonomy, but also the risk of weakening the intergenerational transfer of knowledge (Noy and Zhang, 2023).

Machine learning and predictive analytics: can be integrated into project planning and QA processes, and these systems introduce a culture of data-driven decision-making and clear metrics. The consequence of that dynamic in the organization strengthens responsibility, but it can reduce creativity if decision makers rely too much on algorithmic suggestions (Korteling et al., 2021).

AI automation and RPA systems in the areas of quality assurance, DevOps and customer support, RPA can potentially reduce the frequency of repetitive tasks. The consequence is an increase in efficiency, but also a change in the value of work, and the interpretation of that value by both the employee and the employer. Because the meaning of

professional identity is being moved from the zone of "execution" to the zone of "supervision and interpretation" (Morandini et al., 2023)).

AI in non-technical organizational functions

In the research, in its quantitative part, targeted respondents were also ones who do not perform the roles of software engineers in software SMEs in SE Europe, but other roles such as HR and finance.

Finance: The need to report more frequently and in more detail creates an opportunity to automate forecasting and anomaly detection, leading to increased transparency but diminishing managers' personal influence on the performance narrative. This shifts the locus of control from humans to algorithms, which causes a sense of loss of epistemological autonomy (Liu et al., 2023).

Legal: LLM tools shorten the time of processing contracts, preparing new ones, or annexing existing contracts, as well as the time to react to situations in which an opinion is required from the legal department, such as specific forms of cooperation, an employment contract or a contractor's contract, issues related to termination of contracts with employees or termination of contracts with clients. However, this raises the question of responsibility, who is "responsible" for the decision made by the machine?

Human resources and recruitment: AI tools for candidate selection improve efficiency, but risk reinforcing existing social and gender biases. This is especially pronounced in the SEE region, where AI literacy is low, only 61% of employees express readiness to work with AI tools (Morandini et al., 2023).

Marketing: generative tools redefine the tone and language of the brand, creating a unique "collective voice", but also standardizing the expression of employees.

Knowledge management and professional development: AI recommendation systems facilitate access to knowledge, but can lead to dependence on algorithmic management of education programs and employee career planning processes.

All these processes together require a redefinition of rules, a strictly procedurally described use of AI, transparency and ethical oversight, as the line between "technical" and "human" becomes ever thinner (Morandini et al., 2023).

Cross-functional dependencies

The integration of AI in an organization is neither even nor linear. In some sectors, it is significantly more complex than others, as well as with a greater impact on process changes. Data obtained from Finance, analysis and recommendations, influence decisions made on projects, just as it was before the application of AI. Today, dynamism has increased, where many processes are accelerated, some automated, with occasional confusion over ownership of decisions and responsibility over processes. In the context of the SE Europe region, where trust is often personalized, the shift to algorithmically mediated decisions may cause latent uncertainty. The decision maker in such an environment faces the expectation that it is necessary to redefine "expertise", because it is no longer exclusive knowledge, but the ability to interpret and humanize the recommendation of the machine, that is, the AI system it relies on.

Summary and future implications

The effects of AI integration in the business processes of software SMEs in SE Europe are reflected in two related levels:

- The technical level, which is a mirror of changed engineering practices and processes
- The non-technical level, which transforms other sectors of an organization, as well as communication and ethical work frameworks.

Although product- and service-oriented companies integrate AI in different ways, they react differently, they all face the same challenge, how to integrate machine intelligence without eroding human identity.

The expectations are that in the future it will be necessary to set clear ethical and professional rules for the use of AI, through acts like the EU AI Act (Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 Laying down Harmonised Rules on Artificial Intelligence and Amending Regulations (EC) No 300/2008, (EU) No 167/2013, (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1139 and (EU) 2019/2144 and Directives 2014/90/EU, (EU) 2016/797 and (EU) 2020/1828 (Artificial Intelligence Act) (Text with EEA Relevance), 2024), or through the legislation of individual countries and regions, while investing in the development of communication skills, transparent communication and the good and bad effects of AI, will probably be the key to successful AI integrations. Some future research will answer the question, whether setting the balance between human creativity and machine efficiency is a key challenge for leaders who want to maintain a healthy organizational culture in the SE Europe region.

2.3. AI's Influence on Organizational Culture in Software SMEs

2.3.1. AI as a Cultural Shaper: From Automation to Strategic Influence

Murire (2024) emphasizes that Artificial Intelligence in its various implementations has transcended its traditional role as a simple process automation tool, and already has started to overtake a role of a fundamental driver of cultural transformation within organizations. AI-driven decision-making, redefining job roles, and altering workplace power dynamics are shifting organizational norms and practices. Rethinking management strategies become primary task for leaders, integrating AI not just as a tool, but as a co-creator of corporate culture that requires both adaptation and oversight.

Cameron (1988) describes how different organizational cultures influence behavior and decision-making. Clan cultures prioritize employee well-being and collaboration, adhocracies focus on innovation, hierarchical organizations maintain rigid structures, and market cultures emphasize competition and initiative. These distinctions provide insights into how AI adoption varies across organizational structures in SMEs.

2.3.2. AI and Leadership in Software SMEs

Murire (2024) asserts that challenges of effective AI integration can't be overcome solely with proper technological shift, but a proactive leadership must lead a cultural transformation that follows the change. A role of managers is to bridge the gap between AI adoption and cultural alignment by ensuring different coherent AI initiatives, like increase of AI literacy, level up ethical AI governance, and establish continuous workforce adaptability. Leaders must build trust, provide clarity on AI's role, and create a human-centric AI strategy that aligns with organizational values. Schein (1983) emphasizes that the leader's task is not only to find better solutions, but also to ensure a sense of security in the team during changes. In other words, leadership should help employees overcome the anxiety of abandoning old, established habits while new practices are learned and tried. According to Lewin's model of change, leaders must create the conditions for "unfreezing", by providing "easily digestible" evidence that shows the need for change, and at the same time enough psychological safety for the team to openly accept that evidence. In the context of AI transformation, this means that leaders should make it a priority to alleviate employees' fear of new AI systems, which is primarily reflected in fear of unfamiliar technology or job loss, by providing support, training, and an environment where it's okay to make mistakes while learning.

According to Schein (1983), the importance of the role of a leader is especially highlighted in moments of significant changes or emergence of new problems. Then the role of the leader becomes crucial. When established habits, approaches and working methods

stop giving results or when the environment changes dramatically and requires a new approach, leadership must provide new guidelines. In light of the introduction of artificial intelligence into company processes, this suggests that leaders in software SME companies must take an active role in helping the team develop new ways of working and processes, as current models will very likely prove insufficient in a digitally transformed environment.

2.3.3. AI's Role in Employee Engagement and Empowerment

„The concept of engagement is based on the fact that the development and growth of the company cannot be achieved by increasing the number of employees or by adding capital; the added value comes primarily from increased productivity, which is a result of the innovative ability of employees and their work engagement, which improve the company's performance.“ (Rožman et al., 2023)

Cameron (1988) discusses how structured onboarding and socialization strategies contribute to a strong organizational culture. In the context of the integration of different solutions based on artificial intelligence, companies that make the decision to invest and invest in appropriate training of employees, as well as in adaptation strategies, can expect with a high degree of certainty a smoother cultural transition when implementing new technologies. In companies where a lot of resources is invested achieving the well-being of employees, inclusion of employees and there is active and systematic, not ad hoc, engagement in various socially responsible activities, an increase in employee satisfaction, as well as their increased engagement, has been observed. All this directly affects the increase in general productivity. Although increased productivity is often seen as a sufficient reason to reduce the required workforce, there are also examples where increased productivity is used in order to grow the company (Yang, 2022). When ESG (environmental, social and governance) enhance firm production efficiency and competitiveness, firm market demand often increases. Although

Taiwan's regional specifics reduce the study's applicability, general indicators of employee well-being are a reason to include the study and evaluate AI's impact in that niche.

While AI-enhanced decision-making may reduce cognitive load (Noy and Zhang, 2023), it also risks diminishing employees' sense of agency, as seen in 'task stewardship' rather than problem-solving roles (Hank et al., 2025). Thus, AI's cultural impact is double-edged, while it fosters productivity, simultaneously it may weaken intrinsic motivation.

2.3.4. AI and Diversity, Equity, and Inclusion (DEI) in Culture

While work of Peng et al. (2023) distinctly presents evidence of effects of Generative AI tools in software development on the increased productivity, the deeper, belove surface influence of Generative AI remains unclear. This study provides empirical evidence of AI improving efficiency (55,8% faster task competition), supporting broader discussions on automation and job skill shifts. However, this study doesn't provide assessment how organizational culture is affected in a long run should be researched more. Long term effects of AI assistance, code quality assessment, effect on collaboration as well as the regional character of research sample present solid research gap in this study.

Seems as a realistic scenario to assign AI to monitor and analyze sentiments on internal and external communication platforms, with aim to identify patterns of discrimination or exclusion. This analysis can provide valuable insights for implementing more effective inclusion policies.

Identifying and reducing bias is crucial to fostering diversity and inclusion, and AI is playing a significant role in this endeavor. Machine learning algorithms can effectively analyze vast amounts of data to identify patterns and potential sources of bias in everything, from performance evaluations to compensation structures.

To guarantee that personal data is not compromised, AI systems must also respect individual privacy and follow stringent data protection requirements (Radanliev et al., 2024).

Eliminating discriminatory consequences in AI decision-making processes requires addressing bias in AI algorithms and placing a high priority on fairness. It is crucial to uphold transparency and accountability in AI decision-making.

2.4. AI's Impact on Organizational Climate in Software SMEs

2.4.1. AI-Driven Workplace Climate: Transparency vs. Control

One of the effects of implementing solutions based on artificial intelligence is the impact on the feeling of transparency and control among employees (Morandini et al., 2023). While AI tools allow companies to achieve greater efficiency in decision-making and the creation and implementation of optimized processes, they can simultaneously cause insecurity among employees due to the automated monitoring and evaluation of their performances. The key challenge for organizations is to achieve a balance between improving productivity and preserving the psychological safety of employees, in order to avoid the feeling of loss of autonomy, thereby impairing the productivity of employees, and consequently the organization.

Integration of AI technology into work processes and the fact that it becomes an important part of job descriptions in majority of workplaces, employees may feel a loss of control over their roles and responsibilities. With this in mind, transparent communications regarding the role of artificial intelligence in the workplace becomes more important, ensuring that employees understand how these AIs will affect their work and the overall work environment (Brynjolfsson and McAfee, 2015). The study provides a historical analysis of how technological progress throughout history has led to the emergence of fear of job loss, and to spontaneous worker reactions, as seen with the Luddites in the early 19th century. This historical perspective lays the groundwork for a discussion of the importance of transparency in communication between management and employees, as well as the natural tendency of

leadership to retain control over a tool that increases productivity and contributes to company development. The study highlights the need for transparency in the way AI technologies are implemented in order to alleviate the fear of control and job loss among employees, since without whose active participation, successful implementation of AI is not even possible. The study addresses broad economic implications but does not specifically consider the effects on organizational culture within sectors like software engineering. It lacks empirical analysis of concrete strategies that organizations can adopt to navigate AI-driven workplace transformations.

In every implementation of artificial intelligence in the organizations, having full transparency is vital, especially for complex AI models like deep neural networks. This is essential for improving the model, addressing ethical concerns, and gaining broader acceptance in critical industries (Radanliev et al., 2024).

2.4.2. AI in Communication and Collaboration

The impact of AI tools on transforming the way software engineers communicate and collaborate is undeniably significant. This is especially noticeable in remote and hybrid work environments. Studies show that AI assistants, such as GitHub Copilot, facilitate problem solving and accelerate software development processes, thus changing the traditional dynamics of development teams (Peng et al., 2023). However, the long-term impact of artificial intelligence on communication in the workplace remains uncertain, thus raising the question of whether reliance on AI tools can diminish creative and critical interactions within teams.

As illustrated by Naveed et al. (2022) organizational culture positively influences organizational effectiveness by enhancing perceptions of organizational innovation within the organization. The findings also reveal that acceptance of change by employees can intensify the positive effects of organizational culture and innovation on organizational effectiveness.

Consequently, organizational culture may be considered a powerful factor that rests on expectations of employees as well as employee acceptance of change.

2.4.3. AI and Psychological Safety in Work Environments

AI tools like ChatGPT can enhance psychological safety by reducing cognitive load and fostering collaboration. Automation of repetitive tasks, covered by AI tools, allows employees to work more efficiently, minimizing burnout and fear of failure. Additionally, implementation of AI tools in everyday work routine, complements human skills by aiding brainstorming and drafting, enabling employees to focus on creative and strategic thinking. Moreover, ChatGPT supports workplace inclusivity by helping those with weaker communication skills articulate ideas effectively. This reduces anxiety, expands career opportunities, and promotes a psychologically safe environment where employees feel more confident expressing themselves (Noy and Zhang, 2023). Prior studies lack empirical evidence on AI's direct impact on workplace efficiency. This study fills that gap by providing controlled experimental results.

An increase in trust in AI correlates with a decrease in critical thinking, while more confident employees exhibit stronger critical thinking, and qualitatively, Generative AI shifts the employee's focus away from confident critical thinking, changing the nature of critical thinking from thinking to information verification, response validation, and response integration. At the end instead of solving tasks, the job looks more and more like task stewardship (Hank et al., 2025). Bainbridge (1983) noted that the side effect of the introduction of automation is the atrophied cognitive musculature of the users of automation. Namely, by introducing the automation of routine tasks, and leaving the human user to handle exceptions only, the user remains deprived of the opportunity to practice reasoning, expand his experience on simple challenges, and therefore becomes unprepared for handling exceptions.

The application of artificial intelligence in companies shows revolutionary effects in many segments, encouraging the transition of production even in traditionally inert industries. The production processes and methods of companies are undoubtedly being re-examined, and are beginning to be largely automated. Parallel to this process of productivity growth and positive expectations from the implementation of AI in production, there is a growing concern and initiation of debates at different levels about the potential of artificial intelligence to lead to job losses in many professions, as well as to cause wage stagnation for most workers (Brynjolfsson and McAfee, 2015). Toral examination of the impact of AI technology on the productivity and employment of companies becomes an indispensable topic.

2.5. The Broader Impact of AI on Identity, Culture, and Climate

2.5.1. AI and the Evolution of Workplace Norms

Cameron (1988) argues that organizational effectiveness depends more on the type of culture rather than the degree of cultural strength or alignment. This suggests that for AI transformation in SMEs, the key factor is not whether a company has a strong culture, but whether its culture supports flexibility and innovation.

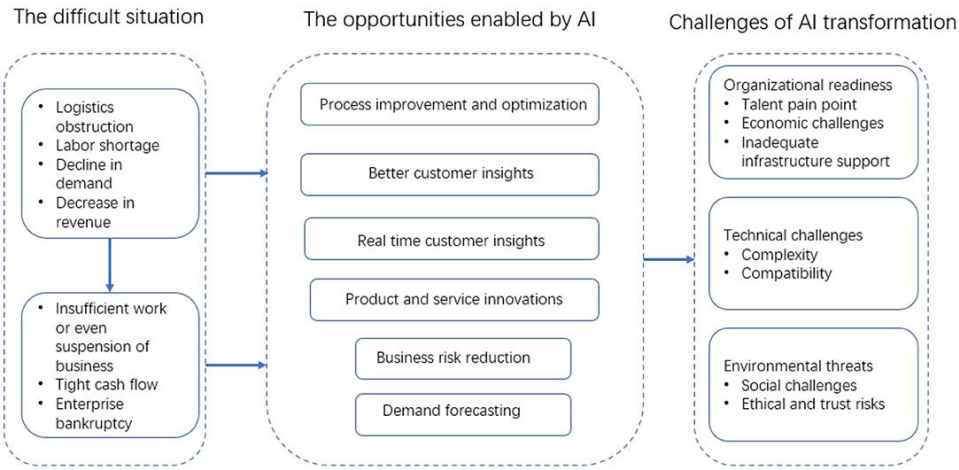


Figure 5. AI-enabled opportunities and transformation challenges for SMEs

Source: Lu, X., Wijayaratna, K., Huang, Y., & Qiu, A. (2022). AI-Enabled Opportunities and Transformation Challenges for SMEs in the Post-pandemic Era: A Review and Research Agenda. *Frontiers in Public Health*

The emergence of artificial intelligence, as an actor in business processes, has led to significant changes in organizational norms and work practices. As shown in the figure, AI enables process optimization, better insights into customer behavior, innovation in products and services, but also reduction of business risks through demand prediction. However, this transformation of the organization is not without its attendant challenges. Organizations face trust issues, ethical issues, technical barriers, infrastructural limitations, as well as lack of motivation and employee readiness to tackle AI-driven changes. Lu et al. (2022) showed that the successful integration of AI is possible, only if there is a balance between technological innovation and the preservation of an organizational culture based on human values and professional development.

2.5.2. AI's Role in Organizational Learning and Knowledge Sharing

Cameron (1988) states that cultural transformation requires a well-planned replacement of outdated processes with new ones. This is particularly relevant for organizational change driven by artificial intelligence, where successful implementation often requires the elimination of legacy systems and the establishment of innovative processes and new workflows. The study by Morandini et al. (2023) shows that the implementation of AI systems in organizations can have a dual effect on the development of employees' skills. On one hand, AI solutions can enhance learning outcomes by providing personalized training systems. On the other hand, they can lead to the erosion of certain skills, as employees increasingly rely on AI for decision-making rather than directly solving problems themselves, thereby becoming more passive and reducing their role in the task resolution process. To avoid cognitive stagnation and decreased adaptability to change, organizations now face a

new challenge, establishing a balance between automation and the development of human capacities.

Although most recent research confirms that AI contributes to increased productivity (Yang, 2022), there are more and more who show that AI is not a silver bullet or a medicine that can be applied to all production processes and all companies. Still in many processes, experienced workers contribute more than automation. In other companies, however, there is a fear that implementing AI with the existing workforce, and their current knowledge, will not be a winning combination. It shows that AI can be effectively implemented, there is a set of conditions that must be met. And on the other hand, employees often have no incentive to learn them, because they are afraid of losing their jobs.

2.5.3. Ethical Considerations and Cultural Resistance to AI

Murire (2024) highlights that employee resistance is one of the primary cultural challenges in AI integration. Many employees perceive AI as a disruptor of well-established norms and procedures, as well as disruptor of job security and autonomy, which leads to skepticism, reduced engagement, and a defensive workplace climate. To be able to overcome this resistance, organizations need to establish transparent communication and reskilling and upskilling programs. The ultimate goal would be to achieve a strategic cultural shift to ensure employees see Artificial Intelligence as a tool for enhancement of their daily work and increased value booster, rather than replacement.

Denison (1993) critiques the assumption of some researchers that managers can fully control an organization’s culture, arguing that managerial interventions often alter climate but leave deeper cultural assumptions intact. This perspective echoes Cameron (1988) who contends that while leaders can influence behaviors and policies on a surface level, real core cultural change requires long-term shifts in values and belief systems. Both authors agree that treatment of culture as something that can be "engineered”, leads to superficial adjustments

rather than meaningful transformation. Study of Brynjolfsson and McAfee (2015) reminds us, using the historical example of the Luddites, that technological progress is not a new phenomenon, but a recurring response of organizational culture to perceived threats to job security. Fears of employees and social resistance to rapid automation inevitably become the subject of ethical considerations. If they are to avoid damaging organizational culture, organizations must acknowledge and address these issues through inclusive discussions and policies that ensure workforce adaptation to business changes, rather than simply downsizing.

The ethical implications of AI-driven job displacement are a central topic for research, as mass automation risks disproportionately affecting certain groups of employees. Brynjolfsson and McAfee (2015) emphasizes the importance of taking proactive steps by organizations, so that these changes do not violate their ethics, such as initiatives for retraining employees and fair transitions of the workforce. Without ethical frameworks that prioritize human well-being, the adoption of artificial intelligence can exacerbate economic inequalities and deepen society's distrust of technological progress. Aligning AI with ethical standards is a multifaceted task, especially when it comes to obligatory protection of privacy. It entails striking a balance between protecting people's right to privacy and leveraging AI's potential for the good of society. The intrinsic complexity of AI technologies, which frequently function as "black boxes," making it challenging to comprehend how data is processed and conclusions are reached, further complicates this balancing act (Radanliev et al., 2024),

2.6. Gaps in Existing Research

2.6.1. Limited Studies on AI's Cultural and Psychological Impact

Cameron (1988) highlights a key limitation of qualitative research on organizational culture: the difficulty of studying multiple organizations due to resource constraints. This

poses a challenge for AI-related cultural research in SMEs, where a comparative approach across companies may be essential for understanding industry-wide patterns. SMEs all over the world, contribute significantly to the economy and create new jobs. The continuity of their growth is crucial for the economic stability of every country. The pandemic and post pandemic times have brought numerous challenges to the sustainability of SMEs, including disruptions in logistics, supply chain disruptions, labor shortages and falling demand of goods and services. These factors have increased uncertainty and forced the most vulnerable businesses to struggle for survival and future development, highlighting the need for technological innovation as a possible solution (Lu et al., 2022). In this context, artificial intelligence (AI) offers various opportunities for strengthening and improving the business of SMEs, while at the same time it brings certain challenges in its implementation. This research integrates the latest insights into AI-enabled opportunities and challenges of AI transformation in the post-pandemic period, analyzing how SMEs can take advantage of these technologies for their further development. Also, potential areas of future research were identified, which would help SMEs to better take advantage of the opportunities brought by AI and ensure their long-term stability.

2.6.2. Lack of Regional Insights for SE European SMEs

In Southeastern Europe, hierarchical structures remain prevalent due to historical influences (Vetrakova and Smerek, 2016). AI's introduction could either reinforce existing centralized decision-making flow or disrupt traditional authority structures, depending on its implementation strategy.

Although AI implementation in organizations has taken off in the last couple of years, there is already extensive research on the impact of artificial intelligence on productivity and organizational structures. It is notable that most studies focus on global markets and developed economic regions (Peng et al., 2023). The lack of empirical studies on AI-driven

transformation in software SMEs in Southeast Europe represents a significant research gap. Given the unique economic and cultural factors shaping this region, it is imperative to explore how AI affects organizational culture and workplace dynamics in a localized context. The findings in the study of Nikolić and Labus (2024) reveals employees' emotional exhaustion is a strong predictor of employee's intentions to leave the job and the organization, and this is supported empirically. The importance of this study comes from the fact that this is one of the first studies conducted in four Southeastern European countries (Serbia, Croatia, Montenegro, Bosnia and Herzegovina) with aim to address workplace robots' effects, employee emotional exhaustion, and turnover intentions in the age of Industry 5.0.

2.6.3. Future Research Directions

Morandini et al. (2023) emphasize that there is great opportunity for future research to analyze the long-term effects of AI on the dynamics of work skills. A special place in those researches should be devoted to strategy how organizations deal with the constant challenge of upskilling and reskilling the skills of their employees, and what is their strategy for the problems arising from the growth of technological unemployment. Additionally, the authors suggest exploring how AI can be used to support workers in creative and complex tasks, rather than just replacing them in repetitive processes. Lu et al. (2022) conclude that artificial intelligence (AI) enables small and medium-sized enterprises (SMEs) to gain competitive advantages or ensure sustainability in many areas of business, in areas such as manufacturing, e-commerce, accounting, human resources, marketing and customer relations. Research on the role of artificial intelligence in SME sectors highlights two key aspects: the first refers to the internal optimization of processes and the gradual improvement of operations within the organization, while the second emphasizes the external transformation based on AI

technologies, through which companies redefine business models, develop new organizational strategies and cultures, and build business alliances.

The geographical aspect of the study by Nikolić and Labus (2024) makes it significant, but this importance comes with a number of drawbacks. Without taking into account other crucial factors that could influence organizational culture, such as leadership, psychological safety, and employee engagement, the research framework employed in this study focused on emotional exhaustion, the effects of workplace robots, and employee turnover intentions and their relationships. This allows room for future studies to examine a broad range of variables and aspects related to organizational climate and culture.

2.7. Conclusion and Practical Implications

2.7.1. Summary of Key Findings

The better ones keep getting better and the worse keep getting worse.

Hank et al. (2025) noted that Generative AI-based tools can significantly improve productivity in activities and tasks such as content generation for marketing and other purposes, idea generation process, content formatting and styling, for both novice and experienced authors. However, there is a proven tendency for authors without enough experience to rely too much on external help and Generative AI tools, thereby undermining their own skill development. By choosing such shortcuts, beginners bypass the trial-and-error process, thereby failing to reach maturity in creation. In some jobs, Generative AI offers significant efficiency gains. However, in addition to the influence on the congeneric capacity, an influence on memory was also observed. This phenomenon has grown into a frequent phenomenon, which has been called "digital amnesia", and speaks of the threat to the power of memory and learning when relying excessively on Generative AI support. While the

negative effects are still being researched and proven, there is a noticeable increase in engagement in researching this phenomenon (Hank et al., 2025).

2.7.2. Implications for Business Leaders and Policymakers

Cameron (1988) emphasizes that inconsistencies between an organization's internal values and its external identity can negatively affect effectiveness. Therefore, organizations that only declaratively represent certain values, without truly implementing them into the organization as an integrative and essential part of the organizational culture, cannot avoid the negative implications of such a decision on the effectiveness of the organization, or rather the company. This has implications for the introduction of artificial intelligence in small and medium-sized enterprises, where alignment between internal technological initiatives and external positioning is critical for credibility and success.

Implementation of AI systems that prioritize privacy, following adequate company policies, it takes a team effort from technologists, ethicists, legislators, and the general public. Important steps in this process include establishing global norms and moral principles and making sure that legal frameworks are followed. AI can only be used as a tool to improve privacy rather than reduce it by taking such a thorough and interdisciplinary approach (Radanliev et al., 2024)**.**

The analysis by Korteling et al. (2021) suggests that the intelligence exhibited by current AI systems, including present implementations in copilot and other forms, and future AI agents, remains within the domain of unconscious machine intelligence, unless and until the development of Artificial General Intelligence (AGI) is realized. Machines, based on silicium, will, probably in the foreseen future, remain far away from the living beings (carbon based). To justify expectations of high-level human-machine team collaboration, there is a necessity to help employees and managers, increase understanding of differences, especially

having in mind the high flexibility, versatility, and adaptability of human relative to AI systems.

Morandini et al. (2023) suggest that future research on artificial intelligence must focus on the role of so-called transversal skills in work environments that are increasingly reliant on automation. It is becoming essential to explore how organizations can actively develop programs and implementations of acquiring critical skills for the digital age, such as critical thinking, problem-solving, and creativity. Not only that the required skills and knowledge have evolved, but the way these skills are acquired has also changed with the implementation of AI. It is becoming increasingly evident, that AI should primarily be used as a tool to enhance human capabilities rather than merely as a means of optimizing business processes.

Limited research has examined the long-term effects on productivity and organizational culture overall by AI implementations in organizations. There is also a lack of empirical studies in Southeast Europe software SMEs. These two gaps, together with the realm that the culture is not unform across organization, and the methodological disagreements and debates, present an evident opportunity to further research this rapid and disruptive area of organizational culture.

CHAPTER 3

RESEARCH METHODOLOGY

3.1. Introduction

Recent decades brought organizational culture as decisive ingredient in forming how organizations work, innovate and shape their business outcomes. While leadership team strategy sets the direction, the organizational culture builds “how” strategy implementation will be effective and will the expectations be meet. Schein (1983) described organizational culture as “a pattern of shared basic assumptions that a group learns as it solves its problems of external adaptation and internal integration.” These assumptions, often unconscious, influence behaviors, communications, and other important aspect of organization’s life.

In the context of software engineering, organizational culture plays its significant role. Unlike traditional industries, software developments require faster knowledge gaining, knowledge sharing and demanding communication internally and often externally.

The SME, small and medium-sized enterprises, within software engineering is particularly dynamic and vulnerable environment. Often without formal structure typical to larger companies, SME’s organizational culture brings power and weakness at the same time. When there is adequate, timely settled alignment between strategy and organizational culture, innovation and growth are present.

Southeast Europe as geographical context of this research, adds additional complexity. Specific economic and social dynamics, in still post transition economies, sometimes include legacy mindsets and lack of well-structured management paradigms.

To have even more complex context, recent reform of work model to remote and hybrid work, permanently reshape cultural context, by demand for virtualization of practices and rituals, developed for decades relying on a physical presence. Additionally Artificial

Intelligence introduces impactful force of transformation of every layer, impacting how decisions are made, how tasks are executed, and even how leadership is exercised.

This study will explore the multifaceted nature of organizational culture in software engineering SMEs across Southeastern Europe, with special emphasis on the growing influence of AI. Having structured and contextual understanding, we can begin to assess how culture functions not just as a background variable, but as a measurable, actionable driver of business outcomes.

Organizations all over the world are under rapid and omni present change, and AI is one of the newest, the most unknown and the most disruptive drivers of that change. The rise of AI is transforming not only how software companies operate but also how their employees think, communicate, and relate to one another.

Across southeastern Europe, this transformation in the unique regional context, is marked by limited resources, legacy management models and growing push for digital transformation. Embedding Copilot, ChatGPT and other AI tools in a daily workflow, impact on decision making, collaboration, communication is evident.

Yet, despite rapid adoption, we lack research on how AI affects culture and climate in this specific setting. Majority of studies focus on productivity or ethics, but overlook how AI impacts factors critical to long term organizational health.

This study addresses that gap, exploring how the integration of AI tools is transforming the organizational culture and organizational climate of software SMEs in Southeastern Europe.

In the near future, it’s expected that usage AI tools become standard practice, and that their impact extends beyond productivity, into reshaping how people work, decide, and relate to one another. In software SMEs in Southeastern Europe, these shifts interact with unique regional and organizational factors, yet remain poorly understood and still under-researched.

This study expects to offer value to

- Academics, connecting organizational climate and organizational culture theory with Artificial Intelligence;
- SME leadership team, by providing insight into how AI affects engagement, communication, and employees in general;
- And even policymakers, by highlighting risks and rising opportunities for talent retention and sustainable innovation in the region, as well as helping them to make informed decisions.

Research Aim is to investigate how integration of AI into organizations, is transforming organizational culture and climate in Southeastern European software SMEs.

Objectives

- Explore how AI tools impact leadership, communication, and employees;
- Identify practical strategies to align increased AI adoption with maintaining a healthy culture;
- Assess changes under AI impact in trust, psychological safety, and employee perception.

Research questions:

- To what extent does artificial intelligence affect organizational culture?
- How does AI reshape organizational culture and climate?
- What are the implications for leadership, teamwork, and employee well-being?
- How does AI impacts SMEs productivity?
- What strategies can SMEs adopt to align AI usage with healthy cultural development and employee engagement?

This research emerges from both academic inquiry and first-hand professional experience in managing software teams within Southeastern Europe, where organizational culture is

frequently challenged by rapid technological shifts and regional specificities. The central hypothesis is that embracement of AI, beyond its functional impact, acts as a catalyst for deeper alterations in organizational culture and climate, subtly reshaping leadership patterns, team dynamics, and the psychological contract between employer and employee. By addressing this underexplored intersection, the study aims to provide both theoretical insight and practical value to those navigating AI integration in human-centered ways.

3.2. Problem Statement

3.2.1. Overview of the Research Problem

While it is true that there is a relatively solid body of research on the impact of AI on Organizational Culture, and consequently its success, several authors (Garg, 2023; Korteling et al., 2021; Lu et al., 2022; Yang, 2022) have argued that there are not enough researches focused on SMEs software companies in South East Europe.

The rapid integration of AI technologies into organizational workflows has introduced deep changes in how work is structured, executed, and evaluated. In software SMEs, where agility, collaboration, and continuous learning are vital, AI adoption progressively influences not only technical procedures but also the core cultural and psychological foundations of every organization.

With undeniable efficiency and scalability, AI tools subtly reshape how leadership is practiced, how employees perceive autonomy and trust, and how decisions are made and communicated. These shifts affect both, organizational culture, through the shared values and norms that evolve over time, and organizational climate, via collective perception of the work environment at any given moment.

In the context of software SMEs in Southeastern Europe, this transformation unfolds within complex regional dynamics, including economic volatility, political immaturity, talent

migration, and the coexistence of legacy management styles with modern agile practices. Despite growing interest in digital transformation, there is a lack of empirical understanding of how AI influences the human and cultural dimensions of these organizations.

This research addresses a critical gap: the need to explore, define, and measure the cultural and climate related implications of AI integration in a regional, sector-specific context. Without such understanding, organizations risk adopting AI in ways that unintentionally undermine employee engagement, trust, and long-term organizational health.

According to the (*Future of Jobs Report 2025*, n.d.), 86% of employers expect that artificial intelligence (AI) and information processing technologies will significantly transform their businesses by 2030. In sectors such as Financial Services (97%) and Electronics (95%), the anticipated exposure to AI is even higher than the global average. These findings, complemented by insights from the Executive Opinion Survey involving over 11,000 executives worldwide, underline the urgent need to understand how AI-driven transformations will impact not only business operations but also organizational culture. Given the growing integration of AI technologies, particularly in knowledge-intensive industries such as software engineering, this study seeks to address a critical research gap by exploring how organizational culture metrics can be effectively applied to guide software SMEs in Southeastern Europe through this era of technological disruption.

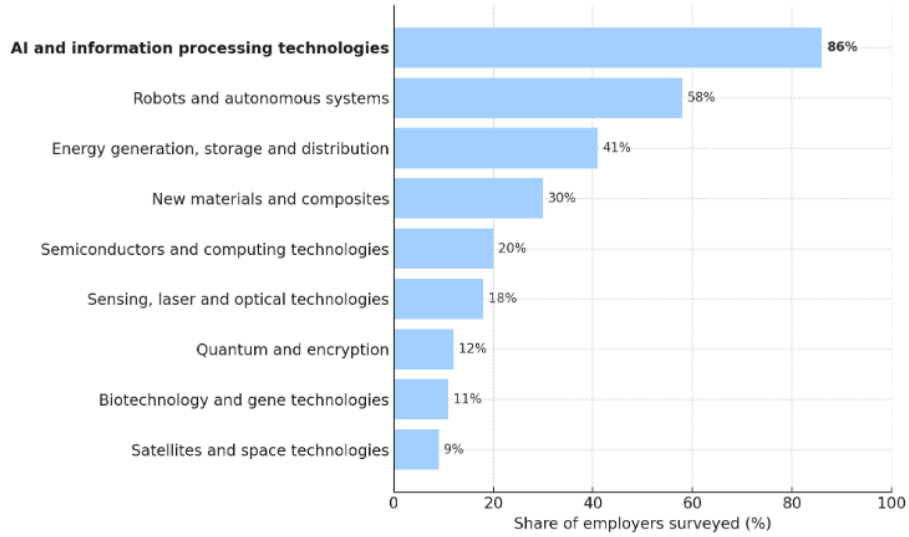


Figure 6. Technology trends driving business transformation 2025-2030

Source: Future of Jobs Report 2025, n.d.

Particularly in industry with knowledge-intensive work like software engineering industry, organizational culture has a significant impact on how individuals work, collaborate, and make decisions. Organizational culture is a dynamic force that affects productivity, retention, innovation, and, ultimately, financial performance for SME software companies in Southeastern Europe.

However, a legacy of post-socialist society, changing political structures, and robust local cultural norms have all influenced the complex environment in which many businesses operate in the area. Global trends like remote work and the growing use of AI tools frequently clash with these factors. Leaders are thus presented with a special challenge: how to maintain a unified, values-based culture across geographically dispersed teams while simultaneously adjusting to technological change.

3.2.2. Practical relevance

Fast evolving global market dictates unprecedent pace of change and huge pressure to stay competitive by adopting AI in software SMEs in Southeastern Europe. These companies

often operate with limited organizational slack, where any change of technical or other nature led to immediate and visible impact on the organizations overall.

Faith in AI is in increased productivity, automatizations of repetitive tasks, and reduction of human labor dependence. Leaders chasing performance metrics and efficiency gains neglect changes in communication norms, employee roles, perceptions of fairness, or leadership credibility.

SMEs with lack of audit capacity, make difficult to monitor how AI tools impact informal structures, social capital, and psychological safety. Moreover, in hybrid or remote settings, present in the region, this challenge is even greater, as non-verbal cues and cultural rituals are often diluted or lost.

By illuminating these hidden shifts, this research intent to help software SMEs in southeast Europe to adopt AI in a way that supports, not erodes the values, trust, and cohesion that structure effective teams. It should also provide a foundation for creating practical tools to assess and guide AI-driven cultural change, addressing a real and growing need among technology-driven firms in the region.

3.2.3. Theoretical Gap

Despite the growing body of literature exploring effects of Artificial Intelligence on companies and outcomes of their operations, a clear theoretical gap persists regarding its influence on organizational culture and organizational climate, particularly within software SMEs in Southeastern Europe. Most current studies prioritize the technical, operational, or economic outcomes of AI adoption, such as increased efficiency or automation of routine tasks (Rožman et al., 2023), but pay little attention to its impact on shared values, informal norms, communication rituals, and emotional tone within organizations.

While authors, such as Morandini et al. (2023) acknowledge the urgency of upskilling and the transformation of roles due to AI, they do not explore how such changes affect trust,

psychological safety, or the employee's sense of belonging. Similarly, the dominant frameworks on organizational culture, such as Schein's model or the Competing Values Framework, still assume that culture is shaped primarily by human actors, overlooking the role of algorithmic systems as implicit influencers of behavioral norms and decision-making processes.

Although well defined in theory, the distinction between organizational culture and organizational climate, is not often present in empirical research involving AI. Organizational culture, as the deeper layer of shared assumptions, and organizational climate, as the moment-to-moment perception of the work environment, may both be reshaped by various AI tools, but likely in different ways and at different speeds. Studies that explore both layers concurrently in the context of AI are virtually non-existent.

Southeast Europe is markedly underrepresented in current organizational research, particularly in sectors such as software development, where companies are small, agile, and often resource-constrained, so their experience with AI-induced cultural transformation remain undocumented in mainstream literature.

This study aims to directly addresses these gaps by investigating the cultural and climate effects of AI integration in software SMEs in Southeastern Europe, thereby contributing to both theoretical refinement and regional contextualization of organizational culture models.

3.2.4. Research Contribution

Theoretical discourse is expected to be enriched with this research, addressing the underexplored aspects of AI integration thorough impact on organizational culture and climate transformation. Incorporating AI into existing cultural models in contexts where formal patterns are minimal and cultural shifts are more fluid, such as in software SMEs.

The research intents to offer region-specific insights into how small software firms in Southeastern Europe can better navigate the cultural implications of AI adoption, its impact on deep assumptions and surface level perceptions. As noted by Eriksson and Santesson (2021), remote and hybrid organizational setups require intentional design, where adding AI dimensions in this equation, this study find its relevance acceptable.

3.2.5. Summary of the Problem Statement

Present awareness that the implementation of AI in software SMEs reshapes workflows as well as organizational climate and culture, does not comprehend the volume and causality of changes, especially in the context of SE Europe. Existing literature focus on technical results of AI implementation, and often overlooks impact on team, employees, and operational outcomes and relation between organizational culture and productivity. The significance of this study goes beyond the need to fill in knowledge gaps. This study aims to address that gap, by exploring AI as a strong driver of cultural transformation, with goal to provide a foundation for creating practical tools to assess and guide AI-driven cultural change, addressing a real and growing need among technology-driven firms in the region.

3.3. Objectives

3.3.1. Research Aim

The aim of this research is to explore how AI transforms organizational culture and climate in SMEs in Southeastern Europe, focusing on cultural dimensions of that transformation. Positive impact on productivity is relatively well explored, but implications for the values, norms, identity of organizations is still explorable, from positive impact to employee resistance as one of the primary cultural challenges in AI integration (Murire, 2024).

This study wants to understand not only WHAT AI does in organizations, but also HOW is it perceived by employees, HOW roles are redefined, HOW relationships are evolving. Another core objective is to uncover how AI-driven change interacts with existing organizational structures, values, and national cultural norms within the Southeastern European context. Cultural differences influence how AI is introduced, accepted, even how it is resisted. By situating the research within this unique geographic and socio-economic setting, the study aims to bridge the gap in literature that often generalizes findings from Western, highly digitized economies (Vetráková and Smerek, 2016)

Finally, this research aims to develop some insights for leadership and policy makers, that will be foundation and enablers for implementation of strategies that will align cultural values with business goals in the AI omni present landscape.

3.3.2. Research Objectives

This research seeks to identify cultural dimensions that are most affected by AI integration in the software SME context, how leadership, empowerment, and communication are shifting in environments shaped by automation and AI assistance.

The objective is to observe these changes across different work models, onsite, remote, and hybrid and to examine whether AI promotes cohesion, clarity, and trust, or contributes to fragmentation, ambiguity, and emotional detachment in organizational life. This research aims to capture these subtle, human-level dynamics by examining perception, adaptation, and restructuring within teams navigating AI transformation (Eriksson and Santesson, 2021).

Another important objective is to define a set of actionable, context-aware indicators that can help measure climate and cultural readiness for AI-driven change. They should bring practical insight to leadership decision making process, in the context of software SMEs in Southeast Europe.

3.4. Research Design

Cases of joining quantitative and qualitative evidence pervade a great number of professional life aspects. From television, documentary shows, weather forecast, sport comments and reports, a quantitative perspective is often deepened with a qualitative analysis. The “third research paradigm” (Johnson and Onwuegbuzie, 2004) is omnipresent. Greene (2007) called this approach the “multiple ways of seeing and hearing”. Numerous behaviors are visible in everyday life, and mixed methods research provides multiple ways to address a research problem (Creswell and Plano, 2018).

Over the years, mixed methods definitions that incorporate methods, process, purpose and philosophical stance, have emerged. From straightforward definition of Greene et al. (1989) where mix methods design is perceived as every design that include at least one method that collect numbers (quantitative method) as well as at least on method that collect words (qualitative method), without linkage to any particular inquiry paradigm, to the point where mixed methods research become a separate methodological orientation with its own worldview, vocabulary and methodology (Teddlie and Tashakkori, 2009).

The most important questions for the researchers are what research problems require mixed methods appliance? Answering that question will provide rationale or justification for the choice of mixed methods as methodology that best addresses the research topic. If quantitative or qualitative study solely cannot provide required quality of data, and one data source is simply not sufficient, the mixed methods approach can be a solution, that will lead to more complete and more corroborated research results. Researching topics of Organizational culture and organizational climate, usually require methodology that address problem of having different perspectives in different layers of organization. By engaging in multiple forms of inquiry, it is possible to explore information that is not accessible through a single approach alone (Shannon-Baker, 2015) . Sometimes interpretation of results stored in

first database show lack of understanding that require usage of mixed methods with an idea that second database will explain the first. The same way like Eckert (2013) explained methodology choice, the quantitative phase established the relationships, where the qualitative phase brought nuance, context and understanding of every relation. Sometimes the newness of the research topic imposes start with qualitative phase in order to learn what research questions, what variables and theories at the end address the topic, layering foundation for the deep quantitative phase of research. For some research topics, a holistic understanding is achieved by utilizing a mixed methods approach, like Walton (2014) did in her educational study, comparing different types of cases.

What will the study benefit from the choice of the mixed methods methodology? Before all, research will utilize the advantage of counterbalancing the drawbacks of both qualitative and quantitative approaches. Leaving a restriction behind, a mixed methods can utilize every method and tool available for studying a research problem, offering results out of reach for quantitative or qualitative approaches alone. As Fetters and Freshwater (2015) creatively noted, mixed methods research provides the research equivalent of the equation 1 + 1 = 3.

A mixed methods methodology overcomes limitation of usage solitary numbers or words, showing its practicality, and also combining deductive and inductive logic.

What are the challenges in usage of mixed methods? Before all misconception that mixed method can be valuable choice and fit to every research problem. A researcher should be very skilled in both, quantitative and qualitive research, fully aware of ethical considerations that must be covered in work with people. From the perspective of time allocated to research, if the research is multiphase, time should be adequately extended. Other resources to be taken in considerations are costs related to quantitative instruments, qualitative interviews as well as cost of data analysis software tools.

Having in mind that context of this research is well known to the researcher, who spent 25 years in the software engineering industry, while wearing a C suite in several SMEs in Southeast Europe, methodological choice of mixed methods offers necessary level of certainty for the success for replying to the research questions. Before additional justification of the choice, introduction to the development of a philosophical foundations and paradigms looks like a natural next step.

3.5. Philosophical foundations

Let us now briefly review mixed methods founding history, philosophical assumptions and theoretical roots. In late 1980s, when the formative period ended, some publications started to define methodology, today known as mixed methods. As greatly elaborated by Creswell and Plano (2018) in the past half of the century, authors used different names to label mixed methods research. It has been called “integrated”, “combined”, “quantitative and qualitative methods”, “hybrid”, “methodological triangulation”. It was called mixed methodology as well by Tashakkori and Teddlie (1998).

The paradigm itself remained open for discussions for some time, especially with discussion by “purists” how methods with different philosophical assumptions can be connected in the same research. Some perspectives like the ones created by situationalists (methods adjusted to situation approach) and pragmatists (be practical in using multiple paradigms to address research problem) offered solution to this dilemma (Rossman & Wilson, 1985).

Even though paradigm debate remained interesting for the researchers, focus was shifted to more practical topics like data collection methods, data analysis approaches, and research design in general. Major publications in this century continued to formalize mixed methods approach, particularly the *Handbook of Mixed Methods in Social & Behavioral*

Research Tashakkori and Teddlie (2003). This formalization process continued with good number of books offering comprehensive guides to conduct mixed methods research including book from (Creswell and Plano, 2018).

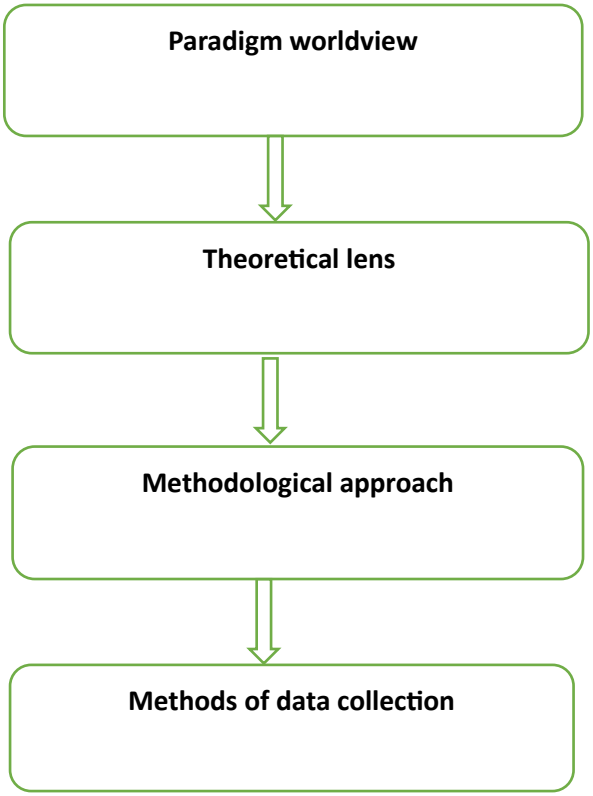


Figure 7. Four levels for developing a research study

Note: adapted from Crotty, M. (1998). Foundations of Social Research: Meaning and perspective in the research process.

While postpositivist stance is typically associated with quantitative, constructivism with qualitative approaches, and transformative worldview focused on social justice and human rights, pragmatism is typically associated with mixed methods research as philosophy embraced by large number of mixed methods scholars (Tashakkori and Teddlie, 2003).

Four worldviews			
Postpositivist Worldview	Constructivist Worldview	Transformative Worldview	Pragmatist Worldview
Determination	Understanding	Political and activist	Consequences of actions

Reductionism	Multiple participant meanings	Empowerment, human rights, social justice oriented	Problem centered
Empirical observation and measurement	Social and historical construction	Collaborative	Pluralistic
Theory verification	Theory generation	Change, emancipatory oriented	Real-world practice oriented

Table 1. Four worldviews used in mixed methods research

Note. Adapted from Creswell, J. W. (2014). Research design: Qualitative, quantitative, and mixed methods approaches. SAGE Publications.

Mixed methods research encourages the use of multiple worldviews, or paradigms (i.e., beliefs and values), rather than the typical association of certain paradigms with quantitative research and others with qualitative research. It also encourages us to think about paradigms that might encompass all of quantitative and qualitative research, such as pragmatism. (Creswell and Plano, 2018). In pragmatism, combination of deductive and inductive approach is a researcher natural choice.

For the past two decades, many researchers embraced pragmatism as the optimal worldview i.e. paradigm for the mixed methods studies, including all the authors enlisted by Tashakkori and Teddlie (2003). They also formally linked pragmatism with mixed methods research, arguing that both qualitative and quantitative research methods may be used in a single study; primary importance of research question, more important than the methodology or worldview; a practical and applied research philosophy should guide methodological choices.

Having that in mind, pragmatism will be adopted in this study as the worldview, as it enables a pluralistic stance of gathering all types of data to best answer the research question, promoting methodological flexibility, practical reasoning, and the integration of diverse epistemological perspectives in pursuit of real-world understanding. Having theoretical stance in pragmatism, typically associated with mixed methods research, this research can

maintain focus on consequences of research and on the primary importance of the question asked, rather than the methods.

3.6. Data Collection

3.6.1. Data Collection Methods

Proven necessity to obtain more complete and corroborated results, verifies as valid, decision to choose mixed methods methodology. Moreover, the central phenomenon, how organizational culture and climate are transforming impacted by Artificial Intelligence in the southeast European software SMEs, evidently contains both measurable patterns (culture scores and narratives about regional values or latent resistance to AI monitoring). Therefore, pragmatism guides the inquiry: choose the method that best answers each facet of the research question (Yu, 2009).

Choice of methods of empirical material gathering is built on pragmatist worldview and use of mixed methods methodology. Following Johnson and Onwuegbuzie (2004) argument that some research problems “simply cannot be illuminated by numbers or words alone” , this research intent to adopt procedures that are at the same time credible to quantitative positivists and meaningful to qualitative interpretivists.

The literature agrees that there are three mix methods designs:

- Convergent/parallel design: qualitative (QUAL) and quantitative (QUAN) strands are implemented concurrently and merged for comparison.
- Explanatory sequential design: quantitative (QUAN) precedes qualitative (QUAL); the second strand explains statistical results.
- Exploratory sequential design: qualitative (QUAL) precedes quantitative (QUAN); the second strand tests or generalizes emergent concepts.

Evidently, sequential design offers depth, but this research requires timely and holistic insight for leadership of SMEs, and the core constructs (leadership style, AI usage, work model) have both subjective and measurable dimensions that show advantage in side-by-side observation. The convergent approach therefore maximizes practical relevance while preserving methodological rigor.

The literature agrees that there are four convergent design variants (Creswell and Plano, 2018):

- The parallel-databases variant, where two parallel strands of data are collected and independently analyzed and at the end, joined together during the interpretation.
- The data-transformation variant, where priority differs, considering the quantitative strand with higher priority, and use a merging process of data transformation.
- The questionnaire variant, where the researcher includes both open-ended and closed-ended questions on a questionnaire and the results from the first group are used to validate the results from the closed-ended questions.
- The fully integrated variant, where interaction of qualitative and quantitative strand, starts in the implementation phase.

The parallel-databases variant seems the best fit. The survey that delivers breadth (328 of employees across several firms from 9 different countries), run in parallel with the interviews that provide depth (around 14 key informants). Running these strands in parallel keeps their weight equal and equipping research with visibility whether results converge, complement, or clash once they are integrated.

Logistically, this choice gives speed, offering to launch interviews without waiting for the survey to finish, by saving time in the research schedule. With this choice, integration should be transparent: after separate analyses creation of a joint display matrix will align quantitative results (e.g., culture factors with the highest β for satisfaction) with qualitative

themes (e.g., informal mentoring as a hidden mechanism), producing strong meta-triangulation and credibility.

For endeavor of uncovering cultural mechanisms in fast-moving software SMEs, parallel-databases offers clear structure and equal data status.

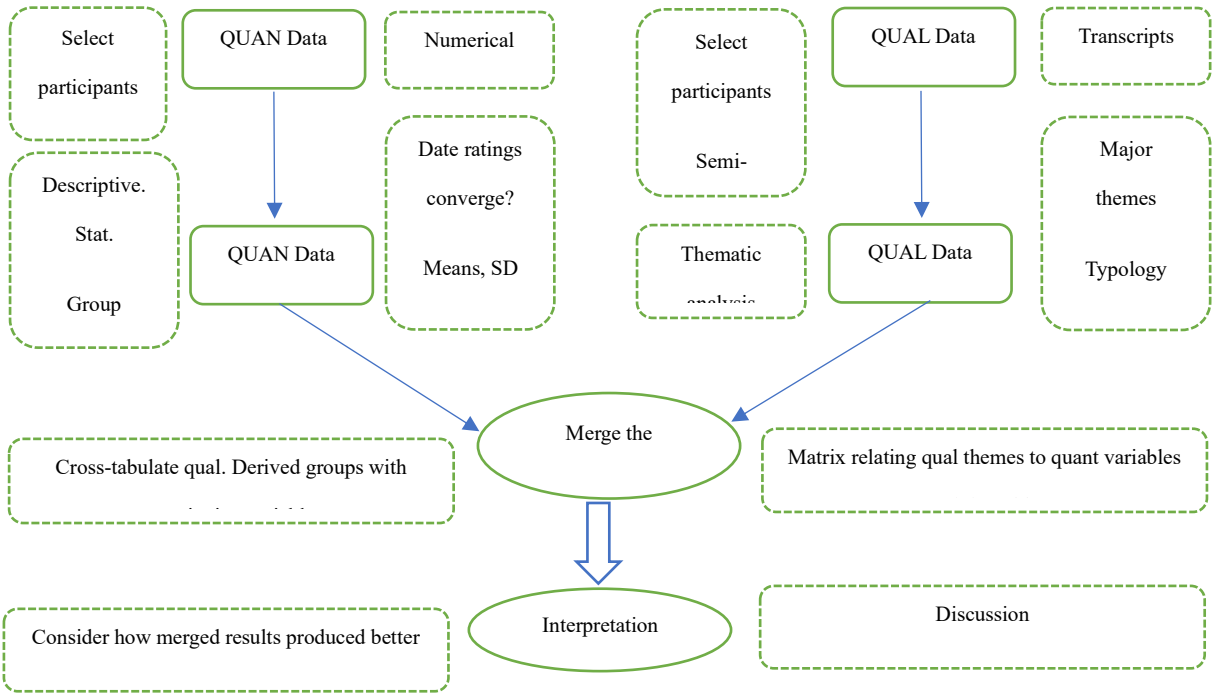


Figure 8. Parallel databases variant

Note: This diagram is adapted from Wittink, M. N., Barg, F. K., & Gallo, J. J. (2006). Unwritten Rules of Talking to Doctors About Depression: Integrating Qualitative and Quantitative Methods

The qualitative strand will be completed, using semi-structured interviews, designed with aim to capture experience of cultural and climate change impacted by AI implementation in software SMEs:

- Participants: Explained in detail in the next section. A purposive sample of 10 to 15 participants from C-levels, HR, People managers and experienced engineering roles. Looking for participants exposed to the AI for more than 12 months.

- Procedure: Participants will have one-hour semi-structured interview conducted in English using online communication tools like Microsoft Teams, Zoom or Google Chat. Potentially with automatic transcription.
- Interview guide: Questions are grouped in thematic blocks that will explore leadership practices, employee empowerment, remote-versus-onsite tensions, AI-supported transparency, and regional cultural particularities. Two pilot interviews will refine phrasing and timing.
- Data handling: Transcripts will be imported into QDAMiner, software analysis tools, and, where needed, exported to R or JASP for mixed-methods integration. Researcher will perform open coding followed by axial coding, with reflexive memos kept throughout to log every analytic decision.

The quantitative strand will be based on online survey of employees. Wide employee base should bring breadth and prevalence of cultural patterns hinted in the interviews:

- Platform & sample: The survey was hosted on Google survey platform called Google Forms and distributed through e-mail lists. Using voluntary sampling without reminders the study aimed for 300 plus completed responses, representing at least 10 to 15 distinct SMEs from several countries like Serbia, Bulgaria, North Macedonia, Greece, Croatia, Bosnia and Herzegovina, Romania, Slovenia and Monte Negro.
- Instruments will be presented in the detail in the following sections. The research will utilize the Organizational Culture Assessment Instrument (OCAI), Grid-Group Cultural Theory and Psychological Safety Scale, with demographic controls: age, tenure, firm size, percentage of remote work, national context.
- Piloting & validation: A pilot survey on 15-25 respondents tested item clarity and compute Cronbach's α. The inadequate ones will be revised or dropped.

Both strands were open during the same eight-week window to minimize historical contamination. Companies were not followed, so approach to have each participating firm to receive randomized organization ID was not applied. Data integration used joint display matrices (Fetters and Molina-Azorin, 2017) in which qualitative themes (e.g., “AI as silent supervisor”) are aligned with quantitative indicators (e.g., high AI-usage score combined with lower psychological-safety mean). Any divergent findings led to short member-checking calls to clarify interpretation.

By all mentioned above, it’s expected that this study with utilization of a convergent mixed methods design, remains fully faithful to pragmatism. In the following sections, researcher will elaborate sampling, analysis, ethical aspects and necessary strategies for bias mitigation, ensuring that data empirically collected using here described procedures, will credibly offer a reply to all research questions of this study.

3.6.2. Sampling Strategy

Grounded on the pragmatist, convergent mixed-methods logic outlined above, this section argues who will be invited into the study and why the sampling plan should maximize both information-richness (Patton, 2002) and analytic generalizability (Yin, 2017). The qualitative and quantitative strands run in parallel, so they naturally share a common sampling frame (southeast European software development SMEs) but deploy partially different recruitment mechanisms in order to balance depth and breadth.

Selection of suitable sampling strategy is a critical step in defining methodology of any research, particularly in the context of mixed methods research. Since this study combines both qualitative and quantitative approaches, it is essential to delineate and justify the sampling strategies adopted for each phase.

For the qualitative research, purposeful sampling is frequently utilized, allowing the intentional selection of participants who can hopefully offer rich, relevant, and diverse insights of the research phenomenon. Some common variations of this strategy are:

- Maximum variation sampling: captures a wide range of perspectives by selecting participants who differ significantly across key dimensions.
- Extreme case sampling: focuses on unusual or particularly illustrative cases
- Homogenous sampling: involves selecting participants with similar characteristics to enable in-depth exploration of a particular subgroup.

The quantitative research typically relies on probabilistic sampling methods to ensure representativeness and facilitate generalizability. These include:

- Simple random sampling,
- Stratified random sampling,
- Multistage sampling, and
- Cluster sampling.

Mix methods methodology is suitable for different sampling frameworks, and the choice should be made based on structure and sequence of the aimed research design. Concurrent mix methods sampling provides several frameworks: Sequential mixed methods sampling, Multilevel mixed methods sampling, and Concurrent mixed methods sampling, simultaneous data collection for both strands.

This study aims to use a combination of purposeful and volunteer sampling strategies. For its qualitative phase, purposeful sampling with an emphasis on maximum variation will be utilized to capture diverse perspectives across software SMEs that operate under different work models (onsite, remote, hybrid), different countries in the Southeastern European region, and fluctuating levels of AI integration.

For the quantitative phase, a volunteer sampling approach will be applied. The survey instrument will be distributed via digital channels and professional networks, with clearly defined inclusion criteria (like company size, country, work model, level of AI usage). This strategy will ensure practical feasibility and ethical alignment, while enabling broad participation.

This set of strategies facilitates both broad pattern recognition and in-depth contextual knowledge, supporting the pragmatic paradigm that supports this study. Research on organizational culture, which frequently calls for interaction with many viewpoints and structural layers, is a good fit for this kind of methodology.

3.6.3. Research Instruments and Measures

The intention of this study's pragmatic philosophical position and mixed methods design, is to be in line with the choice and creation of its research tools. In order to ensure congruence with the main study issues concerning organizational culture in software SMEs throughout southeastern Europe, the instruments will be selected to allow for both extensive quantitative analysis and deep qualitative insight.

This study purposefully uses validated tools with a solid empirical foundations and proven psychometric qualities, as foundation, to guarantee methodological rigor and outcomes comparability. Using these tools makes it possible to connect with earlier studies, improves the dependability of findings, and offers a strong basis for conceptual and statistical analysis. In organizational culture research, where subjective perceptions need to be converted into consistent and interpretable categories, this decision is particularly crucial.

In the quantitative phase, the study will utilize two well-established instruments to assess organizational culture:

- The Organizational Culture Assessment Instrument (OCAI), based on the Competing Values Framework (Cameron, 1988), will be used to identify the dominant culture

type within participating organizations. OCAI has been widely applied in both academic and applied organizational research, demonstrating strong reliability and construct validity.

- The Grid-Group Cultural Theory (GGCT) scale, rooted in Douglas's cultural theory framework (Thompson, 1990), will be used to capture dimensions of organizational control (grid) and group cohesion. This instrument enables comparative analysis across organizations and cultural archetypes, and is especially suited for studies addressing institutional and behavioral dynamics.

Both instruments are recognized for their robust psychometric properties, including internal consistency, face validity, and applicability in cross-cultural and organizational settings.

To extend value received by validated instruments and address the temporal dimension of perceived cultural change, particularly in relation to recent shifts such as the adoption of AI tools and hybrid work models, this study intents to incorporate a retrospective (reconstructed) longitudinal assessment within the same questionnaire. Literature shows that, when time, money, or access to pre-change baselines make typical longitudinal data collecting impractical, this method works very well.

In practice, this method involves asking participants to reflect on their current experience (e.g., organizational culture alignment, communication quality, decision-making dynamics) and compare it with their perceived experience prior to a clearly defined organizational change (e.g., the introduction of AI tools like ChatGPT). For example:

- *"*How aligned did you feel with your organization's culture before AI tools were integrated into your workflow?"
- "How aligned do you feel now, after AI integration?"

These paired items should allow the analysis of perceived change over time, enabling insights into employee narratives and subjective evaluations of cultural evolution without requiring multiple time-point data collections. While this technique offers clear advantages in terms of efficiency, practicality, and relevance for exploratory cultural research, it is not without limitations. Issues such as recall bias, cognitive dissonance, and the inherently subjective nature of retrospective reporting must be acknowledged. However, given the exploratory and perception-centered focus of this research, these limitations are considered acceptable trade-offs for the depth of insight gained, and reduction of interruptions of software SMEs operations.

In addition to the validated scales of OCAI and GGC, the survey intent to include a set of custom-designed items to explore dimensions not sufficiently covered by existing instruments. This should investigate: perceived influence of AI tools (e.g., automation, ChatGPT) on workload, communication clarity, and job satisfaction; shifts in decision-making workflow and perceived empowerment; attitudes toward work model changes (e.g., hybrid vs. onsite); changes in opportunities for professional development in post-AI adoption.

With pilot testing, this research aims to ensure validity and contextual relevance, maintaining internal consistency of each scale with evaluation using Cronbach's alpha.

3.6.4. Piloting

Piloting is recognized as a key preparatory stage in empirical research, for at least two reasons. First of all, piloting serves as a methodological safeguard, but also as a learning mechanism that improves the validity, clarity and operational feasibility of the main research. Using pilot research saves time and increases the probability of successful research. Within the mixed methods approach, the piloting process has a double function: testing the reliability and comprehensibility of the quantitative instrument, as well as checking the ability of the qualitative method to generate rich and relevant data. As stated by Creswell and Plano (2018),

pilot studies help improve the research design, ensure the adequacy of the instruments, and reveal potential procedural or ethical challenges before the main data collection begins.

The role of the pilot study has long been recognized in science and social research. Van Teijlingen and Hundley (2002) point out that a pilot study functions as a miniature version of the main research, helping the researcher to identify potential flaws in the design, measurement instruments and field work procedures. Although some qualitative authors, such as Morse (1997), believe that pilot studies in qualitative research are not always necessary due to the iterative nature of data collection, most modern researchers who apply a combined mixed methods approach agree that pilot testing provides invaluable insights into the coherence of research instruments and their compliance with research goals. In this way, the application of piloting in a combined mixed methods approach not only ensures that both research methodologies are consistent in application, but also that they achieve logical complementarity (Teddlie and Tashakkori, 2009).

Implementation of piloting

Piloting was conducted in two separate but parallel phases during May 2025.

Quantitative phase

Sample: 15 participants from small and medium-sized software companies in Serbia, Bulgaria and North Macedonia. (The selection of countries is based on many years of professional experience of the author in the region)

Objectives:

- Assessment of clarity, wording and logical flow of survey questions
- Internal consistency testing of scales (leadership, communication, employee empowerment, AI integration)

Results:

- Two questions were reformulated due to ambiguity

- The English language of the questionnaire is adequately accepted in all countries
- Cronbach's $\alpha > 0.75$ for all scales; inter-item correlations in the recommended range (DeVellis, 2016). Instrument confirmed as reliable and valid

Qualitative phase

Sample: 2 pilot interviews

Role	Experience [years]	Relationship with author	Platform
Delivery Manager	7	Known	Google Meet
Tech/Development Lead	15	Unknown	Microsoft Teams

Table 2. Characteristics of Participants in the Qualitative Pilot Phase

Duration: ~45 minutes per interview

Objectives:

- Testing the wording, order and depth of questions
- Technical feasibility check (recording, transcription)
- Practicing trust building in a multinational context

Results:

- Microsoft Teams selected as the primary tool for handling interviews (better audio quality per subjective authors impression, user-friendly interface)
- Both tools require a paid subscription to record
- Three transcription tools tested:
    - ElevenLabs (AI-based)
    - Microsoft Teams embedded transcript
    - aTrain (free desktop version) See Appendix A: aTrain Transcription Tool Interface
- Open coding of the transcripts confirmed that the questions generated relevant, rich insights about AI's impact on organizational culture
- Participant feedback: positive, without the need for significant changes

"AI is not just a tool, it changes the way teams communicate and make decisions." (Pilot interview, Technical Lead, May 2025)

Conclusions of piloting

The pilot study fully confirmed the assumptions about:

- clarity and thematic organization of questions
- conceptual coherence between quantitative and qualitative instruments
- advantages of mixed methods approach for researching set goals

In addition, it enabled:

- Technical training (recording, transcription, time planning)
- Building trust with interviewees from different cultural contexts – significantly facilitated by the author's 15-year international experience (Saunders et al., 2023)

In line with van Teijlingen and Hundley (2002), piloting eliminated potential methodological and logistical challenges before the main phase, thereby significantly contributing to the robustness, credibility and replicability of the overall research.

Ethical considerations in the pilot phase

Although piloting represents a preliminary phase of research with a limited scope, ethical principles: informed consent, confidentiality, participant welfare and transparency, must be fully respected, as stated in *Ethical Principles of Psychologists and Code of Conduct* (Oates et al., 2021). This is especially important in mixed methods research where quantitative and qualitative data are collected at the same time, because participants share personal attitudes, experiences and professional insights that can be sensitive.

Informed Consent

All participants of the pilot phase (15 in the quantitative and 2 in the qualitative part) voluntarily agreed to participate after being clearly informed about:

- piloting purposes (instrument testing, not collecting main data),

- the nature of the task (filling in a questionnaire in their own time or an interview lasting about 45 minutes),
- the right to withdraw at any time without consequences,
- the way the data is used (exclusively for the improvement of the instruments, not within the main results).

Consent was obtained through:

- confirmation at the beginning of the online questionnaire,
- verbal confirmation at the beginning of the interview

Formulation of consent:

"I agree that my responses will be used solely for the purpose of testing the questionnaire/interview and will not be included in the main research results."

Confidentiality and anonymity

Quantitative data:

- No IP data or other user identifiers are collected;
- The data is collected via Google Forms, and stored on Google's infrastructure

Qualitative data:

- Names and companies were pseudonymized immediately after transcription;
- The recordings were deleted after checking the accuracy of the transcripts;
- Transcripts are archived under codes (PILOT_INT_01, PILOT_INT_02).

Welfare of participants

- No questions were asked about personal life, earnings or interpersonal conflicts;
- Engagement time: survey estimated to be less than15 minutes; interview approximately 45 minutes (pre-arranged);
- Feedback from participants confirms a positive experience ("The questions are clear and relevant", Delivery Manager, pilot interview).

Usage of pilot data

Data collected during the pilot were not included in the main analysis. Their use was limited to:

- reformulating questions and optimizing the order,
- testing technical tools and platforms,
- checking the conceptual consistency between the instruments.

Conclusion

Ethical considerations in the pilot phase were conducted in accordance with the *Code of Human Research Ethics* by Oates et al. (2021). Although the pilot was not part of the formal ethical approval of the main study, the measures implemented ensured that the process was fully compliant with professional standards of research ethics. Thus, the pilot phase not only tested the instruments, but also strengthened the trust of the participants through transparency and professionalism, which are the key prerequisites for the successful implementation of the main research.

The motivation for conducting pilot studies in this research stems from the belief that, although a pilot study does not guarantee the success of the main study, it significantly increases the likelihood of success through early detection of flaws in design, instruments, and procedures (van Teijlingen and Hundley, 2002). This preventive approach was crucial for the author, considering the complexity of the mixed methods design, the multinational context and the need for high validity and reliability of instruments in the research of organizational culture under the influence of artificial intelligence.

3.7. Data Analysis Procedures

As elaborated above, data analysis was proceeded in two distinct but complementary phases, qualitative and quantitative, each aligned with the philosophical stance of pragmatism and aimed at providing both depth and breadth of insight.

With foundation in thematic analysis, as described by Clarke and Braun (2017), the qualitative phase will allow systematic identification, organization, and interpretation of key patterns within the interview data. This approach is particularly well-matched for exploring subjective experiences and perceptions related to organizational culture and the adoption of AI tools in software SMEs.

The analysis was conducted in several phases:

- Getting familiar with the data: by reviewing transcripts multiple times, ensuring getting deep into the matter;
- Generating initial codes: plan is to combine inductive and deductive coding;
- Searching for themes: by grouping codes into broader themes;
- Themes review and refinement: new iteration of testing themes against coherence and representativeness;
- Naming themes: with idea to capture essence of each theme.

Management of the gathered data was performed using tool called QDAMiner.

For the quantitative phase, the following stages were executed:

- Descriptive statistics analysis to summarize respondent characteristics and distributions across cultural dimensions;
- Regression analysis to explore predictive relationships between cultural dimensions, work model, AI usage, and perceived organizational outcomes (like satisfaction, alignment, empowerment);
- Cluster analysis

- Comparative statistics (t-tests, ANOVA), where applicable (employee satisfaction before and after AI implementation).

Statistical analysis was conducted using tool called JASP.

Ultimately, a thorough, multi-perspective understanding of organizational culture in software SMEs is ensured by qualitative thematic analysis and quantitative statistical modeling, which captures both the structural patterns throughout the ecosystem and the lived experiences of individuals.

3.8. Ethical Considerations

Before participating in either phase of the research, all participants were informed about procedure and all of them gave verbal consent for the participation. With guarantees of privacy and the freedom to discontinue participation at any time without facing repercussions, participation will be completely optional. Data security will receive special consideration, especially for the online survey component, where answers will be gathered via encrypted platform Google Forms and kept in compliance with GDPR regulations.

Additionally, all communication with participants will emphasize transparency regarding the purpose of the study, the use of their data, and steps taken to protect their privacy and confidentiality.

3.9. Limitations and Bias Management

A certain degree of bias, independent of the choice of methodology, is present in every research paper. In mixed methods design, recognition and control of bias are of particular importance, because quantitative and qualitative approaches differ in nature and requirements, and can mutually influence the validity of the findings. Quantitative instruments or surveys carry measurement and response risks, while qualitative interviews

may be affected by the interpretive bias of the researcher or participant (Creswell and Plano, 2018). Acknowledging the existence of possible sources of bias does not diminish the value of this research, but on the contrary, indicates its methodological maturity. As stated by Creswell and Plano (2018), transparency in identifying and mitigating bias strengthens credibility and trust in the results of mixed methods studies. With an aim to ensure that the integrated findings faithfully reflect the experiences of participants and not artefacts of methodology, this study intentionally integrates mechanisms to recognize and control bias in both quantitative (survey) and qualitative (interviews) phases.

3.9.1. Possible biases in the survey phase

Although surveys are an effective way to collect data from large numbers of respondents, they carry several potential limitations. The biases that most affect the results of the annex are self-report bias, socially desirable responses, recall bias, non-response and sampling bias.

Self-report and social desirability bias

The answers of the participants in this research were based on their personal perceptions and experiences, which opened up the possibility to answer the questions in the survey subjectively and selectively. Survey participants, the respondents, may give answers that reflect their desired and not their actual attitude, especially when the questions are about topics such as ethics in the use of AI technologies, leadership, and ultimately the organizational culture of the company in which the respondents are employed (Podsakoff et al., 2003).

In order to reduce the effects of these biases, the following measures were implemented

• the survey was anonymous

• the introduction states that there are no right or wrong answers

• the purpose of the research is presented as academic, and above all non-evaluative, and unbiased

• the questions are formulated in as neutral a language as possible

• participants were informed that their results will be analyzed only as a group, not individually

Similarly, authors such as (Podsakoff et al., 2003; Tourangeau and Yan, 2007) emphasize that the combination of anonymity and neutral language is key to reducing socially desirable responses.

Memory bias

Certain questions required reflection on previous experiences with AI tools, which carries the risk of bias due to imperfect memory. This risk is mitigated by using formulations:

• Employees have the freedom to propose new ideas (NOW)

• Employees have the freedom to propose new ideas (IN THE PAST)

Similar recommendations are made by Drost (2011), when she emphasizes the importance of temporal anchoring of questions in surveys in order to increase the reliability of answers.

Non-response and sampling bias

Voluntary participation in the survey leaves room for those who have a more positive attitude towards AI technologies, or greater confidence in their experience with AI technologies, to opt for participation in the survey after the invitation. In this way, an unrealistically optimistic picture is obtained (Groves et al., 2009). The fact that 328 of the 995 invited by direct messages participated in the survey confirms the potential existence of this bias. To alleviate this, the survey was distributed to different profiles on the LinkedIn platform, with different experience, and from different countries in SE Europe. Additionally, the survey was time-limited to 10–15 minutes, thus reducing the effect of fatigue. The final sample of 328 valid responses allowed a margin of error of less than 6.5%, which ensures

representativeness. Similarly, authors such as Dillman et al. (2024) indicate that the variety of distribution channels and the optimal length of the questionnaire significantly increase the validity of the results.

Instrument and measurement

If the questions are vaguely worded or the scales limit the range of responses, instrument bias may occur. This risk was mitigated by pilot testing (n = 15), during which unclear terms were identified and the question structure was optimized. The use of a five-point Likert scale increased consistency among respondents from multiple countries (Joshi et al., 2015).

There was also a certain risk due to the choice of a digital platform for the survey, but given that the author's choice is a well-known and generally accepted Google Forms option, as well as that the survey participants are employees of software companies, who encounter this tool almost daily, there was no need to additionally deal with this bias.

3.9.2 Possible biases in the interview phase

In contrast to surveys, interviews carry another type of risk arising from both interpersonal communication and interpretation. The most significant sources of bias in this phase include examiner bias, confirmation bias, participant reactivity, language bias, and subjectivity of interpretation.

Examiner and confirmation bias

An interview is a research method that requires interaction between the researcher and the participant, which opens up space for unintentionally directing responses through tone, wording of questions, or nonverbal reactions (Maxwell, 2012). Also, there is a possibility that the researcher may unwittingly favor data that supports earlier assumptions.

In accordance with the recommendations of Clarke and Braun (2017), a reflective approach was applied in this research, the researcher recognizes and acknowledges the

influence of his role, and is aware that his own experiences, values and attitudes influence the way he understands and interprets the respondents' statements. The researcher documented expectations and interpretive decisions after each interview.

• The interview guide was standardized, with the same questions for all participants.

• The sequence of question blocks was adjusted after the pilot phase to start with general topics, thus reducing the potential influence of the researcher

Participant reactivity and social desirability

During the interview, certain percentage of respondents try to provide answers that they believe are "desirable". Although there is a similar bias in the survey, it is even more noticeable here due to the presence of the interviewer. This risk was mitigated through a neutral framing of the introduction to the interview, emphasizing confidentiality and voluntary participation. Respondents were encouraged to share both positive and negative experiences, with the use of non-directive incentives ("Can you explain it in a little more detail?"), as well as by reminding them about the anonymity and anonymization of all information containing the name of their company, etc., during the interview itself.

Conducting online conversations using the Microsoft Teams platform allowed participants to speak from a familiar environment, which further reduced social pressure (Opdenakker, 2006).

Linguistic and cross-cultural bias

All interviews were conducted in English, which is not the native language of any of the participants, neither as for the interviewer himself. In order to reduce the risk of misinterpretations, the following was undertaken

• simplified vocabulary was used,

• idioms were avoided

• participants were encouraged to ask for clarification when necessary.

When necessary, the meaning was checked by paraphrasing ("Did I understand you correctly that you mean...?"). This approach is also supported by Brinkmann and Kvale, (2015) who emphasize the importance of joint confirmation of meaning in multilingual research.

Subjectivity of interpretation and analytical bias

During thematic analysis, there is a risk that the researcher's personal assumptions influence the coding and interpretation of the data. In order to ensure credibility, reflective thematic analysis was used in the QDAMiner environment, along with keeping an analytical diary of decisions. Validation of findings was performed by triangulation between interviews and open-ended responses from the survey, which further increased the reliability of interpretations (Fetters and Freshwater, 2015).

3.9.3. Mitigating bias in the combined approach

The combined method itself represents a bias mitigation mechanism, as it allows the weaknesses of one approach to be compensated by the strengths of another (Johnson and Onwuegbuzie, 2004). The quantitative phase provides breadth and objectivity through standardized measurement, while the qualitative phase brings depth and contextual understanding. Differences between quantitative and qualitative findings are not seen as contradictions, but as opportunities for deeper reflection on the assumptions and hidden factors that shape the results.

In line with (Teddlie and Tashakkori, 2009) approach, data integration enabled cross-validation, whereby survey findings were confirmed or challenged through interview narratives, thereby reducing the risk of overgeneralization. Additionally, reflective practices during and after the completed interview, such as decision journaling and transparent reporting of limitations, ensured that potential biases were recognized and contextualized.

Although no research can completely eliminate bias, the application of different procedures in different segments of research on protective mechanisms, methodological, procedural and reflexive, significantly contributed to the integrity of the findings. This preserves the balance between quantitative reliability and qualitative credibility, which allows conclusions about the impact of artificial intelligence on organizational culture to be both empirically based and contextually authentic.

3.10. Researcher Positionality and Reflexive Practice

3.10.1. Researcher Reflexivity and Interpretive Awareness

In research based on combined quantitative and qualitative methodologies, the author himself is never in the role of a neutral observer. Several authors have argued that awareness of one's own subjectivity and potential influence on the data is an essential element of methodological rigor (Berger, 2013; Finlay, 2002).This research does not find an error in this that should be avoided at all costs, but starts from the position that interpretation is a valuable part of the research process, provided that it is managed reflexively and is transparently documented. As Patton (2015) emphasizes, " Qualitative inquiry is personal. The researcher is the instrument of inquiry.". The researcher's mind is both the instrument and the field of analysis, which makes reflexivity not an optional but a constitutive element of trustworthiness.

And already in the literature review phase, interpretive bias can appear for the first time. Reading and synthesizing a wide range of papers on organizational culture, AI adoption, and leadership necessarily presents the researcher with interpretive choices, what to include, how to connect, and what findings I can find compelling. I entered the whole process aware that my interpretation of previous research may be influenced by existing theoretical preferences, but also by my professional experience in the software industry. In order to

mitigate this effect, I practiced iterative reflection during the literature review, where I recorded in a document the reasons why certain studies seemed plausible and returned to those records when new evidence emerged. This process of introspective reflection transformed the literature review from reading and confirming assumptions into a critical, interpretive dialogue with literature. Following this line of thought, the process of reading and analysis became less confirmatory and more dialogical, a critical conversation with the literature rather than a mere synthesis of it.

Then, in the coding and theme development phase, a potential source of interpretive bias emerges a second time. Because thematic analysis relies on the researcher's interpretation of meaning, it is possible for coding decisions to be shaped by expectations or preconceptions formed earlier in the research. It has been widely acknowledged that thematic analysis, by its very nature, relies on the researcher's interpretative lens to identify meaning patterns (Braun and Clarke, 2006). In order to recognize and control this, I conducted the coding in the QDAMiner program, combining inductive and deductive coding circuits. After the initial open coding, I revisited the dataset after a few days, with the intention of questioning whether particular themes actually emerged from the data or from my expectations of what I would find. This approach is consistent with Koch (2006) notion of maintaining a "decision trail," ensuring that each interpretive step remains traceable and justified.

Applying all these steps, I wanted to make reflexivity a self-critical and methodologically organized process, and instead of striving for neutrality that I cannot reach, I wanted to make my own presence in the interpretation explicitly visible, traceable and responsible. Overall, these practices redefined reflexivity, not as an admission of bias, but as a contribution to the reliability of the research and a way for the meanings derived from the

data to remain true to the voices of the participants, while clearly acknowledging the active role of the researcher in their interpretation.

3.10.2. Positionality within the Research Context

In mixed methods and qualitative studies, the researcher's position implies an understanding of one's own role, identity and personal experience that influence the process of data collection and interpretation. The author of this research has been an active participant in the IT industry for more than twenty-five years, with direct experience in leading teams, projects and organizational transformations, and has been in C-level roles for the last 15 years. This professional experience brings an understanding of the context of small and medium-sized companies engaged in software development, but at the same time the risk of unconsciously transferring practical knowledge and personal beliefs acquired during a career to the academic interpretation of findings. Several authors have argued that the researcher's background and insider status can both enrich and complicate the interpretive process, requiring conscious awareness and ongoing reflexivity (Berger, 2013; Finlay, 2002). Awareness of one's own position was not treated as a problem, but as an additional mechanism of validity, as well as the potential to recognize meanings that could remain hidden to an external observer who did not work in the software industry, while simultaneously maintaining academic distance and self-criticism.

A special aspect of the position of the researcher, the author of this paper, relates to the language and the fact that the dissertation is written in English, which is not the author's native language. Although the author uses English in professional communication every day throughout his career of 25 years and possesses a level of language competence corresponding to the C1 level according to the CEFR standard, the awareness of the subtle differences between thinking and expressing in his mother tongue and the language of academic writing was constantly present throughout the process. It has been widely

acknowledged that language is not merely a tool for communication but a cognitive framework that shapes the way reality is perceived and represented in research (Temple and Young, 2004; van Nes et al., 2010). Such knowledge enabled the author to recognize and reflect on the existence of the possibility that certain nuances of meaning, emotional precision or naturalness in the narrative may be different than if the thesis was written in Serbian, the author's native language. This difference is not understood as a limitation, but as an opportunity to highlight the complexity of the process of translating thoughts into academic discourse in the language of the global scientific community, which is English today in the 21st century.

Also, reflexivity about language included the awareness that academic English has its own rhetoric, norms and implicit expectations. Following this line of thought, several scholars have emphasized that writing in a non-native language can influence the author's rhetorical stance and even shape the epistemic framing of arguments (Canagarajah, 2012; Flowerdew, 2023). This supported the author's efforts to balance between clarity and authenticity of expression, while adhering to the norms of academic tone, without harming the interpretation of the phenomenon. This position, between the language of personal experience and the language of the profession, is recognized as an integral part of reflective practice, in which the role of language is not only to convey thought, but also to actively participate in its shaping. Thus, the dissertation writing process added another layer of research insight to the overall research, a way to understand how meaning is constructed, not only through data and theory, but also through the language in which data and theory are presented.

Mostly to check linguistic accuracy, and secondly in order to preserve clarity of expression, the author occasionally used digital tools for translation and language assistance, including Google Translate, ChatGPT, Grok and Gemini. These tools are not used to generate

content, but only as aids in comparing translations and confirming the accuracy of terminology between English and Serbian. As several scholars have noted, the use of machine-assisted translation in academic writing can enhance linguistic accuracy when applied critically and transparently, provided that the researcher retains full authorship and interpretive control over the text (Bowker and Buitrago Ciro, 2019; Briva-Iglesias, 2025). In this way, the author maintained full responsibility for the meaning and tone of the statement, taking care that the linguistic nuances and context meaning were faithfully transferred into the English version of the work.

3.10.3. Managing Researcher Bias and Subjectivity

As any mixed methods research depends to some extent on the interpretation of the researcher, the importance of being aware of possible sources of bias becomes more important. The researcher's interpretation becomes part of the methodological responsibility. Several authors have argued that complete objectivity in qualitative inquiry is neither achievable nor desirable, as the researcher's presence and perspective are integral to the co-construction of meaning (Berger, 2013; Finlay, 2002). In this research, potential bias stems from the author's professional experience in the IT industry, which can contribute to a deeper understanding of the phenomenon, but also lead to interpretive assumptions. In order to reduce this risk, various self-control strategies were applied during the analysis, such as reflective notes, temporarily postponing the interpretation after the initial steps of thematic analysis, and checking the results after some time.

In addition to individual reflexivity, a key element in reducing subjectivity was the inclusion of other actors in the interpretation process. This is consistent with the findings of (Lincoln and Guba, 1985), who emphasized that peer debriefing and member checking serve as effective mechanisms for enhancing the credibility and confirmability of qualitative findings. During data analysis, preliminary findings and topics were discussed with academic

mentors in order to receive constructive criticism. This approach has the background of identifying, and then re-examining the places where the interpretations could have been shaped by the personal attitudes, expectations or implicit assumptions of the researcher.

The third mechanism of managing potential bias was related to the integration of qualitative and quantitative findings, that is, to methodological triangulation through the comparison of results of different formats, obtained by different methods. According to (Creswell and Plano, 2018), triangulation across methods allows researchers to validate findings through convergence and complementarity, reducing interpretive bias and enhancing the overall robustness of conclusions. In accordance with that, the author observed the results of the survey and insights after the interview together, as mutually complementary sources of meaning. That comparison of patterns between numerical data and narrative themes, made it possible to achieve greater transparency in interpretation, as well as greater control over equal reliance on both sources of evidence. Combining the reflexive awareness of personal interpretation, collective verification and methodological triangulation ensured that the research results retain validity and authenticity, while at the same time recognizing the inevitable role of the researcher in the process of their formation.

Through reflective understanding, awareness of the researcher's position, and consistent management of bias, a solid methodological framework has been established to ensure the credibility and transparency of the research. This approach not only allows the results to be reliable but also ensures that the process of data analysis is guided by clear epistemological awareness and methodological discipline. Taken together, these methodological safeguards establish the foundation upon which data analysis can be systematically conducted and meaningfully interpreted (Creswell and Plano, 2018). The following chapter therefore provides a detailed overview of the procedures for analyzing both

quantitative and qualitative data, as well as the methods used to integrate them within the mixed-method research design.

CHAPTER 4

RESULTS

4.1. Introduction

This chapter establishes the central component of the empirical section of the research, encompassing the presentation, analysis, and interpretation of data collected through a mixed-methods research process. In line with an approach that integrates quantitative and qualitative methods, the results are presented in a manner that reflects the multifaceted nature of the phenomenon of organizational culture and the influence of AI within the context of contemporary software SMEs in the region of Southeast Europe. The application of mixed methods facilitated the simultaneous measurement of quantitative changes in perceptions of organizational culture and climate, as well as a deeper understanding of the meanings, attitudes, and emotional responses of employees and managers to digital transformation processes (Braun and Clarke, 2006; Creswell and Plano, 2018; Yu, 2009).

The empirical research into the impact of AI on organizational culture draws upon two complementary data sources. The quantitative segment is based on the analysis of a questionnaire that assesses employees in software companies with respect to their perceptions of organizational culture, psychological safety, and experiences of benefits derived from the application of AI tools. The qualitative segment includes semi-structured interviews with executives, managers, and experts from various IT domains, thereby encompassing diverse perspectives on the role and significance of AI in daily work, communication, and decision-making. This combination of data enabled the triangulation of findings and the construction of an integrated understanding of the relationship between technological changes and cultural patterns in organizations (Tashakkori and Teddlie, 2003).

The structure of the chapter follows the logic of the research process. Following an initial presentation of the research case, sample, and instruments employed, the analysis of quantitative findings ensues, including the results of statistical tests, factor analysis, and regression analysis, as well as the interpretation of open-ended questionnaire items. Subsequently, the findings from the qualitative analysis of interviews are presented, organized thematically and supported by illustrative statements from participants. The concluding section of the chapter features syntheses and interpretations that connect both types of data, providing a holistic insight into the changes that AI induces in power structures, values, communication, and interpersonal relations within organizations.

In this way, the quantitative analysis ensures empirical reliability and objective measurement, while the qualitative dimension provides contextual meaning and explanation of the results, thereby achieving the comprehensiveness of the research approach. This interpretive model is grounded in the understanding that organizational culture is not a static system of values but a dynamic process of collective learning and adaptation (Schein, 2010), and that the implementation of AI in organizations represents not merely a technological innovation but also a cultural transformation.

The objective of this chapter is to present research results that illuminate the impact of artificial intelligence application on organizational culture in software SMEs in Southeast Europe, with a comparative interpretation of quantitative and qualitative data.

4.2. The research case

4.2.1. Sample

In accordance with the mixed-methods methodology of this research, the sample was designed to combine breadth and depth. To achieve this, the researcher opted to integrate a quantitative component that ensures regional representativeness with a qualitative component

that enables a deeper understanding of the cultural and organizational patterns accompanying the integration of AI. This approach draws on recommendations from authors who emphasize that combined sampling in organizational culture studies provides insights into both behavioral patterns and the meanings individuals ascribe to them (Creswell and Plano, 2018; Tashakkori and Teddlie, 2003).

Quantitative Sample Segment

The quantitative research encompassed 328 valid respondents from nine Southeast European countries: Serbia, Croatia, Bosnia and Herzegovina, Montenegro, North Macedonia, Bulgaria, Romania, Slovenia, and Greece. Sampling was conducted according to the principles of stratified and voluntary sampling, with strata formed based on country, company size, work model (onsite, hybrid, remote), as well as respondent seniority and role. This ensured that the results reflect the diversity of market and cultural environments in the region.

Questionnaires were distributed electronically (via Google Forms), with inclusion criteria comprising employees in software SMEs with at least six months of work experience. Participants completed the questionnaire voluntarily and anonymously, with informed consent provided.

Recruitment and Contact Procedure for Respondents

To ensure a diverse and relevant sample, recruitment of participants for both research phases was conducted via the professional network LinkedIn, selected due to its high representation of IT professionals and managers. The researcher maintains a network of over 12,500 connections, which facilitated direct access to the target population and reduced the risk of access bias.

During the recruitment process, a total of 997 personalized invitations were sent via LinkedIn messages, clearly explaining the research objectives, response anonymity, and

expected duration of participation. Of those contacted, a portion accepted participation in the survey, while a smaller, purposefully selected group was invited for semi-structured interviews. This approach ensured a high degree of professional relevance in the sample, as all respondents are active in the IT industry, with a significant number holding leadership or specialized technical positions.

The sample encompasses a wide range of positions:

- Software Engineering / Software Development
- Executive (CEO/Founder/Owner/Director/GM)
- Project / Program / Delivery / Portfolio / PMO
- QA / Testing
- Sales / Business Development / Marketing / Accounting
- Product (Manager/Owner/Designer)
- IT / Systems / Support (Non-dev)
- Data / AI / ML (Engineer/Scientist/Analyst)
- HR / People / Talent / Recruitment
- Agile / Scrum / Coaching
- Design / UX-UI / Creative
- R&D / Innovation
- Other

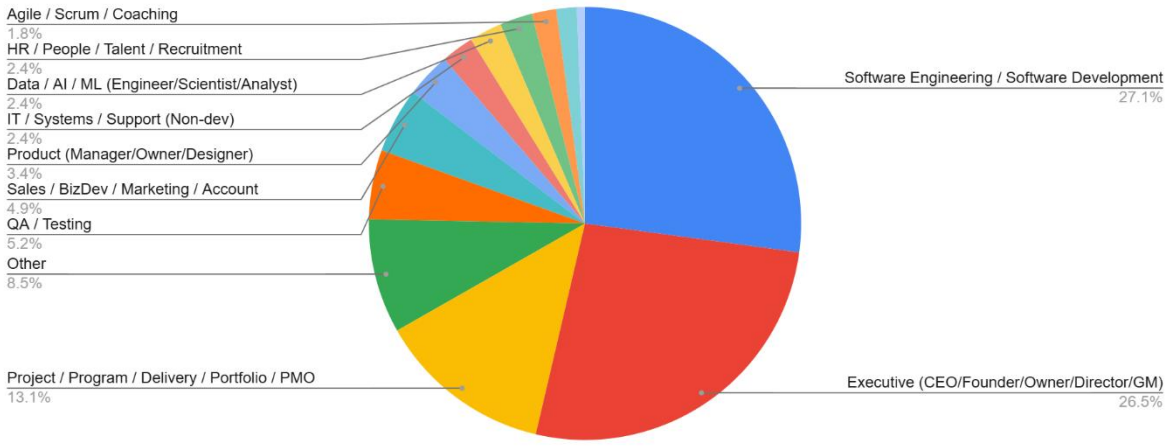


Figure 9. Survey participants – roles

The structure according to the work model shows that the majority of respondents work in a hybrid mode (48.5%), while 26.5% work completely remotely, and 25% in offices.

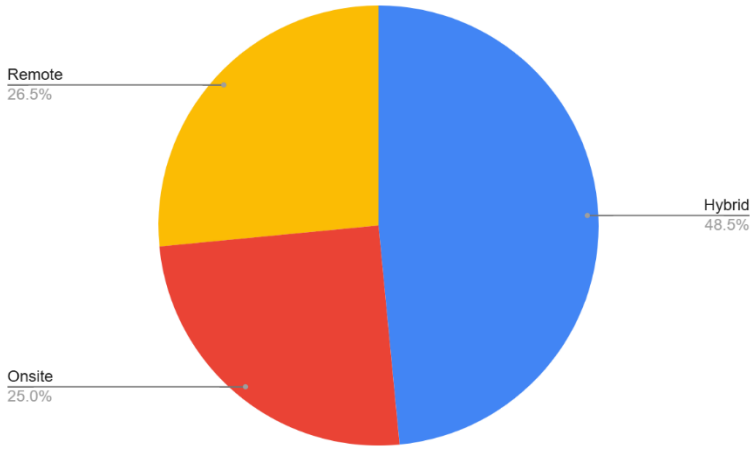


Figure 10. Survey participants - work model

Demographic analysis shows that the largest percentage of participants comes from Serbia (54.4%), followed by Bulgaria (14.3%), Croatia (11.3%), Montenegro (10.4%) and Bosnia and Herzegovina (10.1%).

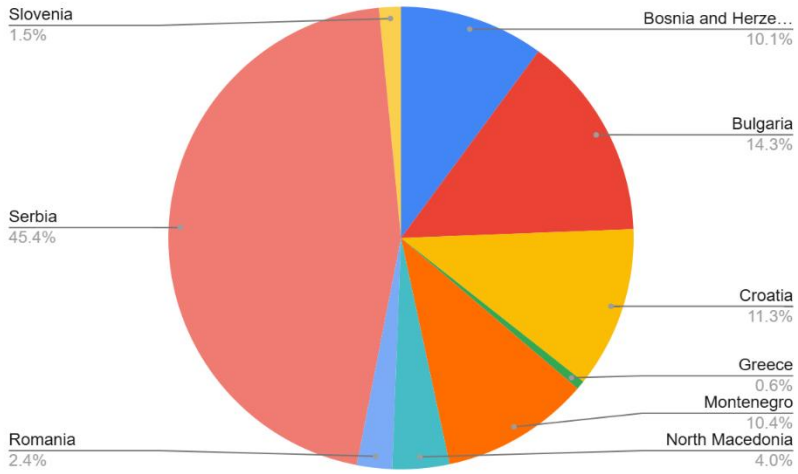


Figure 11. Survey participants – country

The age structure of the respondents as well as the average work experience in the IT industry were not examined. As for the years spent working in the current company, the length of 1 to 3 years dominates with 38.4% and 4-7 years with 29%, which speaks of enough experience to build a well-founded opinion about the company and attitudes about its values.

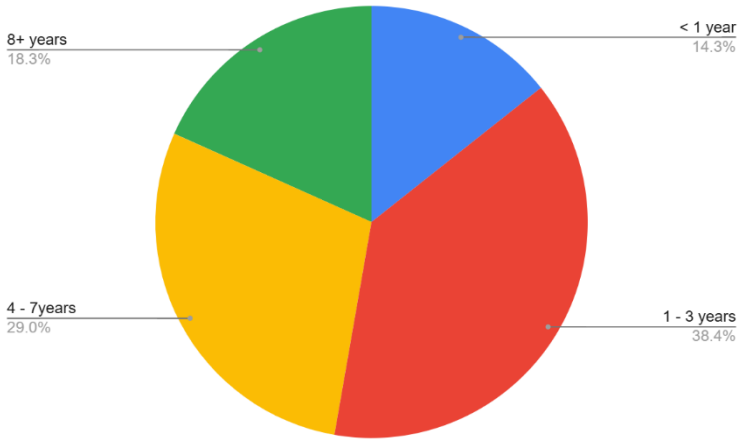


Figure 12. Survey participants - years of service in the current company

Of the total 328 respondents, 57% were employed in local companies, while 43% worked in subsidiaries or branches of international groups. This balance helps in goal that the sample

captures both domestically rooted organizational cultures and those influenced by global corporate frameworks, providing a richer comparative basis for analyzing AI adoption patterns.

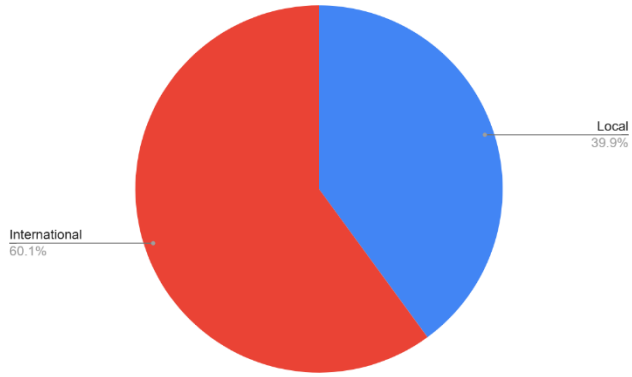


Figure 13. Survey participants - Group Affiliation (Local Vs. International)

The sample size ensures adequate statistical reliability. Based on methodological standards for social research (Bronet, 2025), with n = 328 and an assumed proportional distribution (p = 0.5), the estimated margin of error is ±4.5% at the 90% confidence level and ±5.4% at the 95% confidence level, and 7% at the 99% confidence level, which is considered optimal for studies dealing with organizational and psychological variables. This confirmed the adequate precision and the possibility of generalizing the results to the population of employees in software SMEs of the region.

Confidence Level	Z-value	Assumed Proportion (p)	Sample Size (n)	Calculated Margin of Error (E)
90%	1.645	0.5	328	±4.5%
95%	1.96	0.5	328	±5.4%
99%	2.58	0.5	328	±7%

Table 3. Sample Size and Margin of Error

Note. For Unknown Population (n = 328)

Qualitative Sample Segment

The qualitative segment of the research encompassed 14 structured interviews with participants from seven countries in the region. In contrast to the quantitative component, a purposeful sampling approach was employed here, selecting respondents who possess specific experiences and competencies relevant to the phenomenon of organizational culture transformation under the influence of artificial intelligence (Creswell and Plano, 2018; Patton, 2002).

A maximum variation sampling strategy was utilized, encompassing participants from diverse functions (directors, technical leaders, HR managers, project managers, engineers), organization sizes (ranging from startups to established SMEs), and varying levels of digital maturity, from companies merely experimenting with AI tools to those in which AI solutions are fully integrated into the overall business processes.

This approach enabled the capture of both extreme cases (SMEs with high degrees of AI integration) and typical cases (organizations in the early stages of digital transformation), thereby providing insight into the full spectrum of attitudes and challenges (Murire, 2024; Walton, 2014). The qualitative sample is also geographically balanced: participants hail from Bosnia and Herzegovina (4), Serbia (3), Croatia (2), Bulgaria (2), Montenegro (1), Greece (1), and North Macedonia (1).

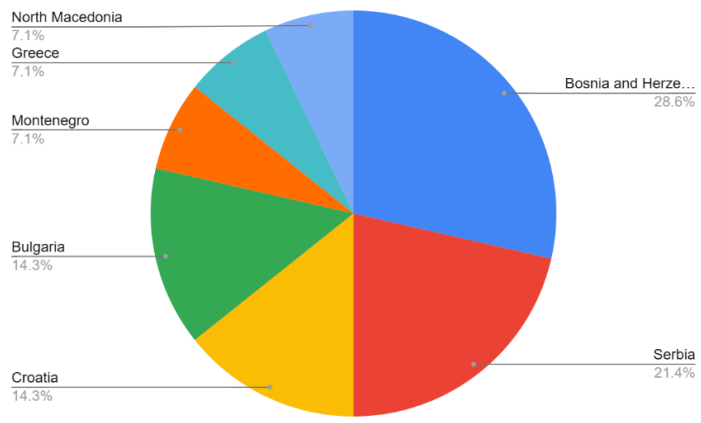


Figure 14. Interview participants - country

The age structure of participants was not recorded, with a minimum of 6 years of experience in the IT industry. Interviews were conducted between August and September 2025, lasting from 45 to 60 minutes, via the Microsoft Teams platform. Participants were assigned codes (INT001–INT014) to ensure anonymity and facilitate source tracking in the analytical chapters. Further details on the participant coding table, which presents basic information about the respondents, their position in the organization, and country of origin, are provided in the data analysis chapter.

Regional and Functional Diversity of the Sample

The sample structure reflects the diversity of the labor market and business culture in Southeast Europe. It includes organizations operating under varying economic and institutional conditions, from high-tech hubs such as Belgrade and Zagreb to smaller IT communities in Skopje, Podgorica, and Sarajevo, and other cities in the region of SE Europe, even the ones without established companies, due to option of remote work. In this way, the research encompasses geographical and cultural variations, as well as differences in leadership and organizational models (startups, corporate outsourcing, consulting teams). This combination of diverse perspectives and experiences enables the examination of specific patterns that shape the adoption and use of AI tools in the regional context.

Ethics and Validity

All participants provided informed consent, and their data were stored in accordance with research ethics standards (Lincoln and Guba, 1985). Quantitative data were processed in aggregated form, without the possibility of identifying respondents, while interview transcripts were anonymized and stored in encrypted format. By combining a stratified quantitative sample with a purposeful qualitative sample, methodological complementarity was achieved, enhancing the internal validity of the findings (depth of insights) and external transferability (breadth of regional representativeness).

Conclusion

Overall, the sample comprising 328 survey respondents and 14 interviewed participants provides a robust empirical foundation for analyzing the impact of artificial intelligence on organizational culture in software SMEs. The quantitative component enables the identification of patterns and statistical relationships, while the qualitative component reveals the meanings and narratives underlying these patterns. This methodological triangulation ensures that the findings are simultaneously reliable, rich, and contextually relevant to the regional environment in which digital transformation under AI impact is unfolding.

4.2.2. Instruments

In accordance with the selected mixed-methods research design, following the pilot study, whose findings guided the process, instruments were developed specifically for the needs of this study to quantitatively operationalize key constructs of organizational culture and climate, while qualitatively capturing the meanings and narratives accompanying the introduction of AI in software SMEs in Southeast Europe. Instrument construction followed a literature-grounded process with validation in the pilot phase, ensuring continuous alignment with the research questions and regional context (Cameron and Quinn, 2011; Creswell and Plano, 2018; Schein, 1983)

Questionnaire: Quantitative Instrument

Conceptual Foundation and Measurement Domains

The questionnaire was designed to measure the multidimensional transformation of culture and climate under the influence of AI, encompassing: leadership and communication, teamwork and empowerment, organizational climate and well-being, AI adoption and perceived employee impact, and cultural alignment and future readiness. Constructs were derived from classical frameworks (Cameron and Quinn, 2011; Denison, 1993; Schein, 1983)

and supplemented with contemporary findings on the organizational implications of AI (Murire, 2024; Noy and Zhang, 2023; Yang, 2022). This ensures a linkage between theory and concrete indicators, as well as the possibility of empirical testing of the central question: to what extent and in what ways AI influences culture, leadership patterns, and employee experience.

Structure and Length of the Instrument

The final version of the questionnaire contains 31 closed-ended items (Likert 1–5) and 3 open-ended questions. This design was chosen to balance measurement robustness with respondent cognitive load; the pilot test confirmed completion times of 10 to 13 minutes, within recommendations for professional samples (Dillman et al., 2024). Reducing below this threshold would diminish construct coverage and reliability; increasing it would elevate risks of fatigue and partial responding.

Selection of Scale Format

All survey items were measured using a five-point Likert scale (1 as strongly disagree to 5 as strongly agree). The five-point format was selected for its clarity and usability in multicultural and multilingual samples, minimizing extreme response bias and cognitive load. A neutral midpoint ("neither agree nor disagree") was retained to avoid forcing polarization in the domain of rapidly evolving technologies and to enhance comparability with validated culture instruments (Cameron and Quinn, 2011).

Open-Ended Questions and Fatigue Management

Three open-ended questions were placed at the end of the questionnaire looking to investigate positive: changes from AI, concerns/limitations, and recommendations for culture and AI, and to supplement quantitative patterns with narrative insights while minimally increasing cognitive effort. This positioning supports the principle of complementarity in

mixed methods and provides a direct bridge to the interview phase (Creswell and Plano, 2018; Fetters and Freshwater, 2015).

Piloting and Psychometrics

In the pilot study involving 15 respondents (n=15), linguistic adaptations and spend time checks were performed, yielding preliminary Cronbach's $\alpha = 0.78–0.88$ across domains, indicating good to excellent internal consistency. The final dataset (n=328) was prepared in Python R, and Excel for reliability checks, exploratory factor analysis (EFA), testing associations between AI exposure and cultural indicators, and comparisons of "current" versus "pre-AI" states. The full instrument is provided in Appendix E.

Innovativeness of the Quantitative Instrument

In addition to items derived from established frameworks, certain questions were purposefully constructed with aim to capture emergent phenomena (AI literacy, perceived AI ethics, automation–autonomy balance), justified by the exploratory logic of mixed methods in an emerging field (Creswell and Plano, 2018; Murire, 2024).

Interviews: Qualitative Instrument

From Semi-Structured to Structured Open-Ended Interviews

Although the initial design envisioned semi-structured interviews (Brinkmann and Kvale, 2015), pilot experience revealed two unintended consequences: (a) participants felt "guided" and sought the "correct" answer; (b) probes/clarifications inadvertently directed the narrative. In the context of highly technical work environments and sensitive organizational decisions, researcher influence was deemed excessive relative to the goal of neutral perspective elicitation.

Final Format

A structured interview with open-ended questions was adopted: an identical set of 21 open-ended questions in the same sequence for all participants, without additional probes or

interpretive follow-ups; no nonverbal approval cues; allowance for free response length and structure. This approach enhances comparability and neutrality while reducing interviewer bias (Patton, 2015). Questions directly reflect domains from the questionnaire (leadership, communication, empowerment, well-being/climate, AI impact, ethics, and strategy), thereby ensuring a methodological bridge between quantitative and qualitative components.

Epistemological and Ethical Rationale

The choice of a structured open-ended format is grounded in a pragmatic orientation that meanings should emerge from participants' perspectives without co-construction by the researcher; this minimizes interviewer bias and respects participant autonomy in a highly professional environment. For executives and AI specialists, this "non-intrusive" framework proved most suitable for obtaining authentic narratives.

Interview Guide and Documentation

The complete guide with 21 questions is included in Appendix B. Interviews were conducted online (Microsoft Teams), video and audio-recorded with consent, and transcribed; transcripts were anonymized (INT001–INT014) and stored in an encrypted repository, with a separate code key accessible only to the researcher and supervisor.

Integration of Instruments and Triangulation

The instruments were designed complementarily: the quantitative component provides measurement of the breadth and intensity of patterns (decision-making transparency, empowerment, perceived AI impact), while the qualitative component explains why and how these patterns arise (motives, dilemmas, meanings). Triangulation was achieved at three levels:

- Thematic: questionnaire domains/sections are directly mirrored in open-ended questions and the interview guide;

- Analytical: open responses in the survey and interviews were coded using the same thematic scheme;
- Inferential: EFA findings were juxtaposed with thematic understandings for integrated interpretation.

Administration, Language, and Adaptation

The questionnaire was distributed online via Google Forms, formulated in clear, non-academic language, and adapted for a multilingual and multicultural sample. Where necessary, local terms were used for semantic clarity, with standardization ensured through a uniform scale set and identical question sequence. Interviews were conducted in English rather than local languages; translations were verified by the author following AI-assisted transcription, with any meaning nuances noted.

Validity, Reliability, and Transparency

Content validity: Construct and item maps were derived from theoretical frameworks and research questions; innovative items are conceptually justified by the novelty of AI-culture phenomena.

Internal consistency: Cronbach's $\alpha \geq .78$ across domains in the pilot; confirmed on the full sample prior to main analyses.

Construct validity: EFA was employed to verify latent structure (e.g., extraction of BAIB/BAIP dimensions in perceived AI benefits).

Procedural neutrality: Structured open-ended interviews minimize interviewer influence and enhance response comparability.

Ethics and privacy: Informed consent, anonymization, and encrypted data storage; separation of identities and analytical codes.

Summary

The developed instruments, a questionnaire with 31 Likert items and 3 open-ended questions, plus a structured open-ended interview with 21 standardized questions constitute a coherent toolkit tailored to the study's objectives and context. The questionnaire provides a measurement framework of sufficient breadth and psychometric reliability, while the interview enables comparable and depth-rich elicitation of managerial and engineering perspectives. This instrument combination maximally leverages the strengths of mixed methods: statistical precision, interpretive depth, and integrated validation of findings (Creswell and Plano, 2018).

4.2.3. Research procedure

The study was designed and executed as a mixed-methods, parallel design, research, in which the quantitative and qualitative phases were conducted concurrently, with the aim of simultaneously collecting metric (survey) and narrative (interview) data on the same phenomenon. The quantitative component enabled the mapping of patterns and statistical testing of relationships between variables, while the qualitative component provided deeper interpretation and understanding of the meanings of these patterns within real organizational contexts. Both phases held equal priority within the research framework and complemented each other during the data integration and interpretation of findings stages. Given that the topic, the impact of AI on organizational culture and climate in software SMEs in Southeast Europe, is underexplored, the study relied exclusively on primary data (surveys and interviews), thereby ensuring timeliness, relevance, and full control over the quality and scope of information (Creswell, 2014; Teddlie and Tashakkori, 2009; Yu, 2009).

Quantitative Phase (Survey)

Timeframe and Duration

Quantitative data collection was conducted online from May 27 to September 17, 2025. The initial plan envisioned a shorter duration (eight weeks), but the collection window was extended due to summer vacations in the region, in order to increase response rates and achieve better geographical and functional representation in the sample. This extended window, without any changes to the instrument, is methodologically acceptable and does not compromise the validity of the findings. On the contrary, in professional populations, it can enhance response rates and representativeness (Dillman et al., 2024).

Instrument and Administration

The survey was administered via the Google Forms platform, selected for its accessibility across multiple countries, ease of distribution, reliable data management, and familiarity to employees in software companies. The platform enables real-time response monitoring, automatic recording, and secure export in .xlsx or .csv formats for further analysis. Standard Google privacy protocols were employed and data collection was fully anonymized.

Access Control and Response Integrity

To prevent duplicate submissions, a Google account login requirement was implemented, with the form configured not to record email addresses or any identifiers, like IP address. This maintained complete anonymity while nearly eliminating the risk of multiple entries from the same respondent.

Participant Recruitment and Channels

The primary recruitment channel was LinkedIn. Leveraging a network of over 12,500 connections, the researcher sent 997 personalized invitations to professionals from software SMEs in the region, accompanied by a brief explanation of the purpose, duration, and anonymity conditions. You can find examples of invitation messages for participation in

interviews (appendix C) and survey (appendix D). The survey link was also shared via email and professional groups, such as the PMI Greece Chapter. This approach ensured direct reach to target individuals (CEOs/CTOs, PMs/Delivery leads, engineers, HR/People & Culture roles) and contributed to stratified diversity by country, function, and work model (on-site/hybrid/remote).

Quality Monitoring and Low-Intensity Adaptations

Weekly monitoring of response distribution by country and role was conducted during data collection. The survey instrument remained unchanged. Upon closure, the dataset was exported as an .xlsx file; there were no incomplete entries or duplicates, and 328 valid responses were retained for analysis, yielding a margin of error $E \leq \pm 5{,}4\%$ (95% CI) for an unknown size of population, a threshold acceptable for organizational and behavioral research.

Qualitative Phase (Interviews)

Timeframe and Sample

The qualitative phase followed the processing of descriptive and initial inferential survey findings, with the objective of explaining quantitative patterns. Interviews were conducted in August–September 2025, with 14 participants from multiple countries and diverse roles, predominantly from management with over six years of experience.

Format and Logistics

In line with pilot insights regarding unintentional "leading" of respondents, a structured interview format with open-ended questions was adopted: an identical set of 21 questions in the same sequence, without additional probes or interpretive follow-ups. Interviews were held online (Microsoft Teams), typically lasting 45–60 minutes, with initial briefing on the purpose, voluntariness, confidentiality, and right to withdraw. Participants provided explicit verbal consent prior to recording.

Recording, Transcription, and Data Protection

Interviews were video-recorded, verbatim transcribed using the AI tool aTrain, and then anonymized (coded as INT001–INT014). Identifying information and company names were removed from working versions; a code key was stored separately in an encrypted repository accessible only to the researcher and supervisor. Analysis was performed in tool QDA Miner, with reflexive memos documenting analytical decisions.

Saturation and Coverage

Thematic saturation was achieved around the 10th interview; an additional four interviews were conducted to verify saturation and capture marginal perspectives, thereby enhancing the robustness and transferability of the findings.

Ethics, Confidentiality, and Security

All procedures were aligned with ethical standards for social research: informed consent, voluntary participation, right to withdraw up to response submission, anonymization in all analytical datasets, and secure data storage (Google Workspace accessed solely via two-factor authentication [2FA]). Additionally, in interviews, co-construction of narratives and nonverbal "rewarding" of responses were avoided to minimize researcher influence.

Operational Challenges and Mitigation Measures

Seasonality and Participant Availability (Survey)

The summer period (June–August) in SE Europe realistically slowed response rates. So mitigation was used to extended collection window without intrusive reminders, along with new targeted invitations to potential participants from underrepresented countries or roles. Literature indicates that this approach improves representativeness without sacrificing validity, provided the instrument remains stable (Dillman et al., 2024).

Multilingualism and Semantic Nuances

The risk of misunderstanding concepts was mitigated through linguistic simplicity in items, inclusion of brief examples in the introduction, and the option for participants to conduct interviews in English.

Data Integrity and Duplicates

Login requirements prevented multiple submissions while preserving anonymity (no identifiers collected). Verification confirmed no incomplete or obviously inconsistent records.

Scheduling Interviews with Executives

High respondent occupancy was addressed through flexible scheduling and strict adherence to the time frame (45–60 minutes).

Interviewer Bias and Response Comparability

Based on pilot experience, semi-structured probes were abandoned in favor of a structured open-ended format, thereby increasing neutrality and comparability (see also Methods, Section 3.4).

Phase Integration and Procedural Transparency

Quantitative findings (e.g., differences in current vs. prior perceptions of culture and climate; factor structure of psychological safety and AI benefits) guided themes and emphases in the interviews. Conversely, qualitative narratives provided mechanisms and meanings underlying statistical patterns (e.g., why "faster and more transparent" decision-making emerges more frequently in the present, or how the balance between automation and autonomy is experienced). This achieved data and conclusion triangulation, in keeping with the pragmatic maxim that method selection serves the research question (Creswell and Plano, 2018).

4.3. Data Analysis

Given the mixed-methods nature of the research, both qualitative and quantitative analytical techniques were applied accordingly.

The responses from the qualitative part of the study, which was conducted in the form of a semi-structured interview (questionnaire), were analyzed using thematic analysis and content analysis (Braun and Clarke, 2006b). Although the structure of the interview guide inherently suggested an inductive approach, during the initial phase of familiarization with the data, two additional approaches emerged as relevant - deductive and latent. Key themes and, where possible, subthemes were identified, and respondents were grouped according to the themes or clusters they addressed. Representative statements illustrating specific themes were also extracted. The analysis was performed for each question and sub-question individually. At the end of the analysis, a synthesis of results was conducted for every question to provide a coherent thematic overview.

The objectives of the quantitative part of the research required the use of several statistical techniques. To compare participant's responses regarding current conditions versus past conditions, the t-test for dependent samples was applied. The data were analyzed both through summation scores and on an item-by-item basis.

The section of the questionnaire related to psychological safety was analyzed through several stages. The first step was to determine whether the constructed instrument measured a single underlying construct. It was established that it did not, so an Exploratory Factor Analysis (EFA) was performed to identify the underlying measurement structure. Through an examination of item reliability, inter-item correlations, and content validity, three items with the weakest performance were removed, resulting in a refined version of the scale.

The subsequent factor analysis of the reduced instrument revealed that it measured two distinct constructs: the perceived organizational benefits of AI implementation and the

personal benefits of AI use. Items in both identified factors exhibited high factor loadings, indicating strong construct validity. Furthermore, the post-reduction reliability analysis showed satisfactory values of internal consistency. Finally, a multivariate regression analysis was conducted to address the main research question, providing an integrated interpretation of the relationships between AI-related variables and cultural indicators within software SMEs.

4.4. Quantitative data analysis

4.4.1. Organizational culture and climate now and in the past

In the first part, an analysis was conducted regarding the difference in summative scores of organizational culture and climate in the present and in the past.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	ok.NOW	23.5732	328	4.58566	.25320
	ok.PAST	23.1433	328	4.57565	.25265

Table 4. Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	ok.NOW & ok.PAST	328	.689	.000

Table 5. Paired Samples Test

	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper	t	df	Sig. (2-tailed)
Pair 1 ok.NOW - ok.PAST	.42988	3.61376	.19954	.03734	.82242	2.154	327	.032

Table 6. Paired Differences

A statistically significant difference was obtained in the assessment of organizational culture and climate in the present and in the past. Organizational culture and climate in the present were rated more positively.

The obtained difference prompted the need for a deeper and more detailed analysis, in which differences were sought for each individual statement. The results are as follows:

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	ok1.n	3.86	328	.927	.051
	ok1.p	3.95	328	.947	.052
Pair 2	ok2.n	4.11	328	.972	.054
	ok2.p	4.06	328	.972	.054
Pair 3	ok3.n	3.61	328	1.072	.059
	ok3.p	3.48	328	1.055	.058
Pair 4	ok4.n	4.13	328	1.017	.056
	ok4.p	3.91	328	1.038	.057
Pair 5	ok5.n	4.21	328	.920	.051
	ok5.p	4.08	328	.969	.053
Pair 6	ok6.n	3.64	328	1.054	.058
	ok6.p	3.66	328	.979	.054

Table 7. Paired Samples Statistics

		N	Correlation	Sig.
Pair 1	ok1.n & ok1.p	328	.578	.000
Pair 2	ok2.n & ok2.p	328	.673	.000
Pair 3	ok3.n & ok3.p	328	.685	.000
Pair 4	ok4.n & ok4.p	328	.704	.000
Pair 5	ok5.n & ok5.p	328	.736	.000
Pair 6	ok6.n & ok6.p	328	.578	.000

Table 8 Paired Samples Correlations (b)

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	ok1.n - ok1.p	-.088	.861	.048	-.182	.005	-1.860	327	.064
Pair 2	ok2.n - ok2.p	.052	.786	.043	-.034	.137	1.194	327	.233
Pair 3	ok3.n - ok3.p	.137	.844	.047	.046	.229	2.945	327	.003
Pair 4	ok4.n - ok4.p	.223	.791	.044	.137	.309	5.094	327	.000
Pair 5	ok5.n - ok5.p	.128	.688	.038	.053	.203	3.372	327	.001
Pair 6	ok6.n - ok6.p	-.021	.937	.052	-.123	.080	-.413	327	.680

Table 9. Paired Samples Test

The results of the paired-samples t-test indicate that there is a statistically significant difference in the ratings between the present and the past on the following statements:

- Decisions are made quickly and transparently,
- The company encourages innovation, and
- Employees have the freedom to propose ideas.

The arithmetic means were statistically significantly higher for the statements pertaining to the present. The largest difference was observed in the encouragement of innovation within the company, followed by granting employees the freedom to propose ideas, while the smallest statistically significant difference was found in the statement that decisions are made more quickly and transparently.

4.4.2. Psychological Safety and Engagement

By initial checking of comments received on the test that measured Psychological Safety and Engagement, indicators such as the reliability and validity of each individual item indicated that it is a better solution not to take them into further analysis. Therefore, seven items were retained. A factor analysis was carried out on them, because even during the construction of the instrument, it was assumed that the object of measurement was not unique.

The representativeness of the data sample is satisfactory (KMO = .810; sig =.000). The criterion for correlation of items with factors was 0.30. The results of the factor analysis with the application of rectangular rotation (Varimax with Kaiser Normalization) are shown in the table

	Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %
1	2.865	40.931	40.931
2	1.929	27.554	68.485

Table 10. Rotation Sums of Squared Loadings

Two factors were extracted, which together account for 68.485% of the variance. The first extracted factor explains 41% of the variance, while the second explains 27.554%.

A two-factor solution was also suggested by Cattell's Scree Plot.

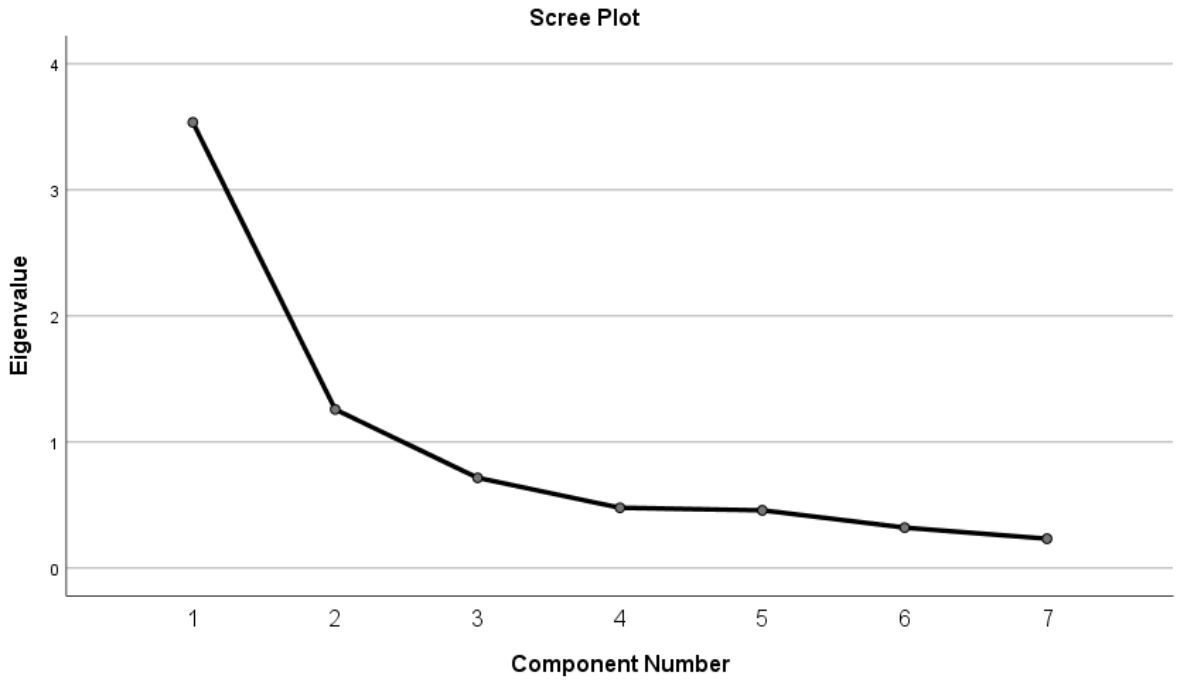


Figure 15. Cattell's Scree Plot

Rotated Component Matrix

	Component	
	1	2
pse8	.873	
pse9	.849	
pse2	.818	
pse7	.765	
pse6		.849
pse1		.737
pse5		.723

Table 11. Rotation Method: Varimax with Kaiser Normalization

Through content analysis of the items describing the first extracted factor, it is evident that they pertain to the benefits of using AI in terms of work efficiency and assistance in task completion; thus, it can be named BAIB (Business Artificial Intelligence Business). Its reliability is expressed by alpha Cronbach measure α = .87.

The content analysis of the items describing the second factor BAIP (Personal benefits of using AI) indicates satisfaction with the possibility of free expression of opinion, improvement of knowledge and management support. Its reliability is α = .71.

Research question

Can the personal and business benefits of using AI predict a change in organizational culture and climate in modern organizations, and in what way?

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.594[a]	.352	.348	3.70152

a. Predictors: (Constant), BAIP, BAIB

Table 12. Model Summary

The data exhibit a statistically significant fit to the hypothesized regression model (F(2, 325); p = 0.000) with predictors BAIB and BAIP. The model significantly accounts for 35.2% of the variance in organizational culture and climate within contemporary AI-utilizing organizations in the respondent sample, corresponding to 34.8% of the variance in the population from which the sample was drawn.

Model		Standardized Coefficients	t	Sig.
		Beta		
1	(Constant)		10.027	.000
	BAIB	-.070	-1.407	.160
	BAIP	.621	12.480	.000

Table 13. BAIB & BAIP

BAIP emerged as the sole independently significant predictor in this regression model. The sense of personal well-being derived from AI usage can significantly explain and enhance culture and climate in contemporary organizations ($\beta = .621$; $p = 0.000$). The benefits of AI application in work tasks did not prove to be a significant predictor of organizational culture and climate.

4.4.3. Thematic Analysis of Open-Ended Survey Questions

In addition to the structured items, questions designed for responses on a 5-point Likert scale, the questionnaire incorporated three open-ended questions intended to capture respondent's personal reflections and contextual nuances that cannot be fully expressed through quantitative scales.

These questions, concerning the most positive changes that artificial intelligence has brought to the team, potential concerns regarding its use, and recommendations for aligning AI tools with organizational culture, served as a qualitative supplement to the questionnaire and complemented the data gathered through semi-structured interviews.

Their inclusion in the quantitative instrument enabled employees to respond to the same questions as the selected managers and decision-makers during the interviews, thereby constituting a qualitative enhancement. Ultimately, this facilitated a deeper thematic interpretation of the experiences of employees and managers, providing insight into attitudes, emotions, and expectations regarding the transformation of organizational culture under the influence of AI technologies in software SMEs in Southeast Europe.

Open-Ended Question 32: "What is the most positive change AI has brought to your team?"

This open-ended question aimed to explore how participants perceive the changes resulting from the implementation of AI and which of these changes they consider the most positive. The analysis of responses was conducted using a thematic approach in accordance with

(Braun & Clarke, 2006b), which yielded seven dominant themes encompassing both operational improvements and deeper cultural shifts in team dynamics. Each theme presents recognized patterns in employees' perceptions, accompanied by brief descriptions and representative statements from the respondents.

Main Theme: Increased Efficiency and Productivity

Description: The predominant theme in the responses pertains to the perception of AI as a tool that enhances speed, accuracy, and the volume of completed work. The majority of respondents indicate that the automation of routine and repetitive tasks has enabled teams to concentrate on creative and strategic activities.

Typical Responses:

- “We are faster, more productive.”
- “Less time on repetitive tasks, more time for strategy.”
- “AI helped automate boring tasks like documentation and reports.”
- “Faster delivery with good quality.”

Summary: This theme accounts for approximately half of all responses. AI is observed as a catalyst that facilitates a greater workload in less time, while preserving quality and enabling a more effective allocation of effort.

Theme: Saving time and speeding up the process

Description: Another very common theme is the time-saving aspect; respondents emphasize that AI allows them to complete routine processes, analyzes and communication many times faster than before. AI is often described as a “second pair of hands” that reduces the need for searching, learning and manual work.

Typical responses:

"Less time spent on documentation and debugging."

"No more googling, AI finds information instantly."

"AI shortens execution time for simple repetitive tasks."

"Time savings for brainstorming and client work."

Summary:

This theme appears in about 30%–35% of responses. Respondents value concrete gains in time, particularly in areas such as coding, writing, research and data analysis.

Theme: Automation and reduction of manual work

Description: A large number of participants point out that manual, repetitive and administrative tasks are now delegated to AI systems. This includes tasks such as IT support, document processing, meeting transcription, report generation and content preparation.

Typical responses:

"Automating mundane repetitive tasks."

"We do less boilerplate work."

"AI agent handles routine operations like invoices or templates."

"Meeting summaries and transcription now automated."

Summary: Automation is seen as the most obvious practical benefit, as it frees up time for "human" tasks: planning, communication and innovation.

Theme: Faster learning and easier access to knowledge

Description: A significant number of respondents report that AI helps them learn, research and understand complex concepts faster, especially in IT and technical teams. AI is described as a personalized tutor that shortens the research and problem-solving process.

Typical responses:

"AI accelerates my learning curve."

"Speeded up mastering domain-specific knowledge."

"It's easier to learn new technologies."

"Faster understanding of code and documentation."

Summary: AI is recognized as a tool that democratizes knowledge, enabling even juniors to take on more complex tasks and experienced team members to make decisions faster.

Theme: Creativity, innovation and new ideas

Description: Some respondents point out that AI serves not only to accelerate, but also to expand creative possibilities and generate new ideas. This theme is present in a smaller but important group of responses that see AI as an inspiration and support for creative thinking.

Typical responses:

"More room for creativity and brainstorming."

"AI inspires new approaches to problem-solving."

"It brought more innovation and idea generation."

"Encouraged people to take more risks."

Summary: AI is perceived as a partner in creation, especially with those teams using tools for content generation, design, copywriting and market research.

Theme: Better communication and cooperation

Description: A smaller but notable number of responses refer to easier communication within teams, faster understanding of tasks, clearer reports and automated meeting summaries.

Typical responses:

"Summarizing meeting notes."

"Better documentation and written communication."

"Improved coordination and feedback loops."

Summary: AI functions as an "information bridge" that accelerates the transfer of knowledge, thus reducing the number of errors and increasing the transparency of work.

Theme: Lack of influence or prohibition of use

Description: A small but consistent number of responses stated that AI is not allowed in business, or that it has not yet produced visible results. This shows the difference in the degree of implementation between the teams.

Typical responses:

"Officially prohibited to use AI tools."

"We do not use AI."

"No visible change yet."

Summary: Being novelty, AI is unequally spread across companies, and teams inside companies, and usage varies from frequent, daily usage to teams that do not use AI tools regularly.

Conclusion for open-ended question 32

The analysis reveals that AI is most positively perceived through the lens of efficiency, acceleration of work processes, and liberation from routine tasks. The role of AI is viewed as an extension of team capacities, enabling greater output with the same resources, achieved more quickly and accurately.

Secondary benefits include enhanced communication, accelerated learning, and stimulation of creativity.

A smaller proportion of respondents highlight limitations, such as formal restrictions, excessive reliance on tools, or diminished creativity when AI is used without critical reflection.

In summary, AI is perceived within teams as a tool that enhances efficiency and confidence, reduces operational stress, and facilitates a shift from “mechanical” work to a strategic and creative level.

Open-Ended Question 33: Do you have any concerns regarding the use of AI tools in your company?

Sample data i.e. the answers show a dual picture: a significant number of respondents have no concerns (“No / Not really / N/A”), while those who have concerns most often mention data privacy and security, excessive dependence on AI and output quality/accuracy. Ten themes were singled out, which indicates the heterogeneity of the answers:

Theme: Privacy, Security and Confidentiality (IP/PII/NDA)

Description: The most common concern: leakage of code, internal documents and confidential data to external models; breach of NDA; ambiguity about "whether the model trains on our input". In general, all these concerns source from lack of faith in the AI tools and intentions the tools are built with.

The most common answers:

"Data privacy / data security / confidentiality / IP leakage."

"I don't want our code or finances to 'go' to public LLMs."

"Clear policies and enterprise orders are needed."

Theme: Over-reliance on AI and decline in skills (critical thinking, creativity, craft)

Description: Fear that teams will "stop thinking" or that juniors will "learn more shallowly"; loss of craft discipline and understanding of code/content.

The most common answers:

"People rely too much on it; weaker critical thinking."

"Juniors copy and paste too much; less learning by solving."

"We can lose skills/creativity if we rely 'blindly'."

Theme: Quality, accuracy and "hallucinations"; technical debt

Description: Concern that AI delivers incorrect or “over general” answers; risk of "hallucinations" and long-term consequences (technical debt, difficult to maintain code).

The most common answers:

"AI can be very wrong; outputs must be reviewed."

"Hallucinations can go without a QA layer."

“AI-generated code, more lines, harder to debug/maintain.”

Theme: Management, hype and "over-AI-ing"

Description: Managerial expectations that "everything goes faster and with fewer people"; pushing AI where it shouldn't be; deadlines are tightening, the value of skill is declining.

The most common answers:

"Unrealistic expectations from management."

"Over-AI-ing: forcing AI solutions even when they're not needed."

"First the hype, then the thoughtful application."

Theme: Legal and regulatory issues (policies, licensing, liability)

Description: Unclear usage policies; bans in some teams/clients; who is responsible for the damage; copyright and editorial licenses.

The most common answers:

"Strict policy / cannot use AI without client annex."

"Legal standpoint & copyright."

"Clear rules are needed on what can be sent to models."

Theme: Uneven Need for Training

Description: Differences across teams: some do not use AI, others lack knowledge on how to do so; education is required (prompting, safe usage, validation).

Most Common Responses:

“No training – people don’t know what’s OK to share.”

“Basic workshops exist, but they are not job-specific.”

“More guidance, standards, and verification practices are needed.”

Theme: Impact on Jobs and Careers

Description: Reduced demand for juniors/certain roles; concerns about salary, growth and promotion; job reshaping.

Most Common Responses:

“Less need for developers (esp. juniors).”

“Salaries/progression may be impacted.”

“Jobs will change; reskilling is required.”

Theme: Tool Fragmentation and Process Maturity

Description: “Tool sprawl”: too many similar tools, poor integration; early stage, organization still “exploring.”

Most Common Responses:

“Too many tools; discovery phase.”

“Unclear strategy; seeking the right combination.”

“Governance & consolidation needed.”

Theme: Ethics, “Human Touch,” and Authenticity

Description: Concerns about losing tone, empathy, and human elements in communication (emails, messages), as well as issues of fairness/transparency.

Most Common Responses:

“Keep human judgment, brand voice, empathy.”

“Ethical use and editorial control.”

“No ‘impersonal’ AI emails.”

Theme: “No Concerns / No Usage / Strict Policies”

Description: A large number of responses state “No / Not really / N/A,” or that usage is prohibited/restricted, hence “no concerns.”

Most Common Responses:

“No concerns at the moment.”

“We have policies in place / enterprise licenses.”

“We don’t use AI (or not on client projects).”

Conclusion for the Analysis of open-ended question 33:

Dominant Concerns: (1) privacy/security/IP, (2) over-reliance and skill degradation, (3) accuracy/quality and hallucinations, (4) managerial hype and misapplication.

Secondary Concerns: legal/regulatory issues, uneven adoption and training needs, career impacts (especially for juniors), tool fragmentation, and ethics / “human touch.”

A significant portion of the sample reports “no concerns”, particularly where clear policies, enterprise accounts, and a culture of result verification exist.

Insights Between the Lines: Teams embrace AI but desire clear rules, training, and a verification culture.

Open-Ended Question 34: “If you could recommend one thing related to AI and organizational culture, what would it be?”

The sample of responses is diverse but converges on a unified message: AI should empower people rather than replace them, through clear rules, continuous learning, and responsible application.

A total of 12 primary themes were identified:

Theme: Education and Skill Development (Most Dominant)

Description: Calls for ongoing training, role-specific workshops, mentorship, and practical examples (prompting, verification, safe usage).

Typical Responses:

“Train all employees to use AI intelligently and securely,”

“Introduce training programs and internal best-practice guidelines.”

Theme: Governance: Clear Policies, Ethics, and Transparency

Description: Need for explicit rules on permissible and prohibited AI practices (privacy, IP, PII, NDA), enterprise tools, and transparency in usage.

Typical Responses:

“Implement an AI policy and ethical code of conduct,”

“Use with DLP/enterprise accounts and data-sharing rules.”

Theme: “Human-in-the-Loop”: AI as Support, Not Replacement

Description: Emphasis on critical thinking and human decision-making; AI for routine tasks/prototypes, humans for creativity, context, and final decisions.

Typical Responses:

“AI is an assistant and partner, not a boss,”

“Maintain the ‘human touch’ in communication.”

Theme: Culture of Responsible Experimentation

Description: Encourage curiosity and safe experimentation (sandbox/PoC Proof of Concept), with sharing of insights and errors without stigma.

Typical Responses:

“Allow teams to experiment and learn,”

“Trust but verify.”

Theme: Gradual, Purpose-Driven Implementation (Anti-Hype)

Description: Start with business needs, small use cases, and success metrics; avoid over-application of AI.

Typical Responses:

“Start small, measure, then scale,”

“Don’t force AI everywhere.”

Theme: Ownership of Strategy: CDO/PMO and Clear Vision

Description: Proposal for a CDO/PMO to lead data/AI strategy, standards, and training; clearly communicated vision and leadership by example.

Typical Responses:

“Appoint a CDO and data strategy,”

“Leaders should lead by example.”

Theme: Privacy and Security as the Foundation of Trust

Description: Emphasis on data protection and restricting the spread of sensitive content to public models; preference for private/enterprise instances.

Typical Responses:

“Use AI with strict data protection,”

“Always double-check what is sent.”

Theme: Standardization and Consolidation of Tools

Description: Avoid “tool sprawl”: define a standard set of AI tools (e.g., Copilot for development, GPT for writing, AI in Jira/Confluence), with paid licenses.

Typical Responses:

“Consolidate tools and provide premium accounts,”

“Standards by domain.”

Theme: Critical Verification (QA) and Quality Metrics

Description: Embed mandatory output verification (code review, fact-checking, prompt libraries), with KPIs (time, errors, satisfaction).

Typical Responses:

“Always double-check results,”

“Define KPIs for AI usage.”

Theme: Inclusion and Accessibility for All (Cross-Functional)

Description: AI should be available across all functions (HR, finance, marketing, operations), not just IT; include AI in onboarding; “everyone should try it.”

Typical Responses:

“Give everyone a chance to experiment.”

“AI in onboarding.”

Theme: Role Redesign and Retention of Team Benefits

Description: AI increases productivity, recommend reinvesting gains into creative and software development tasks, not workforce reduction; strengthen cross-team collaboration.

Typical Responses:

“Don’t replace people, elevate the work.”

“Flatten hierarchies and improve collaboration.”

Theme: Clear Use-Case Packages

Description: AI for routine tasks (documentation, transcripts, reports), prototypes, and research; not for autonomous decision-making.

Typical Responses:

“AI for menial/admin and rapid PoC; humans for decisions and creative solutions.”

Conclusion for open ended question 34:

The implementation of a responsible AI ecosystem that encompasses education for all, clear policies and privacy safeguards, human-in-the-loop protocols, standardized tools, and gradual scaling based on realistic use cases.

4.5. Qualitative data analysis

The analysis of qualitative data was conducted based on transcripts of fourteen semi-structured interviews. The objective of the analysis was to identify recurring patterns, motives, and meanings that respondents associate with the application of AI. Thematic

analysis was employed in accordance with the methodology of (Braun & Clarke, 2006b), proceeding through the phases of data familiarization, coding, theme identification, and theme definition. The interviews consisted of seven question groups (see Appendix B for a complete guide with interview questions), and each group was analyzed separately in alignment with the established research objectives. The findings are presented as the identified key themes, accompanied by typical respondent statements that illustrate these themes.

The researcher introduced the coding system, intentionally designed to facilitate the reading in a logical, natural and analytical, consistent way. Prior to the qualitative analysis, all interview transcripts were anonymized to ensure respondent confidentiality and adherence to research ethical standards. Each participant was assigned a unique identification code (e.g., INT001–INT014), recorded in a separate table titled the Interview Participants Coding Table. This table contains solely the codes and basic participant characteristics (e.g., organizational role, country, interview date), while personal data and company names were permanently removed from all working versions of the data. The code table is stored in a protected, encrypted file accessible exclusively to the researcher and supervisor.

In the subsequent text, respondent quotations and interview examples are denoted with the corresponding codes (e.g., INT005, CEO, Bulgaria), thereby maintaining anonymity while preserving relevant contextual information.

Participants Code	Role in the company	Country	Interview Date
INT001	CEO	Noth Macedonia	08.08.2025.
INT002	Development Lead Data & AI	Greece	09.08.2025.
INT003	CEO	Croatia	06.09.2025.
INT004	Delivery Manager & Development Lead	Serbia	08.09.2025.
INT005	CEO	Bulgaria	09.09.2025.
INT006	CEO & Software Engineer	Bulgaria	11.09.2025.
INT007	Country Leadership	Montenegro	15.09.2025.
INT008	Marketing Manager & Employer Branding & HR	Croatia	17.09.2025.
INT009	Service Delivery Manager	Bosnia and Herzegovina	19.09.2025.
INT010	Delivery Lead & Agile Coach	Serbia	22.09.2025.
INT011	Delivery Director	Bosnia and Herzegovina	23.09.2025.

INT012	Director, Remote Division	Bosnia and Herzegovina	23.09.2025.
INT013	Engineering Manager	Serbia	26.09.2025.
INT014	CEO	Bosnia and Herzegovina	30.09.2025.

Table 14. Interview Participants Coding Table

Note: The table only shows the coding structure used in research. The original table of the actual identity of the respondent (Participant Key Table) is kept separately, in an encrypted format, and is not included in order to protect data privacy.

4.5.1. Overview of Organizational Roles and Culture

This group of questions provided foundational context regarding the respondents' positions and their general perceptions of organizational culture in the companies led by the executives. The analysis of responses facilitated an understanding of the baseline perspectives from which participants observe the impact of AI on the work environment.

Question 1.1. Can you briefly describe your role and how long you have been with the company?

Theme 1: Founders and Senior Management - Multidisciplinary and Strategic Roles

Description: Several respondents are founders, directors, or co-owners of their own companies. Their roles are multifaceted, encompassing strategic decision-making, sales, product development, team leadership, and the shaping of organizational culture.

Respondents: INT003, INT005, INT014

Typical Statements:

(INT003) “I’m CEO and founder… we scaled company from one employee to now ten… focused on internal products.”

(INT005) “CEO and co-founder… responsible for business activities, sales, finances and administration.”

(INT014) “I established my own company in 2008… partners with Autodesk, Adobe, Corel… selling solutions based on their tools.”

Synthesis: Founders and directors assume multiple roles, integrating business, technical, and developmental leadership. Their positions entail a broad scope of responsibilities and direct influence on strategic development, innovation, and company culture.

Theme 2: Technical Leaders and Engineering Managers

Description: A substantial proportion of respondents hold technical and leadership positions within the IT sector, ranging from development leads, engineering managers, and delivery leads to CTO roles. These respondents emphasize the balance between technical expertise and team leadership.

Respondents: INT002, INT004, INT006, INT009, INT010, INT011, INT013

Typical Statements:

- (INT002) “Development lead for data and AI… not a typical manager, more like a mentor who steers development.”
- (INT004) “Developer manager, delivery manager, and software engineer… almost four years in the company.”
- (INT006) “Software development manager, still doing development and marketing tasks.”
- (INT009) “Service delivery manager… also serves partially as scrum master and delivery lead.”
- (INT010) “Delivery lead and agile coach for the last three and a half years.”
- (INT011) “Delivery director and account manager… responsible for client communication, team performance, and delivery.”
- (INT013) “Engineering manager responsible for full software delivery platform… in company for six years.”

Synthesis: Technical leaders integrate expert and managerial components, simultaneously guiding teams and participating in operational development. Their roles are hybrid,

frequently bridging engineering leadership, client communication, and mentorship-oriented guidance.

Theme 3: Project and Organizational Management

Description: Respondents in this group are primarily engaged in leading projects, teams, and local business units. Their focus lies in operational coordination, client communication, and strategic resource management.

Respondents: INT007, INT009, INT011

Typical Statements:

(INT007) “Seven to eight years of project management… currently in country leadership role between operations and project management.”

(INT009) “Service delivery manager… taking care of rollouts and delivery plans.”

(INT011) “Delivery director… responsible for proposals, onboarding, team performance, and client relationships.”

Synthesis: These roles bridge operational and strategic leadership. Respondents highlight communication and adaptability as key competencies, particularly in globally distributed teams and hybrid structures.

Theme 4: Human Resources, Culture, and Communication

Description: Certain respondents develop and implement processes related to organizational culture, recruitment, branding, and employee development. Their roles integrate HR, marketing, and the cultural evolution of the organization.

Respondents: INT008, INT012

Typical Statements:

(INT008) “Started as marketing manager… later developed HR and culture processes… completed CIPD education in London.”

(INT012) “Started as HR person… grew company from 30 to 700 employees… later joined business development and oversees new hubs.”

Synthesis: These respondents emphasize the human dimension of organizations, building culture, caring for people, and developing structures that support growth. Their roles serve as a bridge between people, processes, and strategy.

Theme 5: Consulting and Entrepreneurial Roles

Description: A smaller number of respondents operate independently as consultants in specialized fields (e.g., IT, AI, automotive industry). Their roles are project-oriented and involve collaboration with international clients.

Respondents: INT001

Typical Statements:

(INT001) “Solo consultant for a Slovenian B2B automotive client… extended their software team in Macedonia.”

Synthesis: Independent consultants combine technical expertise with market acumen, functioning as a link between organizations and global clients. Their work demands high autonomy and accountability.

Concluding Synthesis

The sample structure reveals considerable diversity in roles, ranging from founders and directors to technical leaders, HR specialists, and independent consultants. Multifunctionality and flexibility are common characteristics across all roles, respondents frequently integrate technical, managerial, and communicative aspects of work.

Most respondents possess medium to long-term experience (3–10+ years), indicating stability and maturity in organizational structures.

AI and digital transformation contribute to redefining traditional boundaries between technical, managerial, and communicative roles, fostering a profile of employees who are adaptive, interdisciplinary, and strategically oriented.

Question 1.2. How would you describe the current organizational culture in your company?

Theme 1: People at the Center of Culture: Care, Development, and Interpersonal Relations

Description: The majority of respondents emphasize human orientation as a central feature of organizational culture. The focus is on supporting employees, education, flexibility, mental health, and informal relationships. Culture is perceived as "people-centered," grounded in mutual trust, collaboration, and work-life balance.

Respondents: INT001, INT004, INT008, INT011, INT012

Typical Statements:

- (INT001) "They are very people-oriented, people are very happy to be there. They organize serious team buildings three times per year."
- (INT008) "We were always people-centered. We valued education, growth, and mental health... We couldn't compete with big corporations, so we gave people flexibility and care."
- (INT011) "Company is client-oriented but without rigid processes... it's a playground to bring your creativity every day."
- (INT012) "Innovation is in our DNA... but also focused on people — employees, clients, and partners."

Synthesis: These organizations cultivate a culture of trust, care, and continuous development. Human values, informal communication, and adaptation to individual employee needs are at the core, fostering loyalty and creativity.

Theme 2: Openness and Transparent Communication

Description: Transparency and open dialogue are recognized as key elements of contemporary culture in many organizations. Companies foster environment that encourages free expression of opinions, respect for diverse perspectives, and horizontal communication.

Respondents: INT006, INT007, INT009

Typical Statements:

- (INT006) “We are absolutely transparent... we share everything among the three of us running the business.”
- (INT007) “Everyone has the right to express their voice... they will not be judged for saying something that doesn’t fit the narrative.”
- (INT009) “The company advocates open and transparent communication by sharing plans with everyone in the organization.”

Synthesis: Transparent communication strengthens trust, mutual understanding, and a sense of community. Simultaneously, openness serves as both a value and a tool for managing change in complex and distributed teams.

Theme 3: Agility, Flexibility, and Startup Mentality

Description: An agile, startup culture is prevalent among numerous respondents, oriented toward adaptability, rapid decision-making, experimentation, and team spirit. These organizations promote informality and collective decision-making, though some exhibit a transition toward greater formalization.

Respondents: INT003, INT005, INT010, INT013

Typical Statements:

- (INT003) “We are agile and transparent, focused on internal products... not typical Scrum-based but adaptive and flexible.”

- (INT005) “We are a small team of like-minded people… decisions are made by mutual agreement… young startup culture.”
- (INT010) “We are in transition from startup to corporation… more standardization and new processes coming from the parent organization.”
- (INT013) “We used to see ourselves as a startup… now moving toward a more organized structure, but facing challenges with governance.”

Synthesis: The culture of agility and startup spirit highlights speed, openness, and informality, but with company growth comes the need for structuring. The transition from startup to corporation often brings tensions between creativity and formal procedures.

Theme 4: Hierarchical Structures and Limited Transparency

Description: In large corporations, vertical and fragmented communication predominates. Employees are often part of smaller, closed teams, with limited access to higher levels and HR structures.

Respondents: INT002, INT014

Typical Statements:

- (INT002) “The company is huge, around 7,000 people… culture is not so open, it’s separated into clusters… communication mostly through vice presidents.”
- (INT014) “In Bosnia it’s difficult for software selling… people prefer face-to-face meetings… digital signatures and bureaucracy are barriers.”

Synthesis: Hierarchical systems restrict information flow and participation. Communication culture becomes segmented, while local contexts (as in the case of Bosnia) further shape patterns of business interaction.

Theme 5: Client-Orientation and Focus on Innovation

Description: Among certain respondents, a culture oriented toward clients, innovation, and research dominates. Companies strive to create a “lean” environment that integrates research, development, and collaboration with partners.

Respondents: INT003, INT011, INT012

Typical Statements:

- (INT003) “We are more focused on internal products and R&D, transferring culture that’s more transparent and honest.”
- (INT011) “We are always discovering new processes and engagement models with clients… culture that inspires creativity.”
- (INT012) “Innovation comes first in everything we do, relationships, value propositions, and technology.”

Synthesis: These organizations cultivate a culture of innovativeness and entrepreneurial spirit, where clients, quality, and creativity are integrated into daily operations.

Concluding Synthesis

- People and relationships constitute the core of organizational culture in most cases, whether through employee care, support for development, or mental health.
- Open communication and transparency serve as the foundation of trust and motivation.
- Agility and startup mentality emerge as dominant cultural models, although in larger systems formalization occurs, accompanied by a loss of spontaneity.
- Hierarchical structures constrain information flow and creativity but provide stability and clear responsibilities.
- Innovation and client orientation are recognized as key drivers of modern cultures in IT and digital organizations.

Overall, the findings point to an evolution of organizational culture from an informal, human-oriented, and agile model toward a hybrid framework that seeks to integrate care for people, transparency, and innovation within a more structured, globally interconnected context.

4.5.2 Perceptions of Organizational Values and Recent Changes

This group of questions dealt with the research of dominant values, changes in them and ways of decision-making and communication in organizations. The answers shed light on how employees perceive the evolution of culture under the influence of new technologies.

Question 2.1 What values do you believe are most prominent in your organization?

During process of thematic analysis, 7 main topics were discovered: trust, transparency, learning, professional development, responsibility and innovation are the most frequently mentioned. Many organizations associate values with a culture of growth, ownership, teamwork and autonomy.

Also, two orientations are observed:

- human-centric (honesty, trust, respect, relationships, development)
- performance-innovation (excellence, knowledge, innovation, results, ownership)

Respondent	Key ideas	Initial codes
INT001	honesty, trust, professional development	trust / learning / integrity
INT002	deadlines, professionalism, knowledge, performance orientation	performance / learning / innovation / structure
INT003	transparency, teamwork, communication	openness / collaboration / communication culture
INT004	trust and responsibility	mutual trust / accountability
INT005	honesty, equal treatment	fairness / transparency / respect
INT006	openness, innovation, autonomy	innovation / openness / empowerment
INT007	transparency, respect, trust	trust / equality / professional pride

INT008	good relationships, honesty, mutual support, value alignment	belonging / authenticity / shared values
INT009	openness, ownership, initiative	openness / ownership / leadership initiative
INT010	lean, respect, production excellence	respect / discipline / efficiency
INT011	resilience, creativity, adaptability	resilience / creativity / change readiness
INT012	excellence, teamwork, knowledge	excellence / teamwork / learning
INT013	ownership, self-reliance, innovation	ownership / autonomy / innovation
INT014	trust, commitment, good relationships	trust / commitment / social cohesion

Table 15. Initial coding: Examples by respondents

Theme	Description	Key codes	Respondents
Trust and honesty	Trust, honesty, transparency as the relations foundation	trust, honesty, respect, fairness	INT001, INT004, INT005, INT007, INT008, INT014
Learning and development	Continuous professional and personal growth	learning, development, education	INT001, INT002, INT012
Performance and excellence	Orientation to results, professionalism and quality	performance, excellence, efficiency	INT002, INT010, INT012
Innovation and creativity	Constant improvement, openness to new things and experimentation	innovation, creativity, experimentation	INT006, INT011, INT013
Ownership and responsibility	Independence, responsibility, proactivity	ownership, accountability, autonomy	INT004, INT009, INT013
Respect and relationships	Human relations, cooperation, support	relationships, equality, empathy	INT005, INT007, INT008, INT014
Resilience and adaptability	Coping with change, endurance, mental flexibility	resilience, adaptability, change-readiness	INT011, INT013

Table 16. Initial themes

Theme	Description	Illustrative quote
Trust and honesty	Trust and honesty form the basis of cooperation and a culture of safety	"Everybody needs to be treated the same way; honesty is very important." (P5)
Learning and development	Organizations foster growth and learning as a core value.	"They value knowledge a lot, you could say it's performance-oriented." (P2)
Performance and excellence	Emphasized responsibility for results and quality of work.	"Excellence in how we serve clients." (P12)
Innovation and creativity	Innovations and creative approaches as part of everyday functioning.	"We like when someone introduces new stuff." (P6)
Ownership and responsibility	Entrusting tasks with autonomy and responsibility.	"Taking the lead, open communication." (P9)
Respect and relationships	A culture of mutual respect and support.	"Can we support each other and not backstab?" (P8)
Resilience and adaptability	Flexibility and willingness to respond to changes.	"You need to be brave enough to switch and change." (P11)

Table 17. Description of themes and quotes

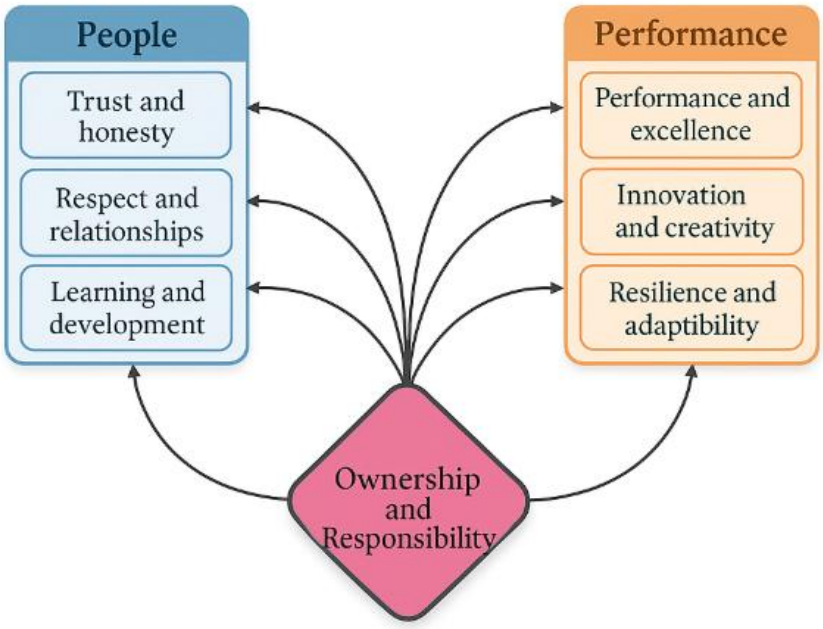


Figure 16. Organizational values dynamics

Note. Own research

The presented diagram illustrates the dialectical relationship of organizational values, grouping initial topics into two main pillars: People, which focuses on culture and employee development, and Performance, focused on results and efficiency. The key, overlapping value Ownership and Responsibility serves as a bridge, emphasizing that a culture of trust and learning translates directly into achieving excellence and innovation.

Question 2.2. Have you noticed any changes in those values over the past year or two?

Theme 1: Maintaining Stability and Continuity of Values

Description: The majority of respondents emphasize that no substantial changes have occurred in organizational values. Despite economic or technological crises, core values such as integrity, trust, and collaboration have remained consistent.

Respondents: (INT001), (INT004), (INT005), (INT006), (INT007)

Typical Statements:

- (INT001) “No, no. So, no matter the crisis, they stick to the values.”
- (INT004) “Everything stays the same... nothing special has been changed.”
- (INT005) “We managed to keep the same level of spirit, communication, and honesty... same principles are towards our partners and contractors.”
- (INT006) “No, for us it's all the same.”
- (INT007) “I think they’re still quite at the high level.”

Synthesis: Among these respondents, a perception of stability and continuity prevails; values form the foundation of culture and an identity that is not easily altered. This stability is viewed as a positive indicator of organizational resilience.

Theme 2: Increased Pressure on Innovation and Market Relevance

Description: Several respondents note a shift in the value framework; organizations increasingly emphasize innovativeness, speed, and market adaptation, particularly under the influence of artificial intelligence and changes in the business environment.

Respondents: (INT002), (INT009), (INT011), (INT012)

Typical Statements:

- (INT002) “Company started pushing innovation more and more... there is more pressure to deliver and be market changers.”
- (INT009) “We’re trying to shift from being a service-based to a solution-based company.”
- (INT011) “We want to keep our creativity, but we need to adjust to clients... it’s stressful to change mindset.”
- (INT012) “The need for knowledge, the need for innovation has just become stronger... to remain relevant.”

Synthesis: AI transformation and shifting market dynamics elevate the importance of innovativeness as a new central value. Respondents indicate a gradual transition from a culture of stability to one of agility and adaptability.

Theme 3: Generational and Communication Tensions

Description: A gap is observed between older and younger generations of employees. Younger team members are perceived as less open to dialogue and team communication, leading to a weakening sense of community.

Respondents: (INT003)

Typical Statements:

- (INT003) “Younger generation... are more open but actually more closed to themselves... they are not communicating well... it’s getting worse every year.”

Synthesis: Changes in generational composition affect team dynamics and the expression of values. Although younger employees appear more open, actual exchange and mutual support decline, signaling a latent crisis in interpersonal communication.

Theme 4: Restructuring Between Freedom and Control

Description: Several respondents point to changes in leadership and organization, from an informal, free approach to a more structured and formalized mode of operation. This is seen as a response to growth, crises, and the need for greater efficiency.

Respondents: (INT008), (INT010), (INT013)

Typical Statements:

- (INT008) “We went from one extreme to another – from full freedom to strict rules... now finding balance between rules and creativity.”
- (INT010) “There is much more structurization, much more documents... trying to unify everything.”
- (INT013) “Some are okay introducing more structure... others are not. It’s 50-50 currently.”

Synthesis: Balancing freedom and control emerge as a critical issue for organizational culture. Companies previously oriented toward startup principles now seek sustainability through processes and standards, which provokes resistance among some employees.

Theme 5: Impact of Market and Structural Changes

Description: Market changes, particularly the shift from startup partnerships to collaborations with corporations and investment funds, necessitate adjustments in values and behavior.

Respondents: (INT011)

Typical Statements:

- (INT011) “We are getting more and more into the business with private equities... creative mindset vs corporate mindset.”

Synthesis: This theme demonstrates that changes in clients and market relations alter not only strategy but also the essence of values, a transition from informality to professionalization and long-term reliability.

Theme 6: Micro vs. Macro Perspective (Small vs. Large Companies)

Description: Certain respondents indicate that small organizations succeed in preserving authentic relationships and stable values, whereas large companies suffer from bureaucratization and a weakening of interpersonal connections.

Respondents: (INT014)

Typical Statements:

- (INT014) “We are a small company... but in big companies, relationships are the key problem.”

Synthesis: Organizational size and complexity influence the nature of relationships and the preservation of values. Small organizations more readily foster close ties and authenticity, while large structures require institutional mechanisms to sustain culture.

Concluding Synthesis

- The majority of respondents (INT001, INT004, INT005, INT006, INT007) report no changes in values, continuity emerges as the dominant pattern.
- A smaller subset (INT002, INT008, INT009, INT010, INT011, INT012, INT013) recognizes a transformation of values, toward innovation, structure, and market focus.
- Individual respondents (INT003, INT014) highlight interpersonal and generational challenges as deeper reflections of cultural shifts.

Overall, the changes are evolutionary rather than revolutionary, organizations strive to balance tradition and modernization, seeking a sustainable interplay between the human factor and innovative technologies.

Question 2.3. In what ways have decision-making, communication, or collaboration changed?

Theme 1: Continuity and Stability of Processes

Description: A significant number of respondents report that no major changes have occurred in decision-making and communication practices. In their organizations, continuity prevails in traditional patterns, often described as “old-fashioned” or “stable.”

Respondents: (INT001), (INT004), (INT005), (INT006), (INT013)

Typical Statements:

- (INT001) “They are practically the same. They didn't feel any notice. One of few companies dealing the business in the old-fashioned way.”
- (INT004) “We can go straightly to the C-level... open communication, exactly.”
- (INT005) “In terms of management... we keep the same principles and methods.”
- (INT006) “Nothing changed. It didn’t change at all.”
- (INT013) “Decision-making remains the same... some decisions are not suitable for this moment.”

Synthesis: These respondents perceive the absence of change as a sign of stability, yet implicitly as a risk of stagnation. Maintaining existing practices ensures continuity but may constrain innovation and adaptation to new market demands.

Theme 2: Structural Changes and Centralization of Decision-Making

Description: Several respondents describe company reorganizations and a shift from decentralized units to a centralized decision-making system. This reduces decision-making speed but enhances formal coordination.

Respondents: (INT007), (INT010), (INT011)

Typical Statements:

- (INT007) “Company merged all business units into a single centralized company... decisions now made on behalf of the entire company.”
- (INT010) “Previously leaner organization... now two additional levels of management... decisions travel vertically longer.”

- (INT011) “Reorganized the whole company as one... portfolios now include people from all hubs.”

Synthesis: The introduction of middle management and corporate integration has led to centralized authority. While this increases control, it may slow responsiveness and reduce team autonomy.

Theme 3: Participative Decision-Making and Open Communication

Description: Certain respondents highlight greater employee involvement in decision-making and more open communication, particularly in the context of digitalization and AI transformations.

Respondents: (INT008), (INT009), (INT012), (INT014)

Typical Statements:

- (INT008) “We don’t have pyramid hierarchy... people are encouraged to be leaders... communication is friendly but assertive.”
- (INT009) “They now need to involve people from all levels in making decisions... asking more and dictating less.”
- (INT012) “Decision making has become more difficult... but collaboration and discussions are more vivid and fruitful.”
- (INT014) “My approach is to ask all employees what they think... I want to know how they think and to build commitment.”

Synthesis: This group emphasizes the democratization of decision-making and the evolution of communication toward a more open, bidirectional model. AI and business complexity necessitate collective deliberation and horizontal collaboration.

Theme 4: Digitalization and Formalization of Processes

Description: Some respondents point to the strengthening of formal processes, introduction of tools, sprint planning, and documentation, as a response to the need for productivity tracking and transparency.

Respondents: (INT003)

Typical Statements:

- (INT003) “We make sprint planning every week... implementing tools and tracking systems... but not a controlled environment.”

Synthesis: The respondent describes a transition from informal communication to more structured processes, alongside a dilemma between control and trust. Digital tools enable coordination but also raise ethical questions regarding privacy.

Theme 5: Complexity and Ambivalence in Decision-Making (AI Context)

Description: With the emergence of AI and rapid market changes, decisions have become more uncertain, requiring greater tolerance for risk and errors.

Respondents: (INT012)

Typical Statements:

- (INT012) “Nobody knows what the right decision is actually... you have to take risks and be ready to change things quickly.”

Synthesis: AI introduces an element of uncertainty into decision-making. Rather than rigid rules, flexibility and an experimental approach are required, transforming how teams think and communicate.

Concluding synthesis

- Stability and continuity dominate in the majority (INT001, INT004, INT005, INT006, INT013).
- Structural changes and centralization (INT007, INT010, INT011) indicate a shift towards greater corporate complexity.

- Openness and participation (INT008, INT009, INT012, INT014) represent an evolutionary step towards a more modern, empathic culture of cooperation.
- Some respondents (INT003, INT012) emphasize the technical and cognitive complexity of decision-making in the era of AI, where the boundaries between control and trust are being redefined.

Overall, the results show that organizations are between stability and transformation; some of them keep the traditional model, while the other part experiments with participatory and digitally supported forms of decision-making.

Question 2.4. How are employees typically involved in new initiatives or change processes?

Theme 1: Education and Informal Learning as the Primary Form of Involvement

Description: Employees most frequently engage in change through continuous education and the adoption of new technologies. The emphasis is on self-initiated learning, often without formal procedures or time frames, supported by management.

Respondents: INT001

Typical Statements:

- (INT001) “They are constantly following the trends... Management strongly encourages this education... We don’t have dedicated time slots, but we have a development budget for learning on demand.”

Synthesis: Education represents the dominant yet decentralized mode of employee involvement. Formal programs and structured processes are rare, with development relying on individual initiative and leadership support through training and conference budgets.

Theme 2: Lack of Formal Mechanisms for Proposing Innovations

Description: In some organizations, employee ideas and initiatives pass exclusively through managerial hierarchies (VP, team lead), without institutionalized channels such as internal forums, submissions, or digital platforms. This leads to lost ideas and reduced motivation.

Respondents: INT002, INT013

Typical Statements:

- (INT002) “Most of the innovation goes through VPs... it’s an unstructured informal way... causes unused potential.”
- (INT013) “Only through one-on-one meetings with team lead... we don’t have other moments for reviewing processes.”

Synthesis: Informal and mediated communication pathways slow the flow of ideas and result in untapped creative potential. The absence of clear innovation channels signals a weaker culture of feedback and participation.

Theme 3: Low Motivation and Lack of Incentives for Proactivity

Description: In smaller companies, motivation poses a challenge, financial incentives are ineffective, and advancement opportunities are limited. Employees are often satisfied with existing conditions and feel no need for additional engagement.

Respondents: INT003, INT014

Typical Statements:

- (INT003) “I put 1000 euros on the whiteboard... in three years, I didn’t get any ideas. They are not motivated; money is not a motivator.”
- (INT014) “Two people are the decision board... in general, only two employees are included in decision or change making process.”

Synthesis: Material stability and small team size diminish the need and opportunity for initiative. The lack of career challenges and symbolic recognition further contributes to employee passivity.

Theme 4: Partial Involvement Through Immediate Supervisors

Description: Employees occasionally participate in decisions via direct supervisors (team lead, development lead). The mediator role is critical in this model; they relay employee initiatives to higher management.

Respondents: INT004, INT009, INT011

Typical Statements:

- (INT004) “Employees can freely ask development lead... that’s the person who understands them and accepts all comments.”
- (INT009) “People with specific roles are involved... directors and portfolio managers collect feedback from others.”
- (INT011) “Branch managers are connected with founders... they pull down decision-making... we have internal vetting to match people with projects.”

Synthesis: This model sustains communication between operational and strategic levels but often depends on personal relationships and individual engagement rather than systemic support.

Theme 5: Open Participation and Democratic Culture

Description: Some respondents describe high employee involvement in process creation, internal rule definition, and decision-making. A culture of dialogue and trust enables a proactive approach to change.

Respondents: INT006, INT007, INT008, INT010, INT012

Typical Statements:

- (INT006) “Anyone can propose anything... the final decision is on management.”
- (INT007) “Everyone has the right to propose... but impact depends on position.”
- (INT008) “We are kind of a democracy... processes are continuously evolving through everyone’s input.”

- (INT010) “Still pretty agile company... changes instituted immediately, reflected in roadmap.”
- (INT012) “It’s spontaneous... everyone has the opportunity to impact how we work, though not everyone uses it.”

Synthesis: These organizations exhibit an agile and participative culture. Changes emerge through collective learning, iteration, and dialogue, though the degree of involvement depends on position and personal proactivity.

Concluding Synthesis

- In most cases, employee involvement occurs informally and indirectly (INT001, INT002, INT004, INT009, INT011, INT013), through managers and personal initiatives, without clear mechanisms of institutional support.
- A minority of organizations (INT006, INT007, INT008, INT010, INT012) cultivate a democratic and agile culture, where dialogue and flexibility are integral to daily operations.
- Motivation emerges as a key challenge (INT003, INT014), particularly in smaller teams lacking formal career paths or innovation rewards.
- Education (INT001) remains the most common and accepted form of engagement in change, while formalized systems for proposing, evaluating, and implementing ideas are virtually absent.

Overall, organizations oscillate between two extremes, from informal, individually driven models to participative, agile cultures that foster innovation and collective learning.

4.5.3 Use and Perception of AI Tools

This section is focused on what AI tools teams are using and how they affect work, decision-making and collaboration processes. The analysis revealed a feeling of empowerment, but also the challenges brought by the daily use of AI in work.

Question 3.1. Which AI tools (e.g., ChatGPT, Copilot, DALL·E, etc.) are you or your team using?

Theme 1: General Patterns of Usage - Most Commonly Used AI Tools in Organizations

Description: ChatGPT dominates nearly all responses as the primary tool, while Microsoft Copilot ranks second, predominantly in technical and programming sectors. Additionally, Gemini (Google's AI platform) and Claude (Anthropic) frequently appear, with a smaller number of respondents referencing Perplexity, Grok, Replit, Bolt, and Figma/Canva in the context of integrated AI functionalities.

Respondents: INT001, INT002, INT003, INT004, INT005, INT006, INT007, INT008, INT009, INT010, INT011, INT012, INT013, INT014

Illustrative Quotations**:**

- "Mostly JGPT and Gemini."
- "Copilot is the only one used for coding... company pays licenses for anyone that wants it."
- "We are based on OpenAI... we have corporate GPT account."
- "We started recently using Google Claude."
- "Personally, I use ChatGPT, but my team uses everything available out there."

Synthesis**:** Most organizations rely on the OpenAI ecosystem, particularly ChatGPT (often in paid versions). In IT sectors, Copilot prevails due to its integration with the Microsoft system and security standards. Gemini and Claude emerge as alternative but less widespread options. A trend of parallel experimentation with multiple AI platforms is evident, especially in firms developing their own LLM systems.

Theme 2: Differences by Departments and Domains - Diversification of AI Tools by Functions and Sectors

Description: Technical teams utilize Copilot, Replit, Windsurf, and other coding assistants, whereas management and administration focus more on ChatGPT, Gemini, and Claude for content generation, brainstorming, and communication. Certain organizations (e.g., respondents 1 and 3) develop proprietary AI systems (custom LLMs) integrated into HR, IT, and internal support functions.

Respondents: INT002, INT003, INT005, INT006, INT009, INT011, INT012

Illustrative Quotations:

- "For coding the only one used is Copilot."
- "We implemented OpenAI processes in our own platform."
- "We adapt to the needs of the customers and their environment."
- "Replit is used mostly in AI-driven projects."

Synthesis: A clear division exists in AI tool usage by work domain: technical sectors employ specialized generative and coding tools, while management and administration prefer conversational assistants (ChatGPT, Gemini). In select companies, AI is already embedded in internal systems and products, signaling a transition from passive to active, integrated usage.

Theme 3: Security and Ethical Aspects of Usage - Access Control, Data Security, and Permitted Usage

Description: Organizations with high information security standards (particularly in the technology sector) implement strict controls, AI tools may only be used with official approval and a justified business reason, without inputting confidential data. Copilot stands out as a security-compliant tool due to its integration within the Microsoft ecosystem.

Respondents: INT002, INT010, INT013

Illustrative Quotations:

- "Security is extremely important… we have three-factor authentication."
- "It is not allowed to use any AI LLM unless explicitly stated the business reason."

- “Copilot is the only tool allowed for coding.”

Synthesis: Security and confidentiality serve as the primary regulatory framework for introducing AI tools. Companies with stringent information protection employ licensed and closed systems (Copilot), while ChatGPT is predominantly used for personal or informal tasks, often outside corporate networks.

Theme 4: Experimental Usage and Innovation - Experimentation with New and Proprietary AI Solutions

Description: Several respondents report active experimentation with emerging tools (e.g., Perplexity, Grok, Replit, Bolt, Groom) and the development of internal AI projects that integrate multiple functions, from HR and IT support to documentation automation.

Respondents: INT001, INT003, INT006, INT011, INT012

Illustrative Quotations:

- “They are experimenting with Perplexity.”
- “We are developing a big project... a generic customizable LLM solution.”
- “We are subscribed to everything that comes out as a new.”

Synthesis: A subset of companies is entering an experimental and innovative phase of AI usage, where not only off-the-shelf software is employed but proprietary models and platforms are developed. This reflects a shift from individual to organizational intelligence, with AI integrations tailored to specific team needs.

Theme 5: Personal Preferences and Subjective Attitudes - Individual Choice and Attitudes Toward Tool Efficacy

Description: Individuals highlight personal preferences regarding response quality and relevance. ChatGPT is recognized as the most reliable and comprehensive tool, while Gemini and others elicit mixed impressions.

Respondents: INT008, INT009, INT014

Illustrative Quotations:

- “For me, ChatGPT is better… it gives much more information than Gemini.”
- “I don’t believe him as a main creative and copywriter.”
- “I’m not an advocate of AI so far.”

Synthesis: Although corporate policies are often clearly defined, personal perceptions of tool quality continue to influence selection. A tendency is observed for employees, particularly in creative and managerial roles, to favour ChatGPT for its flexibility and response breadth, even when the company promotes alternative tools.

General Conclusion for Q3.1 The use of AI tools in organizations exhibits a high degree of diversification but clear dominance of the OpenAI and Microsoft ecosystems.

The most common combinations are:

- ChatGPT + Copilot (standard in most firms)
- Gemini + Claude (as alternative assistants)
- Perplexity, Replit, Bolt, Grok (experimental tools)

Security and integration into existing IT frameworks determine permitted practices, while personal preferences and perceived utility shape individual usage patterns.

Question 3.2. How have these tools changed your workflow or decision-making processes?

Theme 1: Faster Task Completion, Shorter Development Cycles, Workflow Optimization

Description: Most respondents highlight a dramatic increase in work speed and efficiency. AI tools have reduced time spent on research, POC/MVP project development, and communication. In some cases (e.g., respondent INT011), productivity rose by 30–45%, as confirmed by internal metrics. Respondents report completing in one week what previously took four.

Respondents: INT002, INT005, INT007, INT008, INT010, INT011, INT012

Illustrative Quotations:

- “The time that I need to create a POC has been reduced by 90%.”
- “They help us to speed up the processes and decision-making.”
- “We managed to build the full front end in seven weeks, previously it took months.”
- “What we were able to do in four weeks, now we do in one.”

Synthesis: Acceleration of Work and Increased Efficiency. AI tools have transformed operational workflows, reduced required time and enhanced flexibility. Simultaneously, a new agility in thinking has emerged, as teams adapt to a more dynamic work rhythm.

Theme 2: Use of AI Tools for Information Processing, Content Generation, and Document Creation

Description: AI is employed for data analysis, market research, report writing, and text generation. It also plays a role in preparing proposals, reports, presentations, and user stories. Tools like ChatGPT and Claude assist in rephrasing ideas, creating summaries, and structuring thoughts.

Respondents: INT001, INT002, INT003, INT008, INT009, INT010, INT011, INT013, INT014

Illustrative Quotations:

- “We use them extensively for research because they can gather and analyze data.”
- “It helps to rephrase ideas and fix mistakes.”
- “I use ChatGPT to correct my emails, structure proposals, and summarize transcripts.”
- “It helps with boring things and leaves more time for creative choices.”

Synthesis: Assistance in Research, Analysis, and Writing. AI has become a cognitive assistant in thinking, analysis, and writing processes. This reduces employees’ cognitive load while increasing precision and clarity in communication, particularly in international teams.

Theme 3: AI Accelerates Processes but Does Not Alter Human Control in Decision-Making

Description: Several respondents emphasize that AI is not used for the decision itself but only as a supportive tool for gathering and organizing information. Decisions remain in the hands of experts and managers. AI's role is "advisory, not decisive."

Respondents: INT003, INT004, INT005, INT006, INT007, INT013

Illustrative Quotations:

- "It's not changing decision-making."
- "We don't rely blindly on tools."
- "They're just tools. If you can't use a text editor, AI won't save you."

Synthesis: Limited Impact on Decision-Making. Although AI significantly accelerates preparatory phases of decision-making, the decision itself remains the result of human judgment and experience. This reflects a mature stage of adaptation, where technology is viewed as a partner, not a replacement.

Theme 4: AI as a Source of Ideas, Support in Brainstorming and Creative Processes

Description: Several respondents note that AI serves as inspiration for new ideas, suggestions, and creative concepts. For some, it acts as a "sparring partner", AI-generated ideas often spark independent inspiration.

Respondents: INT001, INT008, INT009, INT011, INT014

Illustrative Quotations:

- "Sometimes those ideas you don't like inspire you to think about something else."
- "I use it for inspiration and brainstorming."
- "I use ChatGPT to plan speeches or create content for LinkedIn."

Synthesis: Inspiration and Creativity. AI is used not only to accelerate tasks but also to broaden creative scope. It provides a starting point for new ideas and enables faster initiation of creative processes, especially in marketing and communication.

Theme 5: Conscious Restriction of Sensitive Data and Verification of Accuracy

Description: Certain companies maintain a rigorous approach to data protection. AI is used only with publicly available information, while sensitive content is not used for prompting tools. Respondents also stress that AI outputs must be verified and corrected.

Respondents: INT010, INT013

Illustrative Quotations:

- "We need to be very careful what data we're sharing to Copilot."
- "You definitely need to review the responses; I needed to make a lot of updates."

Synthesis: Caution and Control in Usage AI tool usage is subject to ethical and security rules. Respondents consciously limit data sharing, confirming that trust in AI is built gradually through verification and experience.

General Conclusion for Q3.2

AI tools have redefined daily work, particularly in speed, research, and creative support, while decision-making processes remain under human control.

Key Changes:

- Significant reduction in work time and increased productivity,
- Automation of routine and administrative tasks,
- Enhancement of creative processes and inspiration,
- Caution in handling sensitive data.

AI is perceived as an extension of professional expertise, not its replacement.

Question 3.3. Do you feel more empowered or less engaged due to the use of AI?

Theme 1: AI as a tool that increases power, productivity and confidence

Description: Most respondents express a clear sense of empowerment thanks to AI tools. They enable faster solving of tasks, better organization of time and more efficient access to information. AI is seen as an extension of professional skill, not a threat. Especially managers and entrepreneurs point out that AI helps them "breathe between tasks" and focus on the strategic part of the work.

Respondents: INT001, INT004, INT005, INT006, INT010, INT011, INT012, INT013, INT014

Illustrative quotes:

"More empowered, definitely."

"It helps me bridge some of the blocks I'm encountering."

"AI makes life much easier, especially for summarizing or comparing regulations."

"ChatGPT helps me because I don't have time; it saves me hours daily."

Synthesis: A sense of empowerment and control. AI is perceived as a tool of empowerment and autonomy, which relieves operational and repetitive tasks and opens up space for strategic and creative thinking.

Theme 2: Simultaneous feeling of strength and alienation from the process

Description: Some respondents express an ambivalent attitude towards AI tools: they feel more powerful, but at the same time somewhat distant from their own expertise or creativity. Some have a "superhuman" feeling, but also a doubt, "who is actually doing the work: me or the machine?". AI increases speed but decreases the depth of personal involvement, leading to "technological distance".

Respondents: INT002, INT007, INT008, INT014

Illustrative quotes:

"The more empowered I feel, the less engaged I become."

"It frees me from operational work but also makes me question my role."

"I don't want to lose that creative rush as humanity."

Synthesis: Double effect: empowerment with a slight drop in engagement. AI brings productivity with the potential loss of emotional and cognitive connection to work. This balance between efficiency and engagement becomes a central issue of professional ethics and identity.

Theme 3: AI as a functional technology, without emotional impact

Description: Part of the respondents see AI as an ordinary tool, without special emotional or professional significance. They emphasize that AI does not change the essence of work, but only helps in the technical realization of tasks. For them, human competence and experience remain crucial.

Respondents: 3, 7, 9

Illustrative quotes:

"I'm just looking that this is a tool."

"AI didn't change my workflow that much."

"I still need to be really engaged with the team."

Synthesis: Neutral perception - "AI is just a tool". Among these respondents, there is a rational, professional attitude towards AI - without excessive enthusiasm, but also without resistance. AI is seen as a "digital tractor" that makes work easier, but does not replace the human factor.

Theme 4: AI encourages active participation and critical thinking

Description: Some respondents claim that AI makes them more engaged, as it forces them to test, learn and develop trust in the technology through experience. Users who understand the principles of how AI works feel not only empowered, but also mentally stimulated to rethink their own processes.

Respondents: INT005, INT006, INT011

Illustrative quotes:

"Maybe even more engaged, because we need to double check."

"There is a learning curve and you need time to build trust."

"I'm an informed user; I take care of my integrity."

Synthesis: Increased engagement through testing and learning. For this group, AI becomes a tool for reflective learning and developing critical thinking, not just a tool for efficiency. The process of "learning with AI" leads to greater professional involvement.

Theme 5: Attitude towards knowledge, skills and authorship

Description: More respondents raise the question of authenticity and credit: does AI take credit, does it undermine professional integrity, and do users understand what they're using. Seasoned professionals stress the importance of knowing the craft before using AI and the danger of younger staff losing a deeper understanding of the process.

Respondents: INT002, INT003, INT008, INT011

Illustrative quotes:

"Who takes the credit for the good work, me or the machine?"

"You need to learn your craft before using AI."

"I take care of my integrity."

Synthesis: Ethics and professional responsibility. AI introduces new ethical dilemmas about the boundary between human and machine contributions. This reflexive relationship to knowledge becomes a key dimension of professional identity in the era of automation.

General conclusion for Q3.3

The use of AI tools affects the psychological experience of work in two directions:

- Empowerment and efficacy (dominant perception)
- Slight reduction in engagement and authenticity dilemma

AI is perceived as a powerful ally, but also as a technology that requires responsibility, reflection and active learning.

At the collective level, three patterns emerge:

- pragmatic (AI as a tool),
- reflexive (AI as a learning partner),
- emotionally ambivalent (AI as a source of both empowerment and alienation).

Question 3.4. How has AI impacted collaboration or the dynamics within the team?

Theme 1: AI Has Not Significantly Altered Team Dynamics

Description: Several respondents indicate that AI has not fundamentally changed collaboration within teams. Communication and interpersonal relationships remain stable, with AI primarily used for individual tasks rather than collective processes. In some cases, AI generates additional topics for discussion but without deeper changes in team functioning.

Respondents: INT001, INT004, INT006, INT009, INT013, INT014

Illustrative Quotations:

- “It didn’t. Maybe it strikes some additional topics for conversation.”
- “Personally, I didn’t notice any difference inside the company.”
- “I would say neutral… on a scale of one to five, it’s like three.”
- “All employees use AI, but mostly just for getting information.”

Synthesis: Minimal or neutral impact in most organizations, AI has yet to be integrated into collective work forms. Its usage remains individualized and confined to operational needs, exerting no significant influence on group dynamics.

Theme 2: AI Enhances Understanding in Multicultural and Technical Teams

Description: AI tools, particularly LLMs and Copilot, contribute to better documentation, language standardization, and code comprehensibility. In international teams with varying

English proficiency levels, AI reduces misunderstandings and facilitates the reading and commenting of technical content.

Respondents: INT002, INT009, INT010, INT012

Illustrative Quotations:

- "Documentation and comments became way clearer."
- "It improved readability and usability of code comments."
- "It's easier to document code and functionalities."
- "We removed operational stuff and focused on creative discussions."

Synthesis: Noticeable improvement in documentation and clearer technical communication. AI fosters cognitive harmonization within teams, reducing "linguistic noise" and increasing transparency in technical communication, which leads to greater precision and efficiency in team operations.

Theme 3: Differences in Trust Toward AI Tools and Understanding of Their Limitations

Description: AI has deepened the gap between experienced and younger team members in some cases. Juniors often exhibit excessive trust in AI outputs, while seniors emphasize the need for code comprehension and critical thinking. This results in situations involving "communication noise," code ambiguities, and increased time for revisions.

Respondents: INT003, INT007, INT0011

Illustrative Quotations:

- "Junior developers are relying way too much on AI."
- "We have debates between seniors and juniors."
- "It took months to convince senior engineers that it's useful."

Synthesis: Raising challenges and conflicts between seniors and juniors. AI introduces new generational tensions within teams—between "digital pragmatists" (juniors) and

“experienced sceptics” (seniors). This necessitates the development of new mentorship guidelines and training on AI tool usage.

Theme 4: AI as a Catalyst for Faster Collaboration and Team Productivity

Description: AI facilitates joint decision-making, accelerates bureaucratic and administrative processes, and enables faster information exchange. Teams evolve into “mini-corporations” with internal processes that are now more agile and better synchronized.

Respondents: INT005, INT008, INT009, INT010, INT012

Illustrative Quotations:

- “It improved collaboration because the speed is up and decision-making is easier.”
- “Things are getting done faster… juniors don’t have to wait two days for seniors.”
- “Developers use AI for PR reviews, that really helps the team.”

Synthesis: Results is an acceleration of processes and more efficient team decision-making. AI contributes to operational speed and team agility, reducing wait times and expediting decisions. The effect is particularly pronounced in administrative and IT teams, where AI is employed for standard tasks and code validation.

Theme 5: AI Alters Team Structures and Roles, Particularly in Project Management and Design

Description: The most experienced respondents observe that AI is gradually reshaping roles within teams: managers, designers, and researchers now use AI for reports, transcripts, meetings, and design proposals. AI is viewed as a catalyst for new organizational dynamics, where many support functions (e.g., PM assistants) will be partially automated.

Respondents: INT011, INT012

Illustrative Quotations:

- “We’ll need to reinvent project and product roles with AI.”
- “AI tools can already make meeting notes, directions, and reports.”

Synthesis: Continuous change in roles and redefinition of professional boundaries. AI introduces structural transformation in teams, from classical hierarchies to more “agent-driven” models of collaboration. This trend is first evident in IT and design industries but holds broader implications for future work dynamics.

General Conclusion for Q3.4

AI brings diverse effects to team collaboration; from complete neutrality to significant restructuring of dynamics.

Key Patterns:

- Neutral effect (AI has yet to be integrated into collective work),
- Improvement in technical communication and documentation,
- Emergence of intergenerational tensions,
- Acceleration of processes and decision-making,
- Gradual transformation of team roles.

Overall, AI currently enhances the technical and operational dimensions of collaboration more than the interpersonal aspects, but it is gradually shaping a new culture of team work in which adaptability, transparency, and critical thinking are essential skills.

4.5.4 Psychological Safety and Trust in the Context of AI

Questions investigated how free employees felt to express disagreement or concerns about AI decisions. The findings showed how transparency and trust shape attitudes about the ethical and safe use of AI.

Question 4.1 Do you feel safe expressing disagreement or alternative views, including about AI decisions?

This analysis examines how employees perceive their ability to voice disagreement or alternative opinions in the context of AI decisions and technologies within the organization.

Differences were observed across organizational culture, employees' personal openness, and the degree of trust in AI tools.

Theme 1: Open Culture of Dialogue

Description: Employees feel free to express their opinions or disagreements regarding AI. In organizations with well-developed communication, AI is perceived neutrally, as a tool akin to a calculator.

Respondents: INT001, INT007, INT009, INT010, INT0 11, INT012, INT013

Illustrative Quotations:

Synthesis: A high culture of openness and trust prevails within teams. Discussions about AI occur without fear of judgment.

Theme 2: Divided Opinions and Uncertainty

Description: Employees are divided, some are pro-AI and advocate its use, while others express resistance and skepticism. This division complicates the public expression of views in mixed teams.

Respondents: INT00 2, INT008, INT009, INT014

Illustrative Quotations:

Synthesis: A latent fear of conflict exists in AI-related discussions. The organizational culture has yet to stabilize its stance on AI.

Theme 3: Critical Caution and Doubt Regarding AI Accuracy

Description: Employees emphasize the need to verify AI outputs, citing examples of inaccurate or fabricated responses. AI is viewed as useful but unreliable.

Respondents: INT003, INT005, INT006, INT014

Illustrative Quotations:

Synthesis: Rational skepticism dominates; AI is utilized but with fact-checking and human oversight of decisions.

Theme 4: Ethical and Security Aspects

Description: Some respondents highlight concerns about confidentiality and the legal frameworks governing AI use. Management balances innovation with data protection.

Respondents: INT010, INT011, INT014

Illustrative Quotations:

Synthesis: Discussions about AI are linked to responsibility, security, and regulation, rather than solely technical effects.

General Conclusion for Q4.1.

Most respondents feel free to express their opinion about AI, but within organizations there is a spectrum of attitudes, from open dialogue to latent dissent. The most pronounced are cases where pro-AI attitudes are met with resistance from more experienced team members who are skeptical about the accuracy and ethical safety of AI. Despite the differences, the common denominator is the awareness of the need to use AI responsibly and transparently.

AI is introducing a new kind of dialogue in organizations, not only about technology, but also about trust, values and ethics. Organizations with a developed culture of openness integrate AI more easily, while those with divided attitudes show a slower adoption process. Regardless of the attitude, the key factor of safety in expressing opinions is not technology, it is the culture of communication.

Question 4.2 Do you understand how AI tools are used in your company?

Theme 1: Partial Understanding of AI Integration

Description: Employees comprehend the basic processes but lack full insight into the implementation of AI across all sectors (particularly in HR and finance).

Respondents: INT001, INT002, INT009, INT010, INT012

Illustrative Quotations:

Synthesis: A general understanding of AI's functional application exists, but not at the strategic level. There is a perceived need for greater transparency.

Theme 2: Full Understanding and High Level of Awareness

Description: Employees in technical roles possess a detailed understanding of AI application, processes, and planned integrations across various departments.

Respondents: INT002, INT005, INT006, INT007, INT011, INT013, INT014

Illustrative Quotations:

Synthesis: AI is recognized as a systemic tool that drives development, HR, and communication functions. In some companies, AI is already part of the infrastructure.

Theme 3: AI as an Everyday Tool Without a Formal Strategy

Description: Formal strategy, neither guideline or instructions, were not set up in the organization, so AI is used spontaneously, most commonly for problem-solving, searches, analyses, and automation of routine tasks, but without a centralized plan.

Respondents: INT003, INT004, INT008, INT009, INT014

Illustrative Quotations:

Synthesis: AI functions as a supportive tool, a substitute for search engines or Excel features, while organizations still lack formal usage procedures.

Theme 4: Limited Transparency and Dual Practice

Description: Due to restrictions and regulations that forbid or discourage, or at least insist on need to reconsider suggestions receive from AI tools, lead to situation that some employees use AI on personal devices, creating an informal parallel system of AI appliance.

Respondents: INT010, INT011

Illustrative Quotations:

Synthesis: A discrepancy exists between formal rules and actual practice and AI is employed even when not officially permitted.

General Conclusion for Q4.2.

The majority of respondents demonstrate an understanding of how AI is used within the company, yet a distinction exists between formal and practical knowledge. While technical staff comprehend the architecture and operational flows of AI systems, other sectors (e.g., HR, finance, sales) are familiar only with the visible effects of its application. A trend is observed toward transitioning from a phase of spontaneous usage to an institutionalized AI strategy.

Understanding of AI tool usage in companies is unevenly distributed. Organizations with clear communication channels and AI education exhibit greater employee awareness and trust. Where restrictions or informal approaches predominate, the risk increases of creating a "grey zone" in AI tool usage. The key recommendation is to implement internal education and a policy of transparency regarding AI usage to ensure all employees understand its purpose and limitations.

Question 4.3 Are there concerns among employees regarding AI (transparency, control, job security)?

This analysis addresses employee perceptions of potential risks and uncertainties related to the use of AI tools, including transparency of decisions, control over data, and fear of job loss. The responses show that concerns vary by sector and employee experience, while technical teams are focused on security and information quality, other sectors emphasize the existential and ethical aspects of AI more.

Theme 1: Fear of Job Loss and Role Changes

Description: Employees, particularly those in technical and mid-level positions, express concern that AI could replace routine and repetitive tasks, while higher levels view AI as redirecting focus toward more complex responsibilities.

Respondents: INT001, INT002, INT003, INT005, INT007, INT008, INT009, INT011, INT012

Illustrative Quotations:

Synthesis: The most common concern relates to reduced human involvement and fewer new job opportunities, as well as the need for new competencies.

Theme 2: Concerns about transparency and data control

Description: There are fears that confidential data could be misused or inadvertently shared through AI systems, especially when public models are used.

Respondents: INT002, INT004, INT007, INT009, INT010, INT013

Illustrative Quotations:

Synthesis: Employees doubt the safety and accuracy of the output from AI tools. Some companies are trying to solve this with internal (self-hosted) AI solutions.

Theme 3: Normalization and adaptation to AI presence

Description: Some employees see AI as an auxiliary tool that speeds up work and improves efficiency, without feeling threatened.

Respondents: INT004, INT006, INT008, INT010, INT011, INT014

Illustrative Quotations:

Synthesis: AI is seen as an evolutionary tool that makes tasks easier, not a threat. The focus shifts from resistance to adaptation and redefinition of roles.

Theme 4: Generational and cultural differences in risk perception

Description: Older and traditionally oriented employees are more likely to show fear and mistrust towards AI, while younger and more flexible employees see an opportunity for development.

Respondents: INT003, INT005, INT007, INT012

Illustrative Quotations:

Synthesis: Resistance to AI is linked to professional stagnation and a lack of education about the possibilities and limits of new technologies.

General conclusion for the Q4.3.

Employees express varying degrees of concern about the implementation of AI. The most dominant fear concerns the long-term impact on jobs and role changes within teams. The technical sector emphasizes risks related to data security and the transparency of algorithmic decision-making, while older and less technically oriented employees are more focused on the existential aspect, a sense of control and meaning in work. At the same time, there is a group of employees who perceive AI as an inevitable part of modern business and an opportunity for growth, not a threat.

Employee concerns about AI tools stem from a combination of technical uncertainty and emotional reactions to change. The most common themes are fear of losing one's job and lack of confidence in data security. Companies that are more transparent about their AI strategy and provide employee education manage to reduce that level of fear. The recommendation is to establish open communication about the limits and possibilities of AI, as well as continuous training of employees in order to reduce anxiety and increase trust.

4.5.5 Leadership, Communication, and Support for AI Integration

This group of questions analyzed leadership styles and the manner in which leaders communicated the introduction of AI tools in their organizations. Particular attention was devoted to the availability of training, support, and the existence of space for experimentation.

Question 5.1. How would you describe the leadership style in your company?

The analysis presents various leadership styles identified through respondent answers. The structure includes thematic sub-themes, a brief description, respondents, representative quotations, synthesis, and conclusion.

Theme 1: **Transparent and People-Oriented Leadership**

Description: Leadership is people-oriented and transparent. Open communication and information sharing foster trust and employee engagement.

Respondents: INT001, INT004, INT008

Illustrative Quotations:

- “They are fully transparent.”
- “Everything is open.”
- “It’s very open communication.”

Synthesis: Transparent and people-oriented leadership nurtures an atmosphere of openness and trust, where clear communication and sharing of information support employee engagement and mutual confidence.

Theme 2: Democratic and Flat Structure

Description: A flat structure exists without traditional hierarchy. All members can participate in decision-making.

Respondents: INT006, INT007, INT008

Illustrative Quotations:

- “We are absolutely equal.”
- “It’s quite democratic.”
- “No hierarchy, get things done mindset.”

Synthesis: A democratically organized and flat organizational structure empowers equality and collective decision-making, encouraging collaboration and a shared sense of ownership among all team members, regardless their role.

Theme 3: Results-Oriented and Agile Leadership

Description: Focus on results, innovation, and rapid decisions. Companies are agile and market-oriented.

Respondents: INT002, INT0012, INT014

Illustrative Quotations:

- “Extremely results focused.”
- “Very goal oriented.”
- “I love to make decisions fast.”

Synthesis: Result-oriented and agile leadership drives swift decision making process and innovation, promoting as key values, adaptability and a strong focus on achieving measurable outcomes in dynamic market conditions.

Theme 4: Transformational and Adaptive Leadership

Description: Inspiration, leading by example, and openness to change. This style supports innovation and employee development

Respondents: INT010, INT013

Illustrative Quotations:

- “Lead by example.”
- “Transformational and participative leadership.”

Synthesis: Transformational and adaptive leadership inspires through personal example and openness to change, fostering innovation, continuous learning, and the professional growth of employees.

Theme 5: Authoritarian and Centralized Decision-Making

Description: Decisions are made centrally with limited employee participation. A more traditional, controlled approach prevails.

Respondents: INT010, INT013

Illustrative Quotations:

- “Authoritarian leadership style.”
- “Trust only proven individuals.”

Synthesis: Organizations with centralized decision-making process, reflects a traditional, top-down approach, where control and reliance on proven individuals limit employee participation and shared influence.

Theme 6: Absence of Rigid Structures and Micromanagement

Description: Lack of formal processes and micromanagement allows freedom but carries the risk of unclear expectations.

Respondents: INT011

Illustrative Quotations:

- “There is no micromanagement.”
- “Value-driven hierarchy.”

Synthesis: The absence of rigid structures and micromanagement creates a flexible, trust-based environment. The environment of that kind empowers employees, with risk to lead to ambiguity in roles and expectations.

General conclusion for the Q5.1.

The responses reveal a diverse spectrum of leadership styles, from transparent and democratic to results-oriented and authoritarian. The most frequently highlighted elements are open communication, flexibility, and a focus on people and outcomes, whereas larger companies retain centralized decision-making features.

The analysis demonstrates a broad range of leadership styles, spanning transparent and democratic approaches to results-driven and authoritarian ones. Open communication, flexibility, and emphasis on people and results predominate, while larger organizations maintain elements of centralized decision-making.

Question 5.2. How did leadership communicate the introduction of AI tools?

The analysis shows the ways in which leadership communicated the introduction of AI tools, with a focus on degrees of formality, communication channels and the roles of employees in the innovation acceptance process.

Theme 1: Transparent and Multi-Channel Communication

Description: Open and systematic communication through multiple channels (email, video, internal platforms, training, meetings).

Respondents: INT001, INT002, INT004, INT007, INT009, INT013

Illustrative Quotations:

- “Quarterly review meetings”
- “Informative videos”
- “C-level meetings”
- “Emails and internal platforms”

Synthesis: Transparent and multi-channel communication model, ensures consistent information flow in organizations and at the same time, alignment across all organizational levels, strengthening trust, clarity, and collaboration among employees.

Theme 2: Informal and Natural Adoption

Description: Informal adoption of AI tools through spontaneous practice and experimentation within teams.

Respondents: INT003, INT006, INT008, INT012, INT014

Illustrative Quotations:

- “We just started using it”
- “No official announcement”
- “Testing before official release”

Synthesis: Informal and natural adoption of AI tools emerges organically, through experimentation and initiatives by teams and individuals, reflecting a culture of curiosity, flexibility, and self-directed learning.

Theme 3: Gradual Introduction Through Pilot Projects

Description: Communication initiated via pilot projects and gradual sharing of results with the rest of the organization.

Respondents: INT005, INT011

Illustrative Quotations:

- “Pilot projects”
- “Sharing experiences via sessions”

Synthesis: The gradual introduction of AI through pilot projects allows organizations to test, learn, and communicate outcomes progressively, fostering understanding, confidence, and smoother adoption across teams.

Theme 4: Collaborative and Peer-Learning Approach

Description: Horizontal learning and exchange of experiences among teams and partners.

Respondents: INT005, INT009, INT011

Illustrative Quotations:

- “Workshops”
- “Partner recommendations”
- “Knowledge sharing”

Synthesis: A collaborative and peer-learning approach encourages knowledge sharing and collective growth, where teams and partners learn from each other through workshops, shared experiences, and mutual support.

Theme 5: Cautious and Context-Aware Communication

Description: Emphasis on security and ethical use of AI tools due to sensitive data.

Respondents: INT004

Illustrative Quotations:

- “Preparedness for AI use”
- “Sensitive data awareness”

Synthesis: Participants in the interview demonstrated high awareness of the need for secure and responsible AI usage, reflecting a conservative culture of caution shaped by sensitivity to data protection and ethical considerations.

General conclusion for the Q5.2.

Communication regarding the introduction of AI tools varies in degree of formality and structure. The most common approach combines formal training with employees’ spontaneous experimentation. The analysis reveals a balance between transparent control and freedom for innovation.

Question 5.3. Was there training, support, or space for trial and error?

The analysis examines the level of support for training, experimentation, and learning through trial and error. The focus is on formal training programs, financial and psychological support, as well as space for independent exploration of new technologies.

Theme 1: Continuous Training and Financial Support

Description: Formal training and management-funded support for employees to acquire AI competencies.

Respondents: INT001, INT004, INT009

Illustrative Quotations:

- “Training encouraged and financed”
- “New courses and guidelines planned”
- “Funds and time for AI learning”

Synthesis: Organizations actively invest in employee upskilling, indicating a strategic commitment to growth of internal AI competence via structured, logistically and financially supported training initiatives.

Theme 2: Freedom for Experimentation and Psychological Safety

Description: Space for attempts, errors, and innovation with leadership support and psychological safety

Respondents: INT002, INT005, INT006, INT010, INT011, INT012, INT013

Illustrative Quotations:

- "Freedom to try everything"
- "Testing multiple platforms"
- "Hackathons and innovation squad"

Synthesis: Encouragement of an experimentation culture, with leadership that fosters trust and psychological safety.

Theme 3: Informal and Self-Directed Learning

Description: Self-initiated learning without formal structures, accompanied by freedom to experiment.

Respondents: INT003, INT007, INT008

Illustrative Quotations:

- "Training not necessary"
- "Some basic training"
- "Testing before official release"

Synthesis: Through individual initiative and peer exchange, organically occurs learning. This flexibility reflects self-directed approach rather than reliance on formal training structures.

Theme 4: Lack of Structured Training

Description: In certain cases, training and experimentation have not yet been established.

Respondents: INT014

Illustrative Quotations:

- “No, not at this stage.”

Synthesis: The absence of structured AI training highlights an early stage of adoption. Certain level of awareness is present, but formal learning frameworks are yet to be developed.

General conclusion for the Q5.3.

Most companies provide support for training and experimentation, with varying degrees of formalization. Formal training is combined with freedom for exploration and experiential learning, thereby fostering a culture of innovation.

Concluding Synthesis

Analysis of the research results showed that most organizations provide a combination of formal training, financial support, and freedom to experiment, which encourages continuous learning and development of AI competencies. At the same time, when there is a presence of psychological safety and room for error, employees feel free to explore, test, and adopt new technologies without fear of failure, which contributes to the creation of a culture of innovation.

4.5.6 Regional and Cultural Context of AI Adoption

This section explores the influence of local values and inherited leadership styles on the acceptance of AI integration into business processes in software SMEs in Southeast Europe. Responses highlight specific advantages and limitations within the regional context.

Question 6.1. Do you think the Southeast European context (e.g., legacy leadership styles, local values) affects how AI impacts organizational culture?

Theme 1: Legacy of Authoritarian and Micromanagement Leadership Styles

Description: Several respondents highlight the persistent influence of traditional leadership models in the region - micromanagement, a need for control, and hierarchical relationships.

These patterns slow the adoption of AI tools and reduce managers' willingness to experiment, as they perceive a threat to their own position and authority.

Respondents: INT001, INT011, INT012

Illustrative Quotations:

- "Micromanagement is present in our region… they are trying to find excuses why not to use AI first approach." (INT011)
- "It's always important to have leadership… ready to have the feedback and improve things." (INT001)
- "We are in general more sceptic and less receptive… that definitely slows us down." (INT012)

Synthesis: Inherited models of power and control shape the perception of AI, rather than being viewed as a tool for team empowerment, it is often seen as a threat to the leader's status or control. The transition toward more participative and transparent leadership is essential for AI to become an integral part of organizational culture.

Theme 2: Skepticism, Fear, and "Lagging Behind the World"

Description: The dominant emotional climate in the region toward AI is characterized by skepticism, distrust, and fear of change.

Respondents: INT002, INT006, INT008, INT009, INT014

Illustrative Quotations:

- "We are always late to the party… we have trust issues and we're not so much of innovators." (INT002)
- "A lot of companies are really scared to implement anything related to AI." (INT006)
- "We have a natural 'I don't trust the machine' mindset." (INT008)
- "We are not open-minded… we are always going to have these issues." (INT009)
- "Our institutions will be on paper still." (INT014)

Synthesis: A lack of trust in new technologies and institutional inertia generate a conservative approach that hinders the transformation of organizational culture. Cultural patterns of distrust and resistance to change represent a key barrier to the integration of AI into the daily operations of regional organizations.

Theme 3: Regional Mentality – Tradition, Loyalty, and Values

Description: Some respondents emphasize the positive aspects of the traditional mentality, loyalty, community care, integrity, and continuity of values between private and professional life.

Respondents: INT005, INT009

Illustrative Quotations:

- "If people in our region keep those values for each environment… and at the same time are open-minded, it will work out." (INT005)
- "If you follow this mindset to be loyal, to be good colleague, to take care of the team… it's a good thing." (INT005)

Synthesis: Tradition can serve as a resource, if combined with openness, it can create a balanced AI-adoption model that bridges humanity and technology. Balancing traditional values with technological adaptability could become an authentic model of AI culture in Southeast Europe.

Theme 4: Openness and Internationalization as Protective Factors

Description: Certain participants highlight that globally oriented companies and leaders professionally shaped outside the Balkans successfully overcome local limitations.

Respondents: INT001, INT003, INT012

Illustrative Quotations:

- "Even though I'm on the Balkans, I was working with people that are very conscious and open about this." (INT001)

- “Most of the companies work for external clients… so naturally they adopt those new tools.” (INT003)
- “Our leadership is very progressive and globally exposed.” (INT012)

Synthesis: Intercultural exposure and global management mitigate the negative effects of the regional mentality and promote faster adoption of innovations. International environments and collaboration with Western markets can act as catalysts for modernizing organizational culture in the region.

Theme 5: Neutral or Undetermined Attitudes

Description: A smaller number of respondents state that they have not considered the topic or do not perceive a clear influence of the regional context.

Respondents: INT004, INT007, INT010, INT013, INT014

Illustrative Quotations:

- “I don’t see any impact because we are located where we are located.” (INT004)
- “I haven’t noticed that now.” (INT007)
- “No… we are very technology-oriented.” (INT013)

Synthesis: Neutral responses indicate the normalization of global trends—respondents view AI as a universal phenomenon. For some professionals, the influence of culture becomes invisible due to globalization and the digital integration of business.

General conclusion for the Q6.1.

The analysis reveals that respondents’ attitudes polarize along three key axes:

- Tradition vs. Modernization: Balancing loyalty, values, and openness to innovation.
- Control vs. Trust: Micromanagement and leadership insecurity inherited from regional culture slow down change.
- Isolation vs. Internationalization: Companies connected to global markets more successfully integrate AI and transform culture from within.

Overall, the Southeast European context influences how AI transforms organizational culture, primarily through a mentality of distrust, the legacy of hierarchical leadership, and institutional inertia. Nevertheless, positive potentials exist: traditional values of community and care can, when combined with openness and education, shape a unique, more humane model of digital transformation.

Question 6.2. Are there any unique challenges or advantages tied to working in this region?

Theme 1: High-Quality but Undervalued Workforce

Description: The region possesses highly educated and technically proficient professionals, yet this potential remains underrecognized. Global clients perceive the region primarily as a low-cost destination rather than a source of expertise.

Respondents: INT001, INT002, INT005, INT007, INT011

Illustrative Quotations:

- "We have good engineers, strong schools and faculties… we just lack opportunities to work on some real examples." (INT001)
- "We have amazing people, great engineers, way less costly than people from the USA." (INT002)
- "Our region is still treated like a low-cost execution region… we cannot consult, we can just execute." (INT005)
- "We are not behind in knowledge… main advantage is quality labour for lower price." (INT007)
- "We have great potential, especially in engineering, but we need to invest more in management skills." (INT011)

Synthesis: A high level of knowledge and talent is present, but the perception of the region as inexpensive labor limits its consulting role. A repositioning toward an advisory role and strengthening managerial competencies is required.

Theme 2: Structural and Institutional Deficiencies

Description: Small markets, unstable legislation, and lack of transparency create uncertainty and hinder the development of innovative projects.

Respondents: INT003, INT005, INT006, INT010, INT0014

Illustrative Quotations:

- "If you want to depend on the local market, you will lose… you need to go outside." (INT003)
- "We are treated as executional region… nobody allows us to consult." (INT005)
- "Legislature is prone to changes… we lack clarity and transparency for long-term business." (INT010)
- "In Bosnia now we discuss about digital signatures… and others have that for 20 years already." (INT014)

Synthesis: The absence of institutional stability and a sluggish bureaucratic apparatus slow digital development. Modernization of the legislative and administrative framework is essential for long-term growth

Theme 3: Cultural Challenges – Conservative Mentality and Need for Validation

Description: The conservative mentality and constant need to prove value serve as both a barrier and a motivator for work ethic and perseverance.

Respondents: INT005, INT009, INT012, INT0013

Illustrative Quotations:

- "We need to adapt our mindset without compromising core values." (INT005)

- “People here are hardworking… we always needed to fight to get our spot in the world.” (INT009)
- “Conservative mindset… less open to new things… relationship-driven business not in a good way.” (INT012)
- “You need to prove your value more than others.” (INT0013)

Synthesis: The regional mentality simultaneously strengthens discipline and commitment while stifling innovation and flexibility. Transforming the mindset is crucial, retaining values while encouraging proactivity and innovation.

Theme 4: Values and Work-Life Balance

Description: A more humane approach to work, respecting family values, health, and private life, is recognized as a unique regional advantage.

Respondents: INT008

Illustrative Quotations:

- “If you need to pick up your kids, go. If you need to take a day off, take it. Family and health come first.” (INT008)

Synthesis: Empathy and care for employees represent a comparative advantage relative to Western work models. Sustainable work models can be built on values of balance, health, and family support.

Theme 5: Geographical and Technical Advantages

Description: Time zone compatibility with Europe, lower costs, and the capacity for more flexible risk-taking make the region attractive for collaboration.

Respondents: INT002, INT004, INT006, INT010

Illustrative Quotations:

- “Our standards are way lower… that allows companies to take bigger risks.” (INT002)

- “It’s good that we can match the time zone with the clients… financially, it’s very good.” (INT004)
- “We can work nearly anywhere… location doesn’t really matter anymore.” (INT006)
- “Our time zone and mentality are close to European, which helps collaboration.” (INT010)

Synthesis: Geographical position and lower costs make the region suitable for international collaboration. The region holds a strategic position between East and West, with potential for developing outsourcing models.

Concluding Synthesis

The complexity of the Southeastern European context is shown in the unique combination of structural limitations and cultural richness that, with responsible leadership and institutional stability, can become a source of authentic transformation. If the region leverages its human and emotional capital to move from a reactive to a creative development model, Southeast Europe can shape its own, more humane approach to integrating artificial intelligence into organizational culture.

4.5.7 Reflections and Recommendations for Future Practice

The final group of questions encompassed positive changes, concerns, and employee recommendations regarding the further development of culture under the influence of AI. The analysis summarizes their insights into opportunities for improvement and the ethical application of the technology.

Questions 7.1. What has been the most positive change AI has brought to your organization?

Theme 1: Speed, Efficiency, and Process Automation

Description: AI has brought significant acceleration to business processes, from development and testing to administration. Automation reduces errors and increases productivity.

Respondents: INT002, INT003, INT004, INT006, INT007, INT009, INT010, INT013, INT014

Illustrative Quotations:

- “It sped up everything extremely a lot… it helped even juniors do more things and learn faster.” (INT002)
- “We are faster. We are more agile. We can optimize deployment, testing, automation.” (INT003)
- “Employees are using these tools very often… company will be more productive.” (INT004)
- “We can give most of the dull tasks to AI, and it does them faster and sometimes better.” (INT006)
- “Definitely speed, especially in administrative processes.” (INT007)
- “It makes our life really easier… more efficient and more effective work environment.” (INT009)
- “If you even need to do it, then with AI you can do it much faster.” (INT010)
- “We are able to apply new algorithms much quicker.” (INT013)
- “AI saves me a lot of time when I need content or information.” (INT014)

Synthesis: AI has introduced quantitative changes: greater workload volume in less time and more efficient resource management. Automation is the most visible and widely accepted effect of AI, transforming everyday tasks into efficient processes.

Theme 2: Enhanced Creativity, Knowledge, and Learning Capacity

Description: AI opens new horizons of knowledge and creativity, stimulates curiosity, and accelerates learning, particularly among juniors.

Respondents: INT002, INT005, INT011, INT012, INT013

Illustrative Quotations:

- “It helped even juniors learn faster… it’s like having a teacher by you at all times.” (INT002)
- “Access to new levels of knowledge, efficiency and creativity.” (INT012)
- “Engineers have a playground… spreading positive energy and optimism.” (INT011)
- “It brought back the feeling to think out of the box, to be excited again.” (INT005)
- “We can apply new algorithms much quicker… and be more creative with time.” (INT013)

Synthesis: AI stimulates creativity, curiosity, and professional growth among employees. AI becomes an instrument for learning, innovation, and employee confidence.

Theme 3: New Wave of Motivation, Enthusiasm, and ‘Spark’ in Organizational Culture

Description: AI brings not only technical changes but also emotional renewal—enthusiasm, curiosity, and a sense of purpose in work.

Respondents: INT001, INT005, INT011

Illustrative Quotations:

- “To grow. To acquire my demons. To beat them.” (INT001)
- “You need to be excited… to feel alive and see endless possibilities.” (INT005)
- “Engineers have sparkles in their eyes… spreading positive energy.” (INT011)

Synthesis: The introduction of AI refreshes culture and restores a sense of purpose and community. AI acts as an emotional catalyst, awakening creative potential and team spirit.

Theme 4: Strategic Reflection and Market Adaptation

Description: AI has prompted a shift in thinking about the market and business priorities—focusing on quality and sustainability.

Respondents: INT008

Illustrative Quotations:

- "We need to be extra good at what we do… we changed how we strategized." (INT008)

Synthesis: AI has indirectly encouraged strategic introspection and business model redefinition. Organizations become more aware of their strengths and values.

Theme 5: Combination of Human and Technological Factors

Description: AI is most effective when balanced with human expertise.

Respondents: INT003, INT007, INT011

Illustrative Quotations:

- "If we make combination with AI and the human factor, we can be really good company." (INT003)
- "When used responsibly and by experts, it speeds up work; otherwise, it can slow us down." (INT007)
- "We need to keep optimism and pessimism balance… that's the recipe for success." (INT011)

Synthesis: AI functions showed to be the best in synergy with the human factor. The key to success lies in integration, a partnership between technology and humanity.

Concluding synthesis

AI has introduced four primary transformations: operational, cognitive, emotional, and strategic. At the cultural level, AI symbolizes a new phase of maturity—balancing rationality and imagination. The greatest change is not merely in speed but in mindset: from fear to excitement, from passivity to creation.

Question 7.2. What has been your biggest concern related to AI integration?

Theme 1: Security, Privacy, and Risk of Data Leakage

Description: The most frequently mentioned concern relates to information security, data confidentiality, and potential errors in integrations. Fear of "data leakage" and information misuse is prevalent among nearly all respondents working with clients or sensitive data.

Respondents: INT001, INT006, INT007, INT009, INT012, INT013

Illustrative Quotations:

- "We have to be concerned about security, privacy… and the ethical use of AI." (INT001)
- "It's like talking to a human who can lie to you… big noise related to the content we are consuming." (INT006)
- "I'm a little paranoid… maybe someone made an error which will result in a catastrophic leakage of data." (INT007)
- "Ownership of ChatGPT… owning so many information." (INT009)
- "Risk of data leakage, privacy and awareness how we use AI." (INT012)
- "Biggest concern is data handling… safety in general." (INT013)

Synthesis: Concern for data security and ethical AI use is the central focus, encompassing technical, moral, and legal dimensions. Clear rules for access, protection, and data transparency must be defined at every stage of AI integration.

Theme 2: Inaccuracy, "Hallucinations," and Loss of Information Control

Description: Many respondents express doubt about the accuracy of AI-provided information. The fear that erroneous or fabricated data will shape decisions is perceived as a serious risk, especially in roles dependent on reliable sources.

Respondents: INT004, INT005, INT006, INT012

Illustrative Quotations:

- "Is the answer correct? Is it the right information from AI or not?" (INT004)
- "If AI becomes the single source of truth, it will be very dangerous." (INT005)

- “It’s almost hard to find the original source because information is copied and changed so many times.” (INT006)
- “It can hallucinate… we are not always able to detect wrong guidance and react properly.” (INT012)

Synthesis: The risk of incorrect information and “hallucinations” in AI systems breeds distrust and uncertainty in decision-making. AI integration must be accompanied by human supervision and source verification systems.

Theme 3: Overapplication and False Innovation

Description: A subtler yet significant concern involves “forcing AI everywhere.” In the pursuit of innovation, companies often implement AI where no real need exists, generating costs, complexity, and loss of focus.

Respondents: INT002, INT010

Illustrative Quotations:

- “Companies want to push AI in everything… overcomplicating things that could be solved with a few if statements.” (INT002)
- “Some organizations are surfing on this wave, cutting workforce… and will later find out it was junk.” (INT010)

Synthesis: Pressure to apply AI at all costs leads to pseudo-innovations, resource expenditure without genuine benefits. AI strategies must be selective and grounded in actual needs rather than trends.

Theme 4: Ethics, Responsibility, and Loss of the Human Dimension

Description: Ethics, responsibility, and humanity emerge as a deeper layer of concern. Fears of dehumanization, loss of creativity, and emotional connection are particularly highlighted by respondents in creative and communication sectors.

Respondents: INT001, INT005, INT008, INT010, INT011, INT014

Illustrative Quotations:

- “Ethical use of AI… you can’t know your people.” (INT001)
- “If AI becomes single source of truth… it’s dangerous.” (INT005)
- “Dehumanization. Killing creativity… I don’t like that it attacks areas related to people’s intelligence.” (INT008)
- “Adopting AI at the expense of leaving human employees… quality of service is lower.” (INT010)
- “We need to teach our teams how to use AI ethically… respect clients and contracts.” (INT011)
- “AI needs people too… you can’t replace a human.” (INT014)

Synthesis: Fear of losing humanity, creativity, and moral responsibility forms the core emotional framework of AI integration. AI must be guided by ethical principles as a supportive tool, not a replacement for human intuition, empathy, and creativity.

Theme 5: Fear of Job Loss and Professional Marginalization

Description: Some respondents exhibit fear of reduced employment and displacement of human roles. This fear is more emotional than realistic but influences perceptions of AI as a threat.

Respondents: INT009, INT010, INT012

Illustrative Quotations:

- “I’m afraid for my job.” (INT009)
- “Companies would adopt AI at the expense of leaving human employees.” (INT0010)
- “Fear that AI will take people’s jobs has been present as everywhere.” (INT0012)

Synthesis: Fear of losing professional identity and purpose persists, especially among those with longer work experience. Transparent communication and education about AI tools are essential to reduce employee resistance and fear.

Theme 6: Skepticism, Yet Awareness of the Evolutionary Nature of Change

Description: A few respondents adopt a rational, calm stance; viewing AI-driven changes as a natural evolutionary process in technological progress.

Respondents: INT003, INT011, INT014

Illustrative Quotations:

- "People changed horses with tractors… this is just evolution, not revolution." (INT003)
- "We can do great things together with AI if we use it ethically." (INT011)
- "Technology will help people… AI needs humans too." (INT014)

Synthesis: These voices provide a rational counterpoint to panic, accepting AI as a continuation of historical progress, with the need for prudent management. A balance between optimism and caution represents the healthiest framework for long-term AI adoption.

Concluding Synthesis

Respondents' concerns can be grouped into three interconnected dimensions: technical and security-related, ethical and humanistic, and structural-existential. Although a tone of concern predominates, awareness of the evolutionary nature of change is also present. AI is understood as an inevitable part of the future but also as a challenge requiring clear boundaries and ethical awareness. The deepest message in this domain is: "AI will not replace us if we learn to retain what makes us human: ethics, empathy, and awareness of the limits of power."

Question 7.3. If you could recommend one thing to leadership regarding AI and culture, what would it be?

Theme 1: Vision, Strategic Alignment, and Risk Awareness

Description: A key recommendation from respondents is that leadership must provide a clear strategy, vision, and unified direction for AI technology adoption. This includes educating

employees about risks, ensuring transparency, and integrating ethical principles into all business processes.

Respondents: INT001, INT002

Illustrative Quotations:

- "Align the entire organization with the strategy of adopting AI and awareness of threats and challenges." (INT001)
- "Appoint a Chief Data Innovation Officer responsible for data and AI strategy… because information is now mandatory." (INT002)

Synthesis: Respondents emphasize the need for strategic leadership that combines vision, accountability, and technical competence. AI requires systemic rather than ad hoc integration, leaders must develop an institutional framework and coordinated strategy connecting all organizational levels.

Theme 2: Adaptation and Openness to Change

Description: Several respondents stress that success hinges on readiness for evolution. Leaders should foster a culture of adaptation, experimentation, and timely response to market and technological shifts.

Respondents: INT003, INT006, INT009, INT010, INT012

Illustrative Quotations:

- "You need to adopt AI — you like it or not — or you will die, like Kodak." (INT003)
- "Use it wisely… like a car, you can drive normal or crazy." (INT006)
- "Listen to trends, provide trainings and support in conquering AI skills." (INT009)
- "Follow the trends and be careful with implementations of novelty." (INT010)
- "Continue to support innovation, open communication and agility." (INT012)

Synthesis: AI introduces continuous change, leaders must guide the process through adaptation, flexibility, and ongoing learning. A culture of openness to innovation must become part of every organization's identity, leaders should model courage for change.

Theme 3: Intelligent and Ethical Use of AI Tools

Description: Multiple respondents urge leaders to promote responsible AI use, with clear rules and awareness of limitations, especially regarding confidential data, creativity, and psychological impacts.

Respondents: INT004, INT008

Illustrative Quotations:

- "We should use AI tools, but take care how employees are using them, especially regarding security and sharing sensitive information." (INT004)
- "Don't rely your whole business on it. Educate people and keep real knowledge alive." (INT008)

Synthesis: Ethics and human responsibility must be at the core of every AI strategy. Leaders should combine innovation with a moral compass and concern for the human factor; AI must remain a tool, not a substitute for human value.

Theme 4: Creation of Infrastructure and Knowledge Accessibility

Description: One respondent highlighted the importance of establishing a centralized knowledge base and support via AI assistants to contribute to the transmission and preservation of organizational culture.

Respondents: INT007

Illustrative Quotations:

- "Maybe to have AI assistant connected to our organizational book of culture… to answer employees' questions about culture and processes." (INT007)

Synthesis: AI can serve as a tool for maintaining and strengthening culture, through accessibility, communication, and transparency. AI can become a channel through which organizational culture is transmitted, interpreted, and refreshed.

Theme 5: Moderation, Balance, and Leader Self-Awareness

Description: Certain respondents emphasize that leaders must maintain balance between technological dependence and human intuition. Focus should remain on people development, authenticity, and long-term resilience.

Respondents: INT005, INT008, INT014

Illustrative Quotations:

- "Keep the pace, run the race." (INT005)
- "Use AI for your benefit, not the other way around." (INT008)
- "I appreciate when people suggest… hope it will be the same regarding AI." (INT014)

Synthesis: The leader's role is to preserve the human dimension—guiding rather than surrendering to algorithms. AI leadership demands emotional intelligence, humility, and balance between innovation and humanity.

Concluding Synthesis

Respondent's recommendations to leadership can be distilled into five complementary principles: Strategy and Vision; Adaptation; Ethics and Responsibility; Knowledge Infrastructure; and Human-Centered Leadership. The shared message is: "The leaders of the future will not be those who best understand AI, but those who best understand people in a world that AI is changing."

4.6. Summary

The results of the conducted research provide a multifaceted insight into the ways in which artificial intelligence influences the organizational culture of software small and

medium-sized enterprises in the region of Southeast Europe. By combining quantitative and qualitative data, the study enabled an examination of both measurable changes in organizational culture and climate, as well as their deeper value-based and psychological aspects.

The quantitative component of the research revealed a statistically significant difference in employees' perceptions of organizational culture and climate between the current moment and the period prior to the introduction of AI. The obtained results indicate that employees now evaluate the culture more positively, particularly in the dimensions of innovativeness, transparency in decision-making, and freedom to propose ideas. Factor analysis of the developed instrument identified two primary dimensions: business benefits of AI application (BAIB) and personal benefits of AI usage (BAIP). Multivariate regression analysis demonstrated that the sense of personal benefits among employees, such as self-confidence, efficiency, and professional development, serves as a significant predictor of positive organizational culture and climate, whereas business benefits exert a lesser influence. These findings suggest that culture, and the outcomes of its transformation, depend on employees' subjective experiences of utility and meaning attributed to the technology, rather than solely on the technological factors that precipitated the change.

The qualitative analysis of open-ended survey questions and semi-structured interviews deepened the understanding of these findings. Thematic analysis revealed that AI is primarily perceived as a tool that enhances efficiency, accelerates processes, and frees employees from tedious, time-consuming, and routine tasks, while simultaneously raising dilemmas regarding authenticity, ownership of knowledge, and a "new" professional identity. The majority of respondents feel empowered and more productive, whereas a smaller proportion express concerns about excessive reliance on AI or the loss of the "human touch" in directing development, creating, and shaping the products of their work. The role of

leaders is perceived as crucial, as they act as mediators in the adaptation process to the new environment and changes; their openness, transparency, and support for experimentation have proven decisive in fostering trust and psychological safety within organizations.

The regional context, as demonstrated by the research, introduces additional specificities. Inherited patterns of micromanagement and the need for control in certain environments slow the adoption of innovations, while values such as loyalty, team cohesion, and care for people represent a resource that enables the creation of an authentic, humane model of cultural transformation triggered by the integration of AI into SME processes. In this way, Southeast Europe emerges as a space of contrasts between traditional values and the modern technological paradigm, yet it is precisely in this balance that its potential lies for developing a unique cultural approach to the deeper adoption of AI benefits, as well as the integration of AI into all processes where such change can contribute to increased productivity, efficiency, and quality.

Overall, the research findings presented in this chapter indicate that AI does not directly alter culture but acts as a catalyst for change, accelerating processes, exposing existing patterns, and creating opportunities for redefining values and leadership. A large number of employees share their reflections maturely, anticipating positive changes in their immediate work environment, as well as managerial support in adapting to current and future roles in which AI will appear in SMEs, whether as a tool, catalyst, or "new colleague." Culture is thus not transformed by the technology itself, but by the manner in which people in organizations decide to utilize it. These conclusions lay the foundation for the final discussion and interpretation in the subsequent chapter, where the implications of the findings for theory, practice, and future research will be analyzed.

CHAPTER 5

DISCUSSION AND CONCLUSION

5.1. Integrative Synthesis of Findings

5.1.1. Introduction

This section serves as an introduction to the final discussion, aimed at linking the results of the empirical research with the theoretical foundations outlined in previous chapters. The discussion focuses on interpreting the findings in light of the central hypothesis: that artificial intelligence (AI) act as a catalyst for profound cultural changes in organizations, transcending its mere technical role and redefining the ways in which employees in software SMEs in Southeast Europe think, collaborate, and make decisions. The results are integrated from both quantitative and qualitative analyses, with the emphasis in this chapter placed on the interpretation of findings from thematic analysis and open-ended questionnaire items, as well as their comparison with prior research.

5.1.2. Integrative Synthesis of the Results from Qualitative Thematic Analysis

This synthesis presents the final integrative overview of the qualitative research findings on the impact of artificial intelligence (AI) on organizational culture, climate, leadership, teamwork, and productivity in small and medium-sized enterprises (SMEs) within the Southeast European context. The analysis is structured across seven research questions (RQ1–RQ7), grouped into five thematic clusters. The synthesis combines thematic analysis, interpretive insight, and comparative understanding of organizational changes, emphasizing specific patterns, paradoxes, and developmental trends in the process of integrating AI into organizational work and cultural systems.

Impact of Artificial Intelligence on Organizational Culture (RQ1)

The findings indicate that AI influences organizational culture across multiple layers: from employees' operational behaviors to the organization's value system. AI is perceived as a catalyst for change, introducing new patterns of communication, decision-making, and learning. Employees highlight that organizations have become more open, flexible, and innovation-oriented, yet also more vulnerable to the risks of automation and loss of interpersonal contact. In this regard, AI alters the very nature of organizational culture, shifting it from a static system to a dynamic, evolutionary learning ecosystem.

Respondents recognize that the impact of AI depends on leadership readiness and the dominant cultural patterns within the organization. In environments where a culture of trust, collaboration, and reflection already existed, AI served as an empowering tool. In more traditional, hierarchical structures, AI is approached with greater caution. Overall, AI functions as a mirror of culture: it does not create values independently but amplifies existing ones, whether innovative or rigid.

Redefinition of Organizational Culture and Climate (RQ2)

AI profoundly reshapes organizational climate through automation processes, accelerated information flow, and the transformation of employee roles. Employees describe the new work environment as simultaneously stimulating and uncertain: efficiency and speed have increased on one hand, while the need for psychological safety and clear ethical guidelines has grown on the other. AI operates not merely as a technological factor but as a cultural accelerator, altering power relations, communication structures, and perceptions of control.

Organizations in Southeast Europe, though lagging behind Western trends, demonstrate a high degree of adaptability. A notable balance emerges between traditional values (loyalty, collegiality, social support) and aspirations toward data-driven modern practices. Thus, AI contributes to the creation of a hybrid culture, combining rational efficiency with social

connectedness, which represents a distinctive feature of the regional approach to digital transformation.

Implications for Leadership, Teamwork, and Employee Well-Being (RQ3)

AI transforms leadership from a traditional role of control to a facilitative and visionary one. Leaders now act as mediators between technology and people, responsible for translating technical innovations into the cultural language of the organization. The findings show that successful leaders develop emotional intelligence, transparency, and the ability to create psychologically safe environments where employees feel free to experiment with AI tools without fear of failure. Teamwork becomes decentralized, flexible, and more interactive, with AI fostering greater horizontal connectivity and reducing communication barriers.

From the perspective of employee well-being, an ambivalent effect is observed: while AI reduces routine tasks and enables more creative work, it simultaneously generates cognitive pressure and the need for continuous learning. The leader's role is to translate this tension into a culture of support, learning, and shared development. In this sense, leadership in the AI era becomes an ethical act; a balance between human care and digital efficiency.

Impact of AI on the Productivity of SMEs (RQ4)

In the context of SMEs, AI exerts a dual effect. Quantitatively, it enhances speed, accuracy, and data accessibility, leading to greater productivity and competitiveness. Qualitatively, however, it necessitates the redefinition of responsibility structures and decision-making processes. Respondents emphasize that the most significant effect is the acceleration of innovation cycles and decision-making, enabling small teams to compete with larger organizations.

However, AI implementation in the SME sector is constrained by resources, lack of strategic competencies, and occasional resistance to change. The most successful organizations are those that combine local knowledge with an international perspective, using AI as a tool for learning

and differentiation rather than mere automation. Consequently, productivity is redefined; not measured by output volume only, but by the capacity for adaptation and innovation.

Strategies for Aligning AI Usage with Healthy Cultural Development and Employee Engagement (RQ5)

A key strategy identified by respondents is the development of organizational AI literacy: through education, transparency, and ongoing communication between leaders and employees. Establishing clear ethical standards and feedback mechanisms ensures that AI is perceived as an ally rather than a threat. Employee involvement in the design and evaluation of AI solutions is essential, strengthening a sense of ownership and control.

Organizations that successfully integrate AI are characterized by a culture of experimentation, open dialogue, and moral responsibility. These practices demonstrate that sustainable AI integration depends not on technological sophistication but on the ability to align human values, trust, collaboration, integrity, and meaning, with digital innovations. Culture becomes the critical framework through which the success of any technological change is measured.

5.1.3. Confirmation of the Central Hypothesis

The research findings provide strong confirmation of the central hypothesis that the adoption of artificial intelligence (AI), beyond its functional impact, serves as a catalyst for deeper changes in organizational culture and climate. Rather than merely improving processes, AI introduces a new epistemology of organizational life, grounded in speed, transparency, experimentation, and continuous learning. In this process, organizational culture shifts from a stable matrix of norms and procedures to a fluid network of knowledge, adaptation, and self-reflection.

This change is subtle yet profound. AI does not alter formal rules but transforms how individuals understand the meaning of work and their roles within the organization. It becomes a symbol of a new paradigm of trust between humans and technology, where success is

measured not only by productivity but also by the ability to preserve human autonomy in a digitized environment. This, in turn, reshapes the psychological contract between employer and employee: expectations are no longer tied exclusively to security and stability but to development, creativity, and learning opportunities through AI.

Leadership in this context acquires new semantics. Instead of control and oversight, key competencies become emotional intelligence, transparency, and the capacity to foster a culture of trust. AI-era leaders are architects of culture; they shape how technology is perceived and integrated into the organization's value system. Team dynamics, meanwhile, become more decentralized and horizontal: boundaries between expertise, hierarchy, and geography become permeable, and teams function as micro-learning systems that leverage AI for faster decision-making and knowledge sharing.

The deepest evidence of the hypothesis lies in the shift in organizational emotional climate. AI has initiated a transition from stability to adaptability, from routine to innovation, and from individual control to collective responsibility. Fear, skepticism, and excitement coexist as psychological patterns, indicating that organizational cultures can no longer be viewed statically but as dynamic systems evolving through human-technology interaction.

Overall, the research confirms that AI acts as a catalyst for cultural evolution: it does not impose change from above but enables it from within, altering how organizations think, learn, and feel. These changes, though often invisible in the short term, carry profound implications for the future of work, leadership, and collective organizational identity.

Concluding Reflection

The comprehensive synthesis of findings reveals that artificial intelligence in the Southeast European context is not merely a technological innovation but a cultural turning point. AI serves as a mirror of organizational values, tests structural resilience, and redefines the meaning of work and leadership. Despite initial fears and skepticism, most organizations demonstrate

adaptability and transformation through a balance between rational efficiency and humanistic values. Thus, AI does not replace humans; it becomes a catalyst for human evolution in the digital age.

5.1.4. The impact of artificial intelligence (AI) on organizational culture

The objective of analyzing this section of the questionnaire was to identify dominant patterns of thought regarding the positive effects of AI, potential concerns, and recommendations for its integration into organizational culture. A total of 328 employee responses were analyzed using qualitative content analysis (thematic analysis).

Question 1: What is the most positive change that AI has brought to your team?

Respondents most frequently perceive AI as a source of increased efficiency, faster decision-making, and the liberation of time for more creative tasks. Extracted themes relate to the automation of repetitive processes, improved communication, faster prototyping, and support for learning. Particular emphasis is placed on the positive impact on team collaboration and knowledge, as AI enables idea sharing and error reduction.

Identified Themes:

- Efficiency and productivity
- Automation of routine tasks
- Support for learning and decision-making
- Team collaboration and creativity
- Accessibility of information and knowledge

Conclusion: AI is perceived as a tool that enhances competence and accelerates work while often amplifying, rather than diminishing, the human element through collaboration and knowledge exchange.

Question 2: Do you have any concerns regarding the use of AI tools in the company?

Concerns are most pronounced with respect to data privacy, ethics, over-reliance on technology, and the accuracy of outputs. Many respondents highlighted the need for clear regulation: explicit AI usage rules, ethical guidelines, and continuous employee training.

Concerns are grouped into several thematic clusters, indicating insufficient trust in security during AI use:

- Data privacy and security (IP, PII, confidentiality)
- Excessive dependence on AI and weakening of critical thinking
- Accuracy and quality of outputs, including the “hallucination” phenomenon
- Regulatory issues and legal liability
- Uneven adoption and the need for training
- Impact on jobs and career development
- Preservation of human authenticity and ethical values

Conclusion: The majority of respondents believe concerns can be managed through clear strategy, training, and transparency. When trust and rules are in place, AI is perceived as a tool rather than a threat.

Question 3: What recommendation would you give regarding AI and organizational culture?

The most common employee recommendations focus on the responsible introduction of AI into the work environment, through education, ethics, balance between technology and humanity, and gradual implementation.

Responses are grouped into the following thematic clusters:

- Continuous education and training on AI tools
- Establishment of AI policies, ethical standards, and privacy measures
- AI as support, not replacement, for human work
- Promotion of a culture of experimentation and openness

- Gradual and realistic implementation
- Role of leadership and appointment of a CDO/AI manager
- Inclusivity and accessibility of AI knowledge for all in the organization
- Critical thinking and ongoing verification of results

Conclusion: Employees expect AI to be used to empower people, not control them. The ideal AI-enabled organizational culture combines ethics, transparency, education, and human creativity.

Comparative Synthesis

Across the three analyzed questions, a clear pattern emerges: AI is perceived as a transformative force that brings efficiency and innovation but must be carefully guided. The balance between technology and the human factor is the fundamental prerequisite for healthy AI adoption. Employees are open to change provided training, transparency, and security are ensured.

Conclusion and Recommendations

Based on the thematic analysis, the establishment of an “Responsible AI Culture Program” is recommended, encompassing:

- Policies and ethical guidelines for AI use
- Role-based education and continuous training
- Human-in-the-loop approach and mandatory result verification
- Standardization and consolidation of tools with security measures
- Gradual expansion of application with effect measurement
- Active leadership and strategic management (CDO/AI manager)
- Inclusion of all employees in learning and innovation processes

AI delivers significant benefits, but only within an organizational culture that values knowledge, trust, and human responsibility. The combination of technological innovation and a humanistic approach create the most stable framework for sustainable digital transformation.

5.2. Functional diversity of AI's impact on organizational culture

5.2.1. Overview

The empirical findings of this research confirmed that the impact of AI integration on organizational culture is not homogeneously distributed among functions within the company. Respondents consistently described different self-perceptions of a sense of empowerment, control, and communication, depending on whether AI was applied in engineering, managerial, or administrative roles. This functional variability indicates that cultural transformation follows the "contours" of the department where AI truly "lives" in the organization, confirming that any technology, including AI, shapes values through everyday practices, not through abstract strategies. This gives this research a useful value, telling decision makers that in addition to monitoring the impact of AI implementation on profits, it is no less important to manage the impact of AI on organizational culture.

5.2.2. Technical functions

In company departments engaged in software development, QA / QA automation engineering, or DevOps, AI is primarily perceived as a tool that significantly enhances performance improvement. Software engineers have emphasized time savings in development efforts, customization, and reduction in cognitive load, due to AI tools integrated into development environments, such as GitHub Copilot, or other LLMs, as well as AI integrations into QA/testing platforms. Such practices have contributed to strengthening a culture of experimentation and models of collegial learning, aligning with the adhocracy values described by (Cameron & Quinn, 2011). However, certain respondents, particularly

those with extensive experience, cautioned that excessive reliance on AI-generated code may erode craft expertise and mentor-oriented learning, while fostering a false sense of elevated knowledge among junior software engineers. This concern was originally identified by Schein (1983) through the proposition that cultural continuity depends on shared learning rather than mere tool efficiency (Cameron and Quinn, 2011; Schein, 1983).

5.2.3 Project & Product Management and Leadership

In project management and software product development functions, the integration of AI into predictive modelling has shifted decision-making toward greater reliance on data. Management highlights accelerated decision-making, increased data dependence, and more precise predictions, while simultaneously observing a widening gap among individuals between trust in data and trust in people. To preserve essential social cohesion in teams and maintain necessary human intervention in decision-making, many teams have implemented mandatory training on AI usage in project workflows, emphasizing the critical need for detailed validation of AI-generated recommendations. This practice can be viewed as an exemplar of pragmatic management that balances technical rationality with cultural integration (Davenport and Ronanki, 2018; Denison, 1993).

5.2.4 Support and Administrative Functions

In departments that often remain behind the scenes in software companies, SMEs including, where such units typically comprise one or two employees, AI has driven significant changes. Legal affairs, finance, accounting, human resources, and recruitment have experienced enhanced efficiency and operational speed, alongside a need to redefine responsibilities and workplace autonomy. HR professionals using AI tools for candidate filtering and ranking report higher productivity but also express growing concerns over opacity, noting, “I don’t know why this candidate was ranked this way.” Financial reports are now generated more rapidly, yet some employees in these roles report diminished perceptions

of control. These seemingly minor tensions are giving rise to a new subcultural category of AI and algorithmic accountability, wherein transparency and comprehension emerge as imperatives of organizational culture (Liu et al., 2023).

5.2.5 Inter-functional Dynamics

When comparing different roles within a single software company, it becomes evident that departments which adopted AI as an assistive tool earlier, exhibit greater elements of openness and adaptability in their workflows. Software engineers, by nature, demonstrate higher receptivity to emerging trends, including AI, compared to more traditional occupations such as finance, accounting, or legal professionals, who are more conservative. Over time, this attitudinal divergence fosters the emergence of distinct subcultures and a form of cultural stratification within the same SME: “AI-literate” teams develop informal communities of practice and specialized jargon, while others persist with established patterns and hierarchical routines. Leaders who recognized this challenge more effectively mitigated fragmentation of company values and preserved a shared core identity. These observations align with findings that underscore the importance of adaptive learning and collective reflection during periods of technological disruption (Greene, 2007; Morandini et al., 2023).

5.2.6 Synthesis

The diversity of approaches and needs in applying AI technologies, coupled with the availability of best-practice examples in daily use, generates varied cultural responses: heightened innovativeness and autonomy in technical domains, particularly software engineering, rationality and a drive for maximal utilization in managerial functions, and ethical caution combined with general wariness in administrative domains. By recognizing these micro-cultural differences, SMEs can design integration strategies sensitive to each function’s identity and its relationship with technology. A key finding of this study is that a harmonious cultural response to AI depends less on the technology itself and more on the

capacity of decision-makers and leaders to consistently translate its meaning across organizational subunits (Cameron, 1988; Schein, 2010).

Future research could focus on longitudinal tracking of cultural stratification in SME contexts to assess whether functional differences in AI perception persist or evolve toward a shared value system. Such approach would enhance understanding of how leadership, trust, and transparency shape cultural cohesion in the era of intelligent technologies.

5.3 Strategic Significance of the Research

5.3.1 Economic Imperative: Market Growth and Investment Pressure

The global AI market has entered a phase of intensive expansion, with annual investments exceeding hundreds of billions of dollars and continuously rising expectations from investors, shareholders, and regulatory bodies. According to the (*Future of Jobs Report 2025*, n.d.) , over 86% of companies worldwide anticipate that AI will substantially transform their operational models by 2030. Such expectations are driving new patterns of capital allocation, wherein capital owners demand rapid returns on investment, perpetually fueled by the hype surrounding AI.

In this context, organizations face mounting pressure to deploy AI solutions more rapidly than they can organizationally, ethically, and culturally absorb them. This pressure creates a gap between the desired pace of technological change, its impact on productivity growth and profitability, and teams' capacity to comprehend and embed that change within existing value systems. Several authors have argued that the scale of investment and market hype surrounding AI frequently eclipses its organizational consequences (Brynjolfsson and McAfee, 2015; Davenport and Ronanki, 2018).

Although financial analysts often emphasize projected gains in productivity and efficiency, the success of these forecasts, and the sustainability of anticipated outcomes,

depends heavily on companies' ability to integrate AI-induced changes into their normative and value frameworks. This is consistent with the findings of (Cameron and Quinn, 2011; Schein, 2010), who stress that technological change absent cultural alignment leads to fragmentation, uncertainty, and resistance rather than innovation and growth.

5.3.2 Cultural Implications

AI has become embedded in everyday decision-making processes, from reliance on generative AI tools in software development to support functions in recruitment and finance. The boundary between technology and culture is growing increasingly permeable, as organizations do not merely adopt new technologies but redefine how they work, learn, and decide. Several authors have argued that organizational culture constitutes a living system of shared assumptions that evolves through problem-solving (Denison, 1993; Schein, 1983).

When AI is introduced into business processes, it triggers shifts in both organizational culture and climate. These shifts alter established patterns of trust and reshape employees' perceptions of control and power dynamics within the organization. Expertise itself is reconfigured: the relative weight of valued knowledge changes, as does the demarcation between human judgment and automated processes. Both developments pose a dual challenge for decision-makers and leaders: to simultaneously preserve employees' sense of security and psychological safety while fostering openness to experimentation. This is consistent with the findings of (Murire, 2024), who emphasizes that effective AI integration requires proactive leadership that drives cultural transformation, not merely technical implementation.

From a tool intended to boost productivity, AI evolves into a catalyst for cultural change, a factor that redefines the meaning of work, responsibility, and belonging within a value system. This transformation exerts a dual effect: while enabling faster decision-making and novel learning opportunities, it simultaneously generates feelings of uncertainty, loss of control, and "quiet resistance" among employees.

5.3.3 Regional Implications

In the Southeast Europe region, where SMEs serve as the primary engine of economic development, the integration of AI technologies into business processes occurs within a distinctive socioeconomic environment. The post-transitional context, the absence of formalized managerial practices, and historically inherited hierarchical governance models shape how organizations adopt new technologies and how these changes influence workplace culture. Counterbalancing these factors is the inherent nature of software companies as agile entities that primarily follow technological trends.

While several authors concur on the universality of AI's impact, others emphasize the role of local culture and economic maturity in modulating that impact (Hofstede, 2011; Vetráková and Smerek, 2016). In this setting, research into AI's influence on the development and dynamics of organizational culture assumes particular importance, as it reveals how global technological trends acquire localized cultural expressions.

For many software companies in Southeast Europe, investing in AI presents a challenge to which they are uncertain how to respond: on one hand, such investments enable scaling and internationalization; on the other, the pace of change risks destabilizing fragile organizational structures and trust relationships often built on personal rather than systemic foundations. This study recognizes that regional specificities are not barriers but rather a context in which a sustainable and ethical AI integration model can be developed, one that combines innovation with cultural resilience, provided decision-makers actively work to raise awareness of AI-induced shifts in organizational culture.

5.3.4 Research Contribution: Between Capital, Culture, and the Future

Prior studies indicate that AI possesses the capacity to transform software SMEs beyond mere automation and development support, by influencing the evolution of perceptions regarding how organizations learn, communicate, and construct their core value

systems. Despite investor enthusiasm and market optimism, the cultural infrastructure required for sustainable digital transformation, including AI implementation, remains underdeveloped. This research seeks to catalyze new longitudinal studies that simultaneously examine the implications of technological change on organizational performance and culture. Additionally, differences in change patterns between local and global SMEs warrant further investigation.

From a theoretical perspective, this study links technological change to the micro-dynamics of cultural shifts within organizations triggered by those changes. It thereby contributes to understanding how organizational culture evolves, how employee relationships and manager employee dynamics transform, and how individual perceptions of new roles and shifting responsibilities are reshaped. From a practical standpoint, the findings provide decision-makers, executives, leaders, and policymakers in Southeast Europe with a clear framework for aligning investment expectations with long-term, human-centered AI strategies.

Ultimately, while capital will continue to accelerate the diffusion of AI technologies, the true source of competitive advantage resides in SMEs' organizational culture, the capacity to comprehend, ethically apply, and durably integrate these innovations into the organization's value system. The significance of this study, therefore, lies in demonstrating that the future of AI-driven organizations will not be determined solely by algorithms or investments, but by the cultural systems that imbue them with meaning, coherence, and direction. who emphasizes that effective AI integration requires proactive leadership that drives cultural transformation, not merely technical implementation.

From a tool intended to boost productivity, AI evolves into a catalyst for cultural change, a factor that redefines the meaning of work, responsibility, and belonging within a value system. This transformation exerts a dual effect: while enabling faster decision-making

and novel learning opportunities, it simultaneously generates feelings of uncertainty, loss of control, and "quiet resistance" among employees.

5.3.5. Methodological Contribution: Towards a New Instrument

The development and validation of instruments for measuring organizational culture represent one of the most challenging tasks in the social sciences. Existing frameworks, such as the Competing Values Framework (Cameron and Quinn, 2011) and Grid-Group Cultural Theory (Douglas, 2016.; Wouters and Maesschalck, 2014), have made significant contributions to understanding cultural typologies but were not designed to encompass the contemporary dynamics of organizational transformation occurring under the influence of AI. As traditional models assume cultural stability, they overlook the fluid interactions that characterize today's hybrid work environments (Brynjolfsson and McAfee, 2015).

In this context, the present study contributes not only to theoretical discourse but also potentially to the development of a novel instrument that integrates indicators of technological adaptation, psychological safety, and employees' perceptions of fairness in AI environments. The instrument emerged from a synthesis of established theoretical models and empirical findings, representing an attempt to quantitatively capture the cultural transformation induced by automation and digitalization as consequences of AI integration into the business processes of software SMEs.

Instrument validation was conducted in multiple phases: content validation through expert review, reliability analysis (Cronbach's α), and exploratory factor analysis, which confirmed two clearly distinct dimensions; perceptions of organizational benefits from AI implementation and personal perceptions of empowerment through the use of AI tools. This approach aligns with the recommendations of scholars such as (Creswell and Plano, 2018; Johnson and Onwuegbuzie, 2004), who emphasize that methodological innovation constitutes a key dimension of scientific contribution, particularly within mixed-methods research.

Analysis of the results obtained through the application of the author's custom instrument revealed clear potential for its further academic utilization. The insights generated indicate that cultural changes associated with AI implementation can be empirically detected and differentiated across various functional levels within organizations. At the same time, the author underscores the necessity of further empirical verification and confirmatory validation to establish the instrument's robustness, achieved through replication studies, larger samples, and diverse contexts to confirm its reliability and stability in application.

Although initially developed for the context of small and medium-sized software enterprises in Southeast Europe, the instrument holds potential for broader international application. Future research should examine its applicability in other regions and industries, track the longitudinal nature of changes, and, for instance, test its predictive power in relation to leadership styles, employee engagement, and organizational maturity in AI technology adoption.

The era of rapid technological change demands that the academic community develop and validate new tools that measure not only what is changing within organizations but also how these changes affect employees' identity, trust, and behavior. Through this work, the author hopes to have laid the foundation for an ongoing process of validation and refinement of an instrument that, in the future, may become a relevant standard in assessing cultural transformations driven by the application of artificial intelligence.

5.4. Conclusion

In conclusion, the responsible and sustainable integration of Artificial Intelligence within software SMEs southeastern European organizational environments, requires not only technological adaptation but also cultural alignment and ethical governance. This research

indicated that there are good practices to mitigate the most frequent and most impactful risks, and concerns, identified across all studied companies.

- Enterprise and private AI models combined with Data Loss Prevention (DLP) and role-based access control.

Establishing this layer will be cornerstone of organizational defense, integral part of every cybersecurity policy, ensuring that sensitive information remains protected while maintaining operational flexibility.

- The implementation of “human-in-the-loop” systems and mandatory verification mechanisms.

Protect accountability lost in any of the AI implementations in the processes, simultaneously reducing the risk of overreliance on automated decision-making. This will preserve the critical role of human judgment.

- Establishing clear standards for safe data sharing and defining explicit boundaries regarding what must never be entered or processed by AI tools.

Maintenance of data integrity, confidentiality, and compliance with regulatory frameworks is essential, all processes should be audited, and every AI implementation and usage of internal and external AI tools must follow the organizational policy.

- Targeted training programs tailored to organizational roles and codes of conduct for AI usage

The necessity of continuous employee education, the development of internal literacy in the field of artificial intelligence are becoming standards for employee career development programs. Organizations that recognize this will be in a better position than others, being more attractive for attracting new employees, as well as more capable and adaptive to the changes in the market that are yet to come.

- Finally, governance models that prioritize fewer but better-integrated tools enable consistency, transparency, and cultural coherence across teams, supporting a human-centered digital transformation.

In synergy, these practices represent not only a model for risk mitigation, but also a solid foundation for educational and professional development initiatives, to extend the impact of this research beyond academia and into practical organizational life through workshops, leadership programs, and applied learning modules.

REFERENCES

Ahmed, J., Mrugalska, B., & Akkaya, B. (2022). Agile Management and VUCA 2.0 (VUCA-RR) During Industry 4.0. In B. Akkaya, M. W. Guah, K. Jermsittiparsert, H. Bulinska-Stangrecka, & Y. Kaya (Eds), *Agile Management and VUCA-RR: Opportunities and Threats in Industry 4.0 towards Society 5.0* (pp. 13–26). Emerald Publishing Limited. https://doi.org/10.1108/978-1-80262-325-320220002

AI in the auto industry. (2024). *Automotive News*, *100*(7165), 21–21.

Annual MIT Sloan Management Review. (n.d.). BCG Global. Retrieved 6 November 2025, from https://www.bcg.com/press/20october2020-study-finds-significant-financial-benefits-with-ai

Bainbridge, L. (1983). IRONIES OF AUTOMATION. In G. Johannsen & J. E. Rijnsdorp (Eds), *Analysis, Design and Evaluation of Man–Machine Systems* (pp. 129–135). Pergamon. https://doi.org/10.1016/B978-0-08-029348-6.50026-9

Berger, R. (2013). Now I see it, now I don't: Researcher's position and reflexivity in qualitative Research. *Qualitative Research*, *15*. https://doi.org/10.1177/1468794112468475

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*, 77–101. https://doi.org/10.1191/1478088706qp063oa

Brinkmann, S., & Kvale, S. (2015, January 1). *Interviews: Learning the Craft of Qualitative Research Interviewing, Third Edition, by Svend Brinkmann and Steinar Kvale. Thousand Oaks, CA: Sage, 2015. 405 pages, $60.00 (paperback). | Request PDF*. https://www.researchgate.net/publication/332957788_Interviews_Learning_the_Craft_of_Qualitative_Research_Interviewing_Third_Edition_by_Svend_Brinkmann_and_Steinar_Kvale_Thousand_Oaks_CA_Sage_2015_405_pages_6000_paperback

Bronet, D. J. (2025). *Writing a Thesis Based on Surveys: A Step-by-Step Guide for Master's and Doctoral Students*. Page Publishing.

Bryman, A. (2016). *Social Research Methods*. Oxford University Press.

Brynjolfsson, E., & McAfee, A. (2015). Will Humans Go the Way of Horses. *Foreign Affairs*, *94*, 8.

Buchashvili, G., Djakeli, K., & Kazaishvili, A. (2022). Leadership Challenges and the Role of Education in Forming Leaders in VUCA World. In B. Akkaya, M. W. Guah, K. Jermsittiparsert, H. Bulinska-Stangrecka, & Y. Kaya (Eds), *Agile Management and VUCA-RR: Opportunities and Threats in Industry 4.0 towards Society 5.0* (pp. 161–168). Emerald Publishing Limited. https://doi.org/10.1108/978-1-80262-325-320220011

Bughin, J., Seong, J., Manyika, J., Chui, M., & Joshi, R. (2018, January 1). *Notes from the AI frontier: Modeling the impact of AI on the world economyMcKinsey Global Institute. - References—Scientific Research Publishing*. https://www.scirp.org/reference/referencespapers?referenceid=3823205

Cameron, K. S. (1988). *The Conceptual foundation of organizational culture* [Working Paper]. http://deepblue.lib.umich.edu/handle/2027.42/35462

Cameron, K. S., & Quinn, R. E. (2011, January 1). *Diagnosing and Changing Organizational Culture Based on the Competing Values Framework (3rd ed.). San Francisco Jossey-Bass.* https://www.scirp.org/reference/referencespapers?referenceid=1871430

Canagarajah, S. (2012). Translingual Practice: Global Englishes and Cosmopolitan Relations. *Translingual Practice: Global Englishes and Cosmopolitan Relations*, 1–216. https://doi.org/10.4324/9780203073889

Clarke, V., & Braun, V. (2017). Thematic analysis. *The Journal of Positive Psychology*, *12*(3), 297–298. https://doi.org/10.1080/17439760.2016.1262613

Creswell, J. W. (2014). *Research design: Qualitative, quantitative, and mixed methods approaches /*. SAGE Publications,. https://eduq.info/xmlui/handle/11515/19498

Creswell, J. W., & Plano, C. (2018). *Designing and Conducting Mixed Methods Research*. SAGE.

Crotty, M. (1998). *Foundations of Social Research: Meaning and perspective in the research process*. Routledge. https://doi.org/10.4324/9781003115700

Davenport, T. H., & Ronanki, R. (2018). 3 Things AI Can Already Do for Your Company. *Harvard Business Review*. https://hbr.org/2018/01/artificial-intelligence-for-the-real-world

Denison, D. (1984). Bringing Corporate Culture to the Bottom Line. *Organizational Dynamics*, *13*, 4–22. https://doi.org/10.1016/0090-2616(84)90015-9

Denison, D. R. (1993a). *Paradox and performance: Toward a theory of behavioral complexity in managerial leadership* [Working Paper]. http://deepblue.lib.umich.edu/handle/2027.42/35553

Denison, D. R. (1993b). *What is the difference between organizational culture and organizational climate? : A native's point of view on a decade of paradigm wars* [Working Paper]. http://deepblue.lib.umich.edu/handle/2027.42/35556

Dietvorst, B., Simmons, J., & Massey, C. (2014). Algorithm Aversion: People Erroneously Avoid Algorithms After Seeing Them Err. *Journal of Experimental Psychology: General*, *144*, 114–126. https://doi.org/10.1037/xge0000033

Dillman, D., Smyth, J., & Christian, L. (2024). *Internet, Phone, Mail, and Mixed-Mode Surveys: The Tailored Design Method*. https://doi.org/10.1002/9781394260645

Douglas, M. (n.d.). *A HISTORY OF GRID AND GROUP CULTURAL THEORY*.

Drost, E. (2011). Validity and Reliability in Social Science Research. *Education Research and Perspectives*, *38*, 105–124.

Dubé, L., & Robey, D. (1999). Software stories: Three cultural perspectives on the organizational practices of software development. *Accounting, Management and Information Technologies*, *9*(4), 223–259. https://doi.org/10.1016/S0959-8022(99)00010-7

Dwivedi, Y. K., Hughes, L., Ismagilova, E., Aarts, G., Coombs, C., Crick, T., Duan, Y., Dwivedi, R., Edwards, J., Eirug, A., Galanos, V., Ilavarasan, P. V., Janssen, M., Jones, P., Kar, A. K., Kizgin, H., Kronemann, B., Lal, B., Lucini, B., … Williams, M. D. (2021). Artificial Intelligence (AI): Multidisciplinary perspectives on emerging challenges, opportunities, and agenda for research, practice and policy. *International Journal of Information Management*, *57*, 101994. https://doi.org/10.1016/j.ijinfomgt.2019.08.002

Eckert, S. A. (2013). What Do Teaching Qualifications Mean in Urban Schools? A Mixed-Methods Study of Teacher Preparation and Qualification. *Journal of Teacher Education*, *64*(1), 75–89. https://doi.org/10.1177/0022487112460279

Eriksson, L., & Santesson, H. (2021). *Organizational Culture in a Remote Setting: A Qualitative Study on Organizational Culture and the Effects of Remote Work*. https://urn.kb.se/resolve?urn=urn:nbn:se:uu:diva-448645

Ethical principles of psychologists and code of conduct. (n.d.).

Fetters, M. D., & Freshwater, D. (2015). Publishing a Methodological Mixed Methods Research Article. *Journal of Mixed Methods Research*, *9*(3), 203–213. https://doi.org/10.1177/1558689815594687

Fetters, M. D., & Molina-Azorin, J. F. (2017). The Journal of Mixed Methods Research Starts a New Decade: The Mixed Methods Research Integration Trilogy and Its Dimensions. *Journal of Mixed Methods Research*, *11*(3), 291–307. https://doi.org/10.1177/1558689817714066

Finlay, L. (2002). Negotiating the Swamp: The Opportunity and Challenge of Reflexivity in Research Practice. *Qualitative Research - QUAL RES*, *2*, 209–230. https://doi.org/10.1177/146879410200200205

Flowerdew, J. (2023). John Flowerdew's essential bookshelf: English for research publication purposes (ERPP). *Language Teaching*, 1–11. https://doi.org/10.1017/S0261444823000071

Frey, C. B., & Osborne, M. A. (2017). The future of employment: How susceptible are jobs to computerisation? *Technological Forecasting and Social Change*, *114*, 254–280. https://doi.org/10.1016/j.techfore.2016.08.019

Future of Jobs Report 2025. (n.d.). Retrieved 6 March 2025, from https://reports.weforum.org/docs/WEF_Future_of_Jobs_Report_2025.pdf

Garg, K. (2023). Impact of Artificial Intelligence on software development: Challenges and Opportunities. *International Journal of Software & Hardware Research in Engineering*, *11*(8). https://doi.org/10.26821/IJSHRE.11.8.2023.110801

Glick, W. H. (1985). Conceptualizing and Measuring Organizational and Psychological Climate: Pitfalls in Multilevel Research. *Academy of Management Review*, *10*(3), 601–616. https://doi.org/10.5465/AMR.1985.4279045

Glikson, E., & Woolley, A. (2020). Human trust in artificial intelligence: Review of empirical research. Academy of Management Annals (in press). *The Academy of Management Annals*.

Greene, J. C. (2007). *Mixed Methods in Social Inquiry*. John Wiley & Sons.

Greene, J. C., Caracelli, V. J., & Graham, W. F. (1989). Toward a Conceptual Framework for Mixed-Method Evaluation Designs. *Educational Evaluation and Policy Analysis*, *11*(3), 255–274. https://doi.org/10.3102/01623737011003255

Groves, R. M., Fowler, F. J., Couper, M. P., Lepkowski, J. M., Singer, E., & Tourangeau, R. (2009). *Survey Methodology*.

Hank, L., Sarkar, Advait, Tankelevitch, Lev, Drosos, Ian, & Rintel, Sean. (2025). *The Impact of Generative AI on Critical Thinking: Self-Reported Reductions in Cognitive Effort and Confidence Effects From a Survey of Knowledge Workers*.

Hofstede, G. (2011). Dimensionalizing Cultures: The Hofstede Model in Context. *Online Readings in Psychology and Culture*, *2*(1). https://doi.org/10.9707/2307-0919.1014

How do SMEs in CEE find their way in the world of AI? (n.d.). *Chamber*. Retrieved 22 October 2025, from https://aichamber.eu/report/how-do-smes-in-cee-find-their-way-in-the-world-of-ai/

Jauhar, S. K., Jani, S. M., Kamble, S. S., Pratap, S., Belhadi, A., & Gupta, S. (2024). How to use no-code artificial intelligence to predict and minimize the inventory distortions for resilient supply chains. *International Journal of Production Research*, *62*(15), 5510–5534. https://doi.org/10.1080/00207543.2023.2166139

Javaid, M., Haleem, A., Singh, R. P., & Suman, R. (2022). Artificial Intelligence Applications for Industry 4.0: A Literature-Based Study. *Journal of Industrial Integration and Management*, *07*(01), 83–111. https://doi.org/10.1142/S2424862221300040

Jiang, Y., Li, X., Luo, H., Yin, S., & Kaynak, O. (2022). Quo vadis artificial intelligence? *Discover Artificial Intelligence*, *2*(1), 4. https://doi.org/10.1007/s44163-022-00022-8

Johnson, R. B., & Onwuegbuzie, A. J. (2004). *Mixed Methods Research: A Research Paradigm Whose Time Has Come - R. Burke Johnson, Anthony J. Onwuegbuzie, 2004*. https://docs.edtechhub.org/lib/JZHMXX68

Joshi, A., Kale, S., Chandel, S., & Pal, D. (2015). Likert Scale: Explored and Explained. *British Journal of Applied Science & Technology*, *7*, 396–403. https://doi.org/10.9734/BJAST/2015/14975

Kaivo-oja, J. R. L., & Lauraeus, I. T. (2018). The VUCA approach as a solution concept to corporate foresight challenges and global technological disruption. *Foresight*, *20*(1), 27–49. https://doi.org/10.1108/FS-06-2017-0022

Kaynak, O. (2021). The golden age of Artificial Intelligence. *Discover Artificial Intelligence*, *1*(1), 1. https://doi.org/10.1007/s44163-021-00009-x

Koch, T. (2006). Establishing rigour in qualitative research: The decision trail. *Journal of Advanced Nursing*, *53*(1), 91–100. https://doi.org/10.1111/j.1365-2648.2006.03681.x

Korteling, J. E. (Hans), van de Boer-Visschedijk, G. C., Blankendaal, R. a. M., Boonekamp, R. C., & Eikelboom, A. R. (2021). Human- versus Artificial Intelligence. *Frontiers in Artificial Intelligence*, *4*. https://doi.org/10.3389/frai.2021.622364

Leso, B., Cortimiglia, M., & Ghezzi, A. (2022). The contribution of organizational culture, structure, and leadership factors in the digital transformation of SMEs: A mixed-methods approach. *Cognition, Technology & Work*, *25*, 151–179. https://doi.org/10.1007/s10111-022-00714-2

Leso, B. H., Cortimiglia, M. N., & Ghezzi, A. (2023). The contribution of organizational culture, structure, and leadership factors in the digital transformation of SMEs: A mixed-methods approach. *Cognition, Technology & Work (Online)*, *25*(1), 151–179. https://doi.org/10.1007/s10111-022-00714-2

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic Inquiry*. SAGE.

Liu, Y., Bustinza, O. F., Vendrell-Herrero, F., Cooper, C., & Vrontis, D. (2023). Exploring the influence of hybrid product–service offerings on firm internationalization strategies: An international perspective. *International Marketing Review*, *40*(4), 549–560. https://doi.org/10.1108/IMR-10-2023-0288

Lu, X., Wijayaratna, K., Huang, Y., & Qiu, A. (2022). AI-Enabled Opportunities and Transformation Challenges for SMEs in the Post-pandemic Era: A Review and

Research Agenda. *Frontiers in Public Health*, *10*. https://doi.org/10.3389/fpubh.2022.885067

Malik, N., Tripathi, S. N., Kar, A. K., & Gupta, S. (2021). Impact of artificial intelligence on employees working in industry 4.0 led organizations. *International Journal of Manpower*, *43*(2), 334–354. https://doi.org/10.1108/IJM-03-2021-0173

Maxwell, J. (2012). *Qualitative Research Design: An Interactive Approach / J.A. Maxwell.*

Mettler, T., Sprenger, M., & Winter, R. (2017). Service robots in hospitals: New perspectives on niche evolution and technology affordances. *European Journal of Information Systems*, *26*(5), 451–468. https://doi.org/10.1057/s41303-017-0046-1

Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & Group, T. P. (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. *PLOS Medicine*, *6*(7), e1000097. https://doi.org/10.1371/journal.pmed.1000097

Morandini, S., Fraboni, F., Angelis, M. D., Puzzo, G., Giusino, D., & Pietrantoni, L. (2023). The Impact of Artificial Intelligence on Workers' Skills: Upskilling and Reskilling in Organisations. *Informing Science: The International Journal of an Emerging Transdiscipline*, *26*, 039–068.

Morse, J. M. (1997). 'Perfectly Healthy, but Dead': The Myth of Inter-Rater Reliability. *Qualitative Health Research*. https://doi.org/10.1177/104973239700700401

Murire, O. (2024). Artificial Intelligence and Its Role in Shaping Organizational Work Practices and Culture. *Administrative Sciences*, *14*, 316. https://doi.org/10.3390/admsci14120316

Murire, O. T. (2024). Artificial Intelligence and Its Role in Shaping Organizational Work Practices and Culture. *Administrative Sciences*, *14*(12), 1–16.

Naveed, R. T., Alhaidan, H., Halbusi, H. A., & Al-Swidi, A. K. (2022). Do organizations really evolve? The critical link between organizational culture and organizational innovation toward organizational effectiveness: Pivotal role of organizational resistance. *Journal of Innovation & Knowledge*, *7*(2), 100178. https://doi.org/10.1016/j.jik.2022.100178

Nguyen Duc, A., Khanna, D., Le, G., Greer, D., Wang, X., Zaina, L., Matturro, G., Melegati, J., Kettunen, P., Hyrynsalmi, S., Edison, H., Sales, A., Chanin, R., Rutitis, D., Kemell, K.-K., Aldaeej, A., Mikkonen, T., Garbajosa, J., & Abrahamsson, P. (2023). Work-from-home impacts on software project: A global study on software development practices and stakeholder perceptions. *Software: Practice and Experience*, *54*, 896–926. https://doi.org/10.1002/spe.3306

Nikolić, J. L., & Labus, P. (2024). The Relationship Between Workplace Robots, Employee Exhaustion, and Turnover Intentions in the Age of Industry 5.0: Research From Four Southeastern European Countries. *South East European Journal of Economics and Business*, *19*(2), 103–118. https://doi.org/10.2478/jeb-2024-0018

Noy, S., & Zhang, W. (2023). Experimental evidence on the productivity effects of generative artificial intelligence. *Science (New York, N.Y.)*, *381*, 187–192. https://doi.org/10.1126/science.adh2586

Oates, J., Carpenter, D., Fisher, M., Goodson, S., & Hannah, B. (2021). *BPS Code of Human Research Ethics*.

Oates, J., Carpenter, D., Fisher, M., Goodson, S., Hannah, B., Kwiatkowski, R., Prutton, K., Reeves, D., & Wainwright, T. (2021). *BPS Code of Human Research Ethics* (p. bpsrep.2021.inf180). British Psychological Society. https://doi.org/10.53841/bpsrep.2021.inf180

OECD. (2021). *The Digital Transformation of SMEs*. OECD. https://doi.org/10.1787/bdb9256a-en

Opdenakker, R. (2006). *Advantages and Disadvantages of Four Interview Techniques in Qualitative Research*. *7*.

Papagiannidis, S. (2022). Artificial intelligence as an enabler for innovation: A review and future research agenda. *Technological Forecasting and Social Change*, *183*, 121852. https://doi.org/10.1016/j.techfore.2022.121852

Patton, M. Q. (2002). *Qualitative Research & Evaluation Methods*. SAGE.

Patton, M. Q. (2015). *Qualitative research & evaluation methods: Integrating theory and practice* (Fourth edition). SAGE.

Pawar, P., & Shah, A. (2024). THE IMPACT OF ARTIFICIAL INTELLIGENCE ON ORGANIZATIONAL CULTURE: A PATHWAY TO DIGITAL TRANSFORMATION. *ShodhKosh: Journal of Visual and Performing Arts*, *5*. https://doi.org/10.29121/shodhkosh.v5.i1.2024.5007

Peng, S., Kalliamvakou, E., Cihon, P., & Demirer, M. (2023). *The Impact of AI on Developer Productivity: Evidence from GitHub Copilot* (No. arXiv:2302.06590). arXiv. https://doi.org/10.48550/arXiv.2302.06590

Podsakoff, P., MacKenzie, S., Lee, J.-Y., & Podsakoff, N. (2003). Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies. *Journal of Applied Psychology*, *88*, 879–903. https://doi.org/10.1037/0021-9010.88.5.879

Radanliev, P., Santos, O., Brandon-Jones, A., & Joinson, A. (2024). Ethics and responsible AI deployment. *Frontiers in Artificial Intelligence*, *7*. https://doi.org/10.3389/frai.2024.1377011

Raisch, S., & Krakowski, S. (2021). Artificial Intelligence and Management: The Automation–Augmentation Paradox. *Academy of Management Review*, *46*, 192–210. https://doi.org/10.5465/amr.2018.0072

Rakshit, S., Mondal, S., Islam, N., Jasimuddin, S., & Zhang, Z. (2021). Social media and the new product development during COVID-19: An integrated model for SMEs. *Technological Forecasting and Social Change*, *170*, 120869. https://doi.org/10.1016/j.techfore.2021.120869

Ransbotham, S., Kiron, D., & Chu, M. (2023, July 18). *The Hidden Cultural Benefits of AI*. BCG Global. https://www.bcg.com/publications/2021/ai-benefits-company-culture

Regulation (EU) 2024/1689 of the European Parliament and of the Council of 13 June 2024 Laying down Harmonised Rules on Artificial Intelligence and Amending Regulations (EC) No 300/2008, (EU) No 167/2013, (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1139 and (EU) 2019/2144 and Directives 2014/90/EU, (EU) 2016/797 and (EU) 2020/1828 (Artificial Intelligence Act) (Text with EEA Relevance) (2024). http://data.europa.eu/eli/reg/2024/1689/oj/eng

Rossman, G. B., & Wilson, B. L. (1985). Numbers and Words: Combining Quantitative and Qualitative Methods in a Single Large-Scale Evaluation Study. *Evaluation Review*, *9*(5), 627–643. https://doi.org/10.1177/0193841X8500900505

Rožman, M., Oreški, D., & Tominc, P. (2023). Artificial-Intelligence-Supported Reduction of Employees' Workload to Increase the Company's Performance in Today's VUCA Environment. *Sustainability*, *15*(6), 5019. https://doi.org/10.3390/su15065019

Saunders, M., Lewis, P., & Thornhill, A. (2023). *Research Methods for Business Students*.

Schein, E. H. (1983). *Organizational culture: A dynamic model*.

Schein, E. H. (2010). *Organizational Culture and Leadership* (IV). Jossey-Bass.

Shannon-Baker, P. (2015). *"But I Wanted to Appear Happy": How using Arts-Informed and Mixed Methods Approaches Complicate Qualitatively Driven Research on Culture Shock—Peggy Shannon-Baker, 2015*. https://journals.sagepub.com/doi/full/10.1177/160940691501400204

Shih, C.-C., & Huang, S.-J. (2010). Exploring the relationship between organizational culture and software process improvement deployment. *Information & Management*, *47*(5), 271–281. https://doi.org/10.1016/j.im.2010.06.001

Stahl, B. C., Andreou, A., Brey, P., & Hatzakis, T. (2020). *Artificial intelligence for human flourishing -Beyond principles for machine learning*. https://doi.org/10.1016/j.jbusres.2020.11.030

Stahl, B. C., Antoniou, J., Ryan, M., Macnish, K., & Jiya, T. (2022). Organisational responses to the ethical issues of artificial intelligence. *AI & SOCIETY*, *37*(1), 23–37. https://doi.org/10.1007/s00146-021-01148-6

Stefanova, I. (2025, July 8). Using AI ≠ Using It Well: What Research of 3,200 Regional SMEs Revealed. *TheRecursive.Com*. https://therecursive.com/ai-chamber-report-cee-ai-adoption-smes/

Tashakkori, A., & Teddlie, C. (1998). *Mixed Methodology: Combining Qualitative and Quantitative Approaches*. SAGE.

Tashakkori, A., & Teddlie, C. (2003). *Handbook of Mixed Methods in Social & Behavioral Research*. SAGE.

Taskan, B., Junça-Silva, A., & Caetano, A. (2022). Clarifying the conceptual map of VUCA: A systematic review. *International Journal of Organizational Analysis*, *30*(7), 196–217. https://doi.org/10.1108/IJOA-02-2022-3136

Teddlie, C., & Tashakkori, A. (2009). *Foundations of Mixed Methods Research: Integrating Quantitative and Qualitative Approaches in the Social and Behavioral Sciences*. SAGE.

Temple, B., & Young, A. (2004). Qualitative Research and Translation Dilemmas. *Qualitative Research - QUAL RES*, *4*, 161–178. https://doi.org/10.1177/1468794104044430

Thompson, L. (1990). Negotiation behavior and outcomes: Empirical evidence and theoretical issues. *Psychological Bulletin*, *108*(3), 515–532. https://doi.org/10.1037/0033-2909.108.3.515

Tourangeau, R., & Yan, T. (2007). Sensitive Questions in Surveys. *Psychological Bulletin*, *133*, 859–883. https://doi.org/10.1037/0033-2909.133.5.859

Turan, H. Y., & Cinnioğlu, H. (2022). Agile Leadership and Employee Performance in VUCA World *. In B. Akkaya, M. W. Guah, K. Jermsittiparsert, H. Bulinska-Stangrecka, & Y. Kaya (Eds), *Agile Management and VUCA-RR: Opportunities and Threats in Industry 4.0 towards Society 5.0* (pp. 27–38). Emerald Publishing Limited. https://doi.org/10.1108/978-1-80262-325-320220003

van Nes, F., Abma, T., Jonsson, H., & Deeg, D. (2010). Language differences in qualitative research: Is meaning lost in translation? *European Journal of Ageing*, *7*, 313–316. https://doi.org/10.1007/s10433-010-0168-y

van Teijlingen, E., & Hundley, V. (2002). The Importance of Pilot Studies. *Nursing Standard (Royal College of Nursing (Great Britain) : 1987)*, *16*, 33–36. https://doi.org/10.7748/ns2002.06.16.40.33.c3214

Verbeke, W., Volgering, M., & Hessels, M. (1998). Exploring the Conceptual Expansion within the Field of Organizational Behaviour: Organizational Climate and Organizational Culture. *Journal of Management Studies*, *35*(3), 303–329. https://doi.org/10.1111/1467-6486.00095

Vetráková, M., & Smerek, L. (2016). Diagnosing organizational culture in national and intercultural context. *E+M Ekonomie a Management*, *19*(1), 62–73. https://doi.org/10.15240/tul/001/2016-1-005

Vial, G. (2019). Understanding digital transformation: A review and a research agenda. *The Journal of Strategic Information Systems*, *28*. https://doi.org/10.1016/j.jsis.2019.01.003

Walton, J. B. (2014). *Partners for Change: A Mixed Methods Case Study of an Intermediary-led Partnership for STEM Education Reform* [University of Cincinnati]. https://etd.ohiolink.edu/acprod/odb_etd/etd/r/1501/10?clear=10&p10_accession_num=ucin1406810984

Westerman, G., Bonnet, D., & McAfee, A. (2014). *Leading Digital: Turning Technology Into Business Transformation*. Harvard Business Press.

Wiegers, K. (2013). *Creating a Software Engineering Culture*. Addison-Wesley.

Wilson, H. J., & Daugherty, P. R. (2018, January 1). *Human + Machine Reimagining Work in the Age of AI. Boston, MA Harvard Business Review Press.* https://www.scirp.org/reference/referencespapers?referenceid=2601277

Wilson, J., & Daugherty, P. R. (2018, August 1). *How Humans and AI Are Working Together in 1,500 Companies*. https://hbr.org/2018/07/collaborative-intelligence-humans-and-ai-are-joining-forces

Wittink, M. N., Barg, F. K., & Gallo, J. J. (2006). Unwritten Rules of Talking to Doctors About Depression: Integrating Qualitative and Quantitative Methods. *The Annals of Family Medicine*, *4*(4), 302–309. https://doi.org/10.1370/afm.558

World Economic Forum. (2025). *Future of jobs report 2025*. https://www.weforum.org/publications/the-future-of-jobs-report-2025/

Wouters, K., & Maesschalck, J. (2014). Surveying organizational culture to explore grid-group cultural theory: Instrument design and preliminary empirical results. *International Journal of Organizational Analysis*, *22*. https://doi.org/10.1108/IJOA-11-2011-0529

Yam, K. C., Christian, M. S., Wei, W., Liao, Z., & Nai, J. (2018). The Mixed Blessing of Leader Sense of Humor: Examining Costs and Benefits. *Academy of Management Journal*, *61*(1), 348–369. https://doi.org/10.5465/amj.2015.1088

Yang, C.-H. (2022). How Artificial Intelligence Technology Affects Productivity and Employment: Firm-level Evidence from Taiwan. *Research Policy*, *51*(6), 104536. https://doi.org/10.1016/j.respol.2022.104536

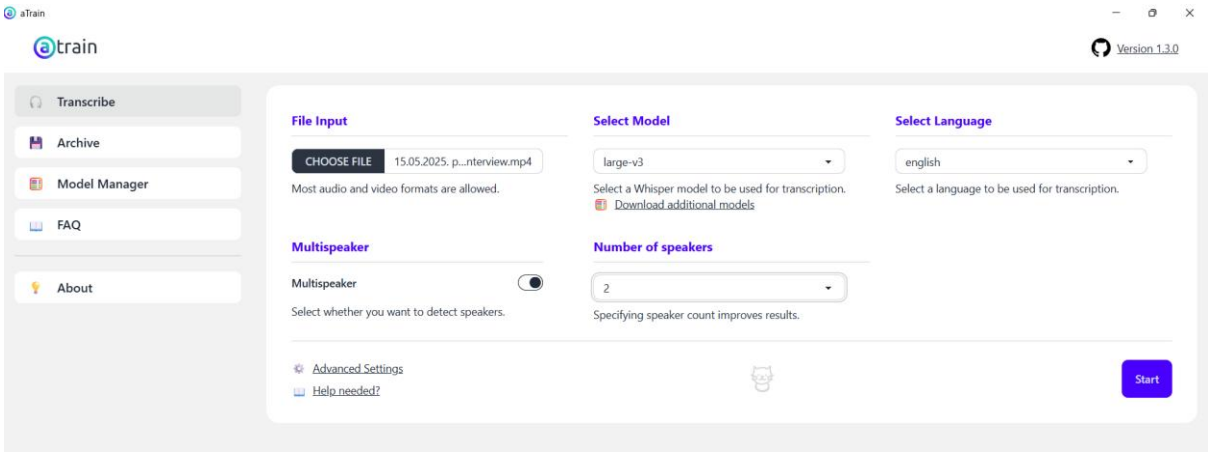
Yin, R. K. (2017). *Case Study Research and Applications: Design and Methods*. SAGE Publications.

Yin, R. K. (2018). *Case study research and applications: Design and methods* (Sixth edition). SAGE.

Yu, C. H. (2009). Book Review: Creswell, J., & Plano Clark, V. (2007). Designing and Conducting Mixed Methods Research. Thousand Oaks, CA: Sage. *Organizational Research Methods*, *12*(4), 801–804. https://doi.org/10.1177/1094428108318066

APPENDICES

Appendix A: Screenshot of “aTrain” Transcription Tool Interface



Appendix B: Semi-Structured Interview Guide

Research Title: The Impact of Artificial Intelligence on Organizational Culture in Software SMEs in Southeast Europe

Objective: To explore lived experiences of employees and managers regarding changes in organizational culture, values, leadership, communication, psychological safety, and team dynamics after the adoption of AI tools.

Interview Format

- Duration: ~60 minutes
- Format: Online (Microsoft Teams)
- Consent: Participants will be informed about recording and confidentiality at the beginning of the interview and when scheduling the interview.
- Flexibility: Questions can be adapted depending on the flow of conversation

1. Introduction (5 minutes)

- Can you briefly describe your role and how long you have been with the company?
- How would you describe the current organizational culture in your company?

2. Perceptions of Organizational Culture & Changes (10–15 minutes)

- What values do you believe are most prominent in your organization?
- Have you noticed any changes in those values over the past year or two?
- In what ways have decision-making, communication, or collaboration changed?
- How are employees typically involved in new initiatives or change processes?

3. Use and Perception of AI Tools (10–15 minutes)

- Which AI tools (e.g., ChatGPT, Copilot, DALL·E, etc.) are you or your team using?
- How have these tools changed your workflow or decision-making processes?
- Do you feel more empowered or less engaged due to the use of AI?
- How has AI impacted collaboration or the dynamics within your team?

4. Psychological Safety and Trust (10 minutes)

- Do you feel safe expressing disagreement or alternative views, including about AI decisions?
- Do you understand how AI tools are used in your company?
- Are there concerns among employees regarding AI — such as transparency, control, or job security?

5. Leadership and Organizational Trust (10 minutes)

- How would you describe the leadership style in your company?
- How did leadership communicate the introduction of AI tools?
- Was there training, support, or space for trial and error?

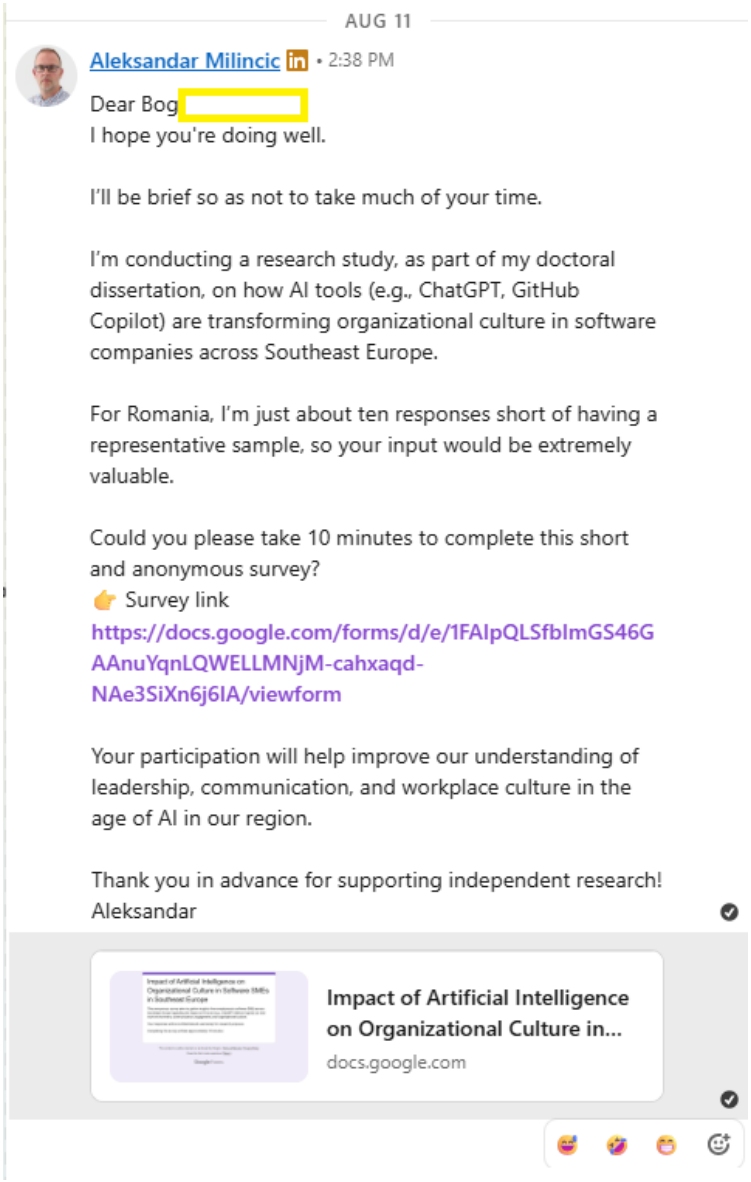
6. Regional & Cultural Context (5 minutes)

- Do you think the Southeast European context (e.g., legacy leadership styles, local values) affects how AI impacts organizational culture?
- Are there any unique challenges or advantages tied to working in this region?

7. Closing Questions (5 minutes)

- What has been the most positive change AI has brought to your organization?
- What has been your biggest concern related to AI integration?
- If you could recommend one thing to leadership regarding AI and culture, what would it be?

Appendix C: LinkedIn Message sent to potential survey participants



AUG 11

Aleksandar Milincic • 2:38 PM

Dear Bog
I hope you're doing well.

I'll be brief so as not to take much of your time.

I'm conducting a research study, as part of my doctoral dissertation, on how AI tools (e.g., ChatGPT, GitHub Copilot) are transforming organizational culture in software companies across Southeast Europe.

For Romania, I'm just about ten responses short of having a representative sample, so your input would be extremely valuable.

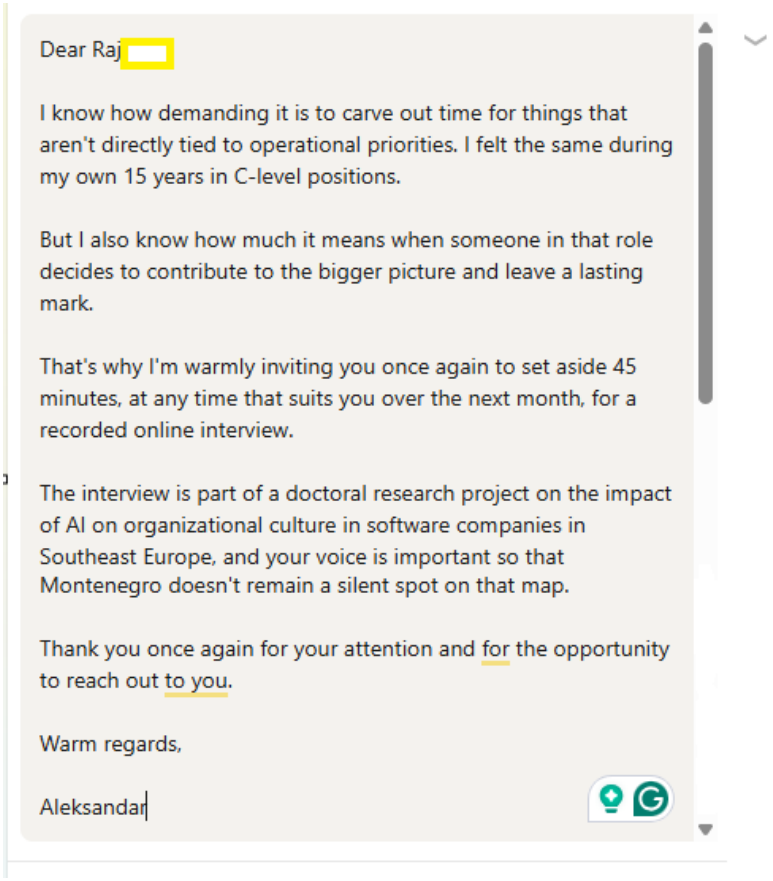
Could you please take 10 minutes to complete this short and anonymous survey?
👉 Survey link
https://docs.google.com/forms/d/e/1FAIpQLSfbImGS46GAAnuYqnLQWELLMNjM-cahxaqd-NAe3SiXn6j6IA/viewform

Your participation will help improve our understanding of leadership, communication, and workplace culture in the age of AI in our region.

Thank you in advance for supporting independent research!
Aleksandar

Impact of Artificial Intelligence on Organizational Culture in...
docs.google.com

Appendix D: LinkedIn Message sent to potential interview participants



Dear Raj

I know how demanding it is to carve out time for things that aren't directly tied to operational priorities. I felt the same during my own 15 years in C-level positions.

But I also know how much it means when someone in that role decides to contribute to the bigger picture and leave a lasting mark.

That's why I'm warmly inviting you once again to set aside 45 minutes, at any time that suits you over the next month, for a recorded online interview.

The interview is part of a doctoral research project on the impact of AI on organizational culture in software companies in Southeast Europe, and your voice is important so that Montenegro doesn't remain a silent spot on that map.

Thank you once again for your attention and for the opportunity to reach out to you.

Warm regards,

Aleksandar

Appendix E: Survey

Impact of Artificial Intelligence on Organizational Culture in Software SMEs in Southeast Europe

This anonymous survey aims to gather insights from employees in software SMEs across Southeast Europe regarding the impact of AI tools (e.g., ChatGPT, GitHub Copilot) on their work environment, communication, engagement, and organizational culture.

Your responses will be confidential and used solely for research purposes.

Completing the survey will take approximately 10 minutes.

Section 2 of 5: Demographic and Contextual Information

2.1. Country of employment

- Bosnia and Herzegovina
- Bulgaria
- Croatia
- Greece
- Montenegro
- North Macedonia
- Romania
- Serbia
- Slovenia

2.2.Is your company local or part of an international group?

- Local
- Part of an international group

2.3.Company size

- <10
- 11-50

- 51-250
- >251

2.4. Your role/position

Short answer text

2.5. Do you hold a managerial position?

- Yes
- No

2.6. Years of service in the company

- <1
- 1-3
- 4-7
- 8+

2.7. Work model

- Onsite
- Remote
- Hybrid

2.8. Frequency of AI tool usage at work (e.g., ChatGPT, Copilot)

- Never
- Rarely
- Occasionally
- Daily

2.9. Duration of AI tool usage at work

- Not using
- < 3 months
- 3-12 months

- 12+ months

Section 3 of 5: Organizational Culture and Climate

For each statement, please rate the current situation and how it was *before the introduction of AI tools in your organization* (if applicable).

Scale:

1 – Strongly disagree

2 – Disagree

3 – Neutral

4 – Agree

5 – Strongly agree

3.1. Employees feel connected and part of a team (NOW)

3.2. Employees feel connected and part of a team (IN THE PAST)

3.3. Open communication is encouraged (NOW)

3.4. Open communication is encouraged (IN THE PAST)

3.5. Decisions are made quickly and transparently (NOW)

3.6. Decisions are made quickly and transparently (IN THE PAST)

3.7. The company encourages innovation (NOW)

3.8. The company encourages innovation (IN THE PAST)

3.9. Employees have the freedom to propose ideas (NOW)

3.10. Employees have the freedom to propose ideas (IN THE PAST)

3.11. There is a clear and stable work structure (NOW)

3.12. There is a clear and stable work structure (IN THE PAST)

Section 4 of 5: Psychological Safety and Engagement

Scale:

1 – Strongly disagree

2 – Disagree

3 – Neutral

4 – Agree

5 – Strongly agree

Please rate your agreement with the following statements:

4.1. I can freely express my opinions and disagreements regarding AI decisions

4.2. AI tools have made my daily tasks easier

4.3. I feel that some of my skills are less valued due to AI.

4.4. I have a clear understanding of how AI will change my job in the next 6–12 months.

4.5. I have opportunities to learn and develop skills related to AI tools

4.6. Management supports adaptation to AI-related changes.

4.7. AI has increased my involvement in important tasks.

4.8. The introduction of AI tools has increased my productivity.

4.9. AI tools have given me more time for creative work.

4.10. AI is used transparently and without compromising my privacy.

Section 5 of 5: Open-Ended Questions

5.1. What is the most positive change AI has brought to your team?

5.2. Do you have any concerns regarding the use of AI tools in your company?

5.3. If you could recommend one thing related to AI and organizational culture, what would it be?