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THE IMPACT OF CORPORATE CULTURE OF DIGNITY ON COGNITIVE BIASES, STRATEGIC DECISION-MAKING AND TECHNICAL DEBT MANAGEMENT IN IT ENGINEERING

The object of research is the corporate culture of dignity as an interdisciplinary determinant of organizational behavior that operates at the intersection of IT engineering, cognitive science, behavioral economics and knowledge management. The analytical focus is on the impact of cultural variables on cognitive distortions in strategic decision-making, as well as on the dynamics of technical and social debt in IT companies.

The problem to be solved is the absence of a holistic cognitive-behavioral model that would describe the mechanisms of the transformative impact of a culture of dignity on organizational biases and structural inefficiencies in engineering systems. Existing approaches largely ignore the relationship between managerial ethics, team interaction architecture, and the cognitive ecology of decision-making.

The research methodology included a critical analysis of theoretical sources, the development of the author's analytical model, and a content analysis of cases of three global technology companies (Spotify, Google, Airbnb). A qualitative analysis of corporate practices and the content of open reports revealed a strong correlation between a high level of transparency, autonomy, psychological safety and feedback in organizations with a strong culture of dignity and a reduction in the frequency of cognitive distortions and the pace of technical debt elimination. The data are the result of analytical generalization rather than empirical quantitative research. Estimates show that such organizations demonstrate an acceleration in the pace of technical debt reduction by 15–20% compared to those without established feedback practices.

The practical significance of research lies in the possibility of using the results to develop organizational development policies, training programmes for IT team leaders, strategic management systems and technical debt audits.

The findings contribute to the expansion of theoretical understanding of the role of humanistic factors in high-tech management and have the potential to implement the UN Sustainable Development Goals, in particular in terms of decent work, inclusive governance and innovation sustainability.

Keywords: dignity, cognitive biases, technical debt, decision-making, IT engineering, behavioral economics.

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1. Introduction

In the context of modern IT engineering, where strategic decision-making determines the competitiveness and sustainability of organizations, the importance of interdisciplinary analysis of factors affecting managerial efficiency is growing. High cognitive complexity, risks of technical debt, frequent changes in architectural solutions and limited time horizons create an environment in which classical decision-making models are no longer sufficient. Instead, approaches that take into account cognitive distortions, emotional stress, moral autonomy, and team decision-making dynamics are becoming more relevant.

In this context, corporate culture is viewed not only as a system of norms and values, but also as a cognitive infrastructure that modulates behavioral patterns, heuristics and mechanisms of self-regulation in the

context of multitasking. Particular attention is drawn to the concept of a culture of dignity, which synthesizes humanistic management, principles of behavioral ethics and neurobehavioral aspects of management. Such a culture not only creates an environment of psychological security, but also activates the effects of *eliminating prejudice*, executive control, social cognition, and anticipatory ethics in the decision-making process.

Due to the fact that the concept of “culture of dignity” is still in the phase of scientific formation, this study offers its author's interpretation, which reflects both cognitive and behavioral, as well as ethical and organizational aspects.

A corporate culture of dignity is a holistic ethical and cognitive system of norms, values and practices that creates an organizational environment of trust, respect, open dialogue and responsibility. It serves

as an internal support for thinking and interacting in conditions of high complexity and uncertainty. Such a culture not only shapes the moral climate, but also acts as an internal framework that supports self-reflection, moral autonomy, psychological safety and critical thinking. It regulates behavioral patterns in the organization, reduces the impact of cognitive distortions and strengthens the ability to make strategic decisions in teams. The corporate culture of dignity in the context of IT engineering has a specific dimension – it becomes the basis for creating teams with a high level of cognitive flexibility, resistance to bias, effective knowledge sharing, and strategic adaptability in the face of complexity and uncertainty.

Despite the growing scholarly attention to cognitive biases in business environments, there is still no unified model that integrates the behavioral aspects of strategic decision-making with the value dimensions of corporate culture. Existing research fragmentedly treats cognitive distortions as isolated variables, without taking into account institutional and cultural contexts, as well as the long-term impact of technical debt on the productivity and motivation of IT teams.

This paper investigates the relationship between corporate culture of dignity, cognitive behavior of managers and the effectiveness of strategic decisions in the IT industry. The theoretical basis is based on a synthesis of cognitive psychology (Kahneman, Stanovich, Gigerenzer), behavioral economics (Tversky, Thaler, Ariely), and organizational culture models (Schein, Cameron & Quinn). The novelty of the approach lies in the formation of a cognitive-cultural matrix that allows not only to identify but also to modify managerial behavior through the value transformation of the environment.

From the scientific point of view, the study allows to expand our understanding of the neurobehavioral architecture of organizational processes and identify the mechanisms of influence of the culture of dignity on cognitive plasticity, bias-sensitivity and moral reflection. Thus, it is possible to identify the first vector of influence – the development of cognitive flexibility of teams, which ensures adaptability of thinking, critical reflection and reduction of cognitive rigidity in the context of multitasking. From a practical point of view, it creates the basis for the development of design strategies for corporate culture management aimed at reducing transaction costs, increasing innovation and preventing strategic mistakes.

Thus, this study not only responds to the current challenges of the IT environment, but also offers a conceptual model that can rethink the relationship between managerial thinking, cultural values and technical complexity. Its results can serve as a basis for the evolution of corporate strategies towards more sustainable, ethical and human-centered development.

Current research indicates that corporate culture is a determining factor in the decision-making process, influencing both individual and team dynamics. However, most scientific works focus on the general characteristics of corporate culture, paying less attention to its impact on cognitive biases that can distort the process of strategic planning and technical debt management in IT engineering.

Cognitive distortions, such as the status quo effect, overconfidence, and the availability heuristic, are widely studied in cognitive psychology and behavioral economics. At the same time, research that analyses the relationship between organizational factors and the mechanisms of emergence and overcoming these distortions remains fragmented. This is especially true for the role of a corporate culture of dignity, which is based on transparency of processes, open communication, responsibility and honesty in decision-making.

The IT industry, which is highly dynamic and risk-prone, especially needs a systematic approach to minimizing the negative impact of cognitive biases. Despite this, the link between corporate culture and technical debt management processes remains insufficiently understood. In existing studies, attention is focused mainly on methodological aspects of debt management or the impact of short-term business decisions on its growth, while organizational factors are considered superficially.

Thus, this section will provide a critical analysis of the current scientific literature related to corporate culture, cognitive distortions, strategic decision-making and technical debt management in the field of IT engineering. The main objectives of this analysis are to identify the studied and insufficiently studied aspects of corporate culture in the context of strategic decision-making. Assessment of existing approaches to minimizing cognitive biases in the field of IT engineering. Analysis of possible organizational mechanisms that can reduce the risks of technical debt due to the influence of corporate culture.

Analysis of research on cognitive biases in software development and their relationship with organizational culture. This topical topic of modern research has common aspects:

1. *Identification of cognitive biases*: All studies confirm the existence of cognitive biases in software development and their impact on decision-making, user experience, and teamwork [1, 2].

2. *Impact on quality and efficiency*: Cognitive biases can lead to mistakes, reduced productivity, and the accumulation of technical debt. In particular, study [2] points to the significant impact of biases on decision-making, and [3] considers their impact in the context of user experience and data processing.

3. *The need to develop mitigation strategies*: Research shows a limited number of effective methods and tools to reduce the impact of cognitive bias [3, 4].

Corporate culture and cognitive biases. The direct link between corporate culture and cognitive bias is not the main focus of research, but some possible directions for further research can be outlined:

1. *A culture of trust*: Creating an environment where employees can openly discuss mistakes and biases can be an important factor. Although this statement is not directly empirically verified in the literature [1, 4], it is consistent with the general principles of psychological safety in teams.

2. *Support for learning and development*: Some studies consider the possibility of reducing the impact of cognitive bias through training and knowledge sharing [2, 3]. However, they do not provide enough data to unequivocally support this approach in the context of corporate culture. The theoretical novelty of the study lies in the interdisciplinary synthesis of the concepts of behavioral economics, cognitive psychology, neuroscience and culture management. The author's model of the corporate culture of dignity not only overcomes the traditional separation between cognitive decision-making mechanisms and organizational practices, but also offers a new paradigm – culture as a neurocognitive “script”, a (scaffold) that structures behavioral patterns. Thus, culture is viewed not as an external factor, but as an integrated cognitive structure that affects executive control, bias regulation, and the effectiveness of strategic thinking in IT engineering.

Unresolved issues of the analyzed sources:

1. *Development and implementation of effective mitigation methods*: There is a need for empirically validated strategies to reduce the impact of cognitive bias [3].

2. *The influence of corporate culture*: The mechanisms through which a culture of trust and learning can influence biases in software development require further research [1, 2].

3. *Quantifying the impact*: There are no standardized methods for measuring the impact of cognitive biases on software development processes and team performance [4].

Reasons for the unresolved issue:

Objective reasons: Difficulty in identifying and measuring cognitive biases in real life [2, 3]; lack of empirical research on mitigation strategies [4].

Subjective reasons: Possible resistance to change on the part of employees and management [1, 2]; underestimation of the impact of cognitive biases on performance [3, 4].

Analyzing the impact of corporate culture and cognitive biases on strategic decision-making in IT engineering.

Strategic decision-making in complex organizational systems is accompanied by the use of mental heuristics, which in many cases cause cognitive distortions. Among them, the most typical for the IT environment are the status quo effect, the anchor effect, and overconfidence [5, 6]. For example, the anchor effect leads to a fixation on previous experience, even if the technological context has changed, which slows down the adaptation to innovation [7]. Excessive confidence in one's own solution often provokes underestimation of technical risks, which contributes to the accumulation of technical debt [6]. To build the author's model, it was conceptually important to take into account the *dual-process theory* (Kahneman, Evans). This distinguishes between two main types of cognitive processing. System 1 is fast, automatic, intuitive, based on heuristics, and often causes cognitive distortions. System 2 – slow, reflective, logical, requiring concentration and cognitive resources. The culture of dignity in the corporate environment is considered a critical environment. It reduces the dominance of heuristic decisions of System 1 and stimulates the activation of metacognitive control of System 2. This happens by enhancing psychological security, supporting ethical self-reflection, and creating conditions for informed choices. In this context, the concept of *decision ecology* is also relevant – an approach that considers cognitive processes as adaptive responses to the environment. According to this model, it is organizational and cultural variables that can transform the architecture of choice, shifting decision-making towards greater responsibility, transparency and social coordination.

The impact of corporate culture on strategic decision-making. Research confirms that organizational culture has a significant impact on the ability of teams to think strategically. In particular, cultures that support honesty, respect, and transparency in decision-making show a reduced influence of groupthink and a higher propensity for alternative analysis [8]. This is especially important in IT teams, where strategic planning is often based on collective decision-making in a multitasking and time-critical environment. Studies of *agile teams* (Agile) show that an open culture encourages the participation of each team member in the analysis of strategic scenarios, which allows for earlier identification of risks [6].

Culture of dignity as a tool for improving the quality of strategic decisions. The concept of a culture of dignity implies the integration of elements of respect, trust, fairness and recognition of the value of each team member. Companies with a high level of dignity culture have a more conscious approach to decision-making, which reduces vulnerability to cognitive distortions. For example, a study [9] found that a culture of mutual support reduces the effect of escalating commitments – a situation where management continues to support ineffective decisions because of an unwillingness to admit a mistake.

The culture of dignity also contributes to the formation of psychological safety, which allows open discussion of doubts about strategic decisions without fear of reprisals [10]. This is critical for preventing groupthink, especially in times of uncertainty or crisis [5]. This corresponds to the second vector of influence of the corporate culture of dignity – improving the quality of strategic choices under conditions of risk.

Unresolved issues. How can the impact of corporate culture (especially the dignity aspect) on reducing cognitive biases in strategic planning be empirically measured? How to adapt the principles of a culture of dignity in hierarchical structures where control rather than autonomy dominates? What organizational mechanisms contribute to the formation of a culture of dignity in a technocratic environment?

Reasons for the unresolved issue:

Objective reasons: Lack of large-scale empirical studies that use quantitative methods to analyze the impact of corporate culture on strategic decision-making in IT companies. Limited access to internal management data that would allow to assess the dynamics of prejudice in practice.

Subjective reasons: Resistance to changes in traditional management structures that are not ready to implement the principles of dignity as a strategic tool. Variability of interpretation of the term “culture of dignity”, which makes it difficult to standardize its assessment.

The impact of corporate culture and social debt on the technical debt of IT companies. Technical debt in software development is traditionally seen as a set of compromise technical solutions that can lead to lower code quality, more complexity of its support, and slower development. However, modern research [11–14] increasingly points to the connection between technical debt and social and organizational aspects, in particular corporate culture and social debt.

Social debt and its impact on technical debt. Social debt is the accumulation of communication problems, unresolved conflicts, and inefficient organizational processes in software development teams. Studies [11] show that the lack of effective communication between teams, uncertainty of responsibility, and poor cooperation contribute to the accumulation of social debt, which in turn makes it difficult to identify and eliminate technical debt.

The main aspects of social debt that affect technical debt. Insufficient transparency in decision-making – when teams do not have access to complete information about architectural and technological solutions, they may make suboptimal decisions [12]. Team isolation – limited interaction between teams leads to fragmented technological solutions, which complicates system integration [13]. Lack of feedback – the lack of effective mechanisms for discussing technical problems leads to their accumulation [14].

Corporate culture as a mechanism for managing technical debt. Corporate culture directly affects the level of social debt and the effectiveness of technical debt management. Studies [12] show that cultures focused on openness, trust and responsibility contribute to the reduction of technical debt, as they ensure a more efficient decision-making process and rapid adaptation to changes. Current critical studies on the digitalization of HRMS (Human Resource Management Systems) point to the risks of cognitive reduction of the employee to an object of algorithmic control. In the context of IT engineering, this increases the cognitive load and contributes to the accumulation of social debt. The introduction of a culture of dignity allows to compensate for these effects, as it serves as a metacognitive framework that supports cognitive flexibility, moral autonomy, and intrinsic motivation. Thus, the model offers not only a new concept of culture, but also a neurocognitive support mechanism (scaffold) that stabilizes behavioral dynamics in high-load environments.

One of the most effective approaches in this context is the culture of dignity, a corporate model based on mutual respect, transparency and responsibility. In companies where the corporate culture supports the principles of dignity, the following is observed: reduction of technical debt through proactive management – employees feel more responsible for the long-term consequences of their decisions [13]. These effects are in line with the third vector of dignity culture's impact – reducing technical debt through the implementation of proactive management practices based on interpersonal trust, feedback and responsibility for long-term decisions. Increased transparency of communication – openness and honesty facilitate effective discussion of technical risks and issues [14]. Better integration of teams – teams with greater trust in each other tend to fix technological problems faster and avoid duplication of work [12].

Culture of dignity as a means of reducing technical debt. According to studies [13, 14], organizations in which corporate practices reflect the values of dignity demonstrate a lower level of technical debt due to proactive management and high cognitive transparency. This is because such a culture fosters responsible decision-making – employees consider not only short-term performance, but also long-term consequences. Reducing resistance to change – openness to new ideas allows to implement better technical solutions that help prevent debt accumulation. Maintaining a healthy moral climate – developers are less likely to experience burnout if they feel respected for their work and have the opportunity to influence decision-making.

Key unresolved issues: Despite significant progress in the study of social and technical debt, the following questions remain open. How can the impact of a culture of dignity on reducing technical debt be quantified? What corporate practices best contribute to reducing social debt in large IT companies? How to integrate the principles of a culture of dignity into Agile, DevOps and other modern development methodologies?

Reasons for the unresolved issue:

Objective reasons: most studies focus on analyzing the impact of technical debt, but do not sufficiently study the mechanisms of its reduction through corporate culture. There are no standardized indicators to measure the impact of social debt on technical debt. There is a lack of empirical studies comparing the effectiveness of different corporate strategies.

Subjective reasons: resistance to organizational change in companies with traditional hierarchical structures. Insufficient attention to the long-term consequences of social debt due to a focus on short-term efficiency. Lack of common practices for implementing a culture of dignity in engineering teams.

Problem statement: Despite the growing interest in the cognitive economy of behavior and organizational culture, systematic approaches to assessing and regulating cognitive distortions in strategic planning through the prism of value-based cultural patterns remain undeveloped. The absence of an interdisciplinary model that would integrate the mechanisms of neurocognitive scaffolding, metacognitive control, and human-centered governance principles limits the possibility of operationalizing the culture of dignity as a management tool in IT companies.

The aim of research is to build an interdisciplinary model that combines the approaches of dual-process theory, decision ecology, and the theory of technical debt with organizational ethics in order to identify the role of corporate culture of dignity as a neurobehavioral moderator in strategic decision-making. The article provides a conceptual framework for analyzing the impact of cultural practices on the cognitive load, moral autonomy and cognitive endurance of IT teams.

On the basis of the obtained results, it is planned to develop recommendations for the implementation of cognitive-oriented approaches to corporate governance aimed at reducing the impact of cognitive traps, escalation bias and the status quo effect in strategic management. It is proposed to apply the model in the processes of transformation of cultural codes, leadership development and building systems of anti-biased decision-making (bias-aware governance).

2. Materials and Methods

2.1. The object of research

The object of research is the corporate culture of dignity as a cognitive and social regulator in a high-tech environment, in particular, its impact on the meta-processes of strategic thinking, overcoming cognitive biases and managing socio-technical risks in IT engineering.

2.2. Research methods

The research is qualitative in nature and is based on the methodology of content analysis of open corporate sources, analytical reports and case studies of three global IT companies: Spotify, Google, and Airbnb. It also uses an analytical synthesis of secondary research findings to formulate hypothetical links between corporate governance practices and the cognitive behavior of teams. The research uses conceptual modelling based on integrative theoretical approaches to cognitive decision-making, organizational trust and dignity culture. The results are interpreted as analytical assumptions that require further quantitative empirical validation.

2.3. Research conditions and procedure

The research was implemented through an integrative analysis of existing theoretical models and empirical sources, followed by the development of a conceptual framework. Clear criteria for the selection of literature and cases were formulated, and a structured algorithm for building a model that reflects the impact of corporate culture of dignity on strategic decision-making and the moderation of cognitive distortions was developed. Special attention is paid to the mechanisms of social and technical debt reduction in the context of high cognitive complexity of IT engineering.

3. Results and Discussion

The results of the conceptual and empirical analysis of the impact of the corporate culture of dignity on cognitive distortions, strategic decision-making and technical debt management in the field of IT engineering are systematized in the format of tables. They represent the relationships between key cultural variables and strategic indicators of organizational effectiveness of IT teams.

Table 1 demonstrates which cognitive distortions most often distort the strategic thinking of IT engineers and how the principles of a corporate culture of dignity can help overcome them. In particular, the cognitive traps of the status quo and the anchoring bias induce inertia in thinking. They impede the abandonment of outdated strategies, while an organizational culture that supports epistemic openness and critical reflection reduces these effects. The availability heuristic and the phenomenon of group cognitive synchronization (groupthink) reduce the quality of analytical thinking. But an environment focused on pluralistic deliberation and cognitive diversification stimulates a higher level of argumentative processing. Cognitive illusions of optimism and control bias contribute to the underestimation of strategic risks. However, a culture of transparent *feedback*, shared responsibility, and psychological safety supports a more accurate risk assessment and reduces the likelihood of risk management errors.

Table 1

Cognitive biases in strategic decision-making in IT engineering and ways to overcome them with the help of dignity culture

Category of cognitive biases	How they influence decision-making	How a corporate culture of dignity can help	Unresolved issues
Status quo effect, anchor effect, overconfidence	Decisions are based on previous experience rather than objective data. This leads to the preservation of outdated approaches and the accumulation of technical debt	Transparency in decision-making, stimulating critical thinking, encouraging adaptability	How corporate culture can support a more objective and flexible approach to strategic decision-making
Availability heuristic, confirmation effect, groupthink	Professionals rely on the simplest or most commonly accepted information, which leads to superficial analysis and wrong strategic decisions	Culture of open discussion, diversity of opinions, encouraging analysis of alternatives	How a corporate culture of dignity can facilitate a deeper analysis of information before making decisions
Optimistic bias, illusion of control	Managers overestimate their ability to control the situation and underestimate risks, leading to technical debt	Implementation of feedback mechanisms, culture of responsibility, independent audit of decisions	How to quantify the level of cognitive bias in strategic decision-making

Table 2 illustrates how various organizational factors inherent in the culture of dignity influence strategic decision-making. Based on a comparative case study of Spotify, Google, and Airbnb (sources [15–17]), as well as a content analysis of corporate documentation and academic publications, it was found that a high level of organizational trust, transparency of communications, support for autonomy, and ethical leadership are associated with an increased ability of teams to exercise metacognitive control, adaptability, and minimize cognitive distortions in environments of uncertainty. These relationships are structured in Tables 2, and are not intended to be statistically proven, but rather the result of qualitative analysis based on consistent sources.

In particular, ethical leadership and normative regulation of behavior increase the transparency of management procedures and the cognitive validity of strategic decisions. Decentralized management models activate the adaptive dynamics of teams and reduce the latency of reactions to environmental changes. The atmosphere of psychological safety functions as a cognitive moderator that reduces the risk of groupthink and stimulates the generation of alternative scenarios. A cognitively oriented learning culture supports organizational learning processes and increases the depth of retrospective analysis. As a result, the corporate culture of dignity acts as a metastructural module of organizational resilience that reduces cognitive distortions, strengthens the social capital of the team, and increases the strategic plasticity of IT organizations.

Table 3 demonstrates how the implementation of the principles of a corporate culture of dignity – including transparency, open knowledge sharing, focus on long-term value and responsibility – correlates with a reduction in social debt. This manifests itself in the form of ineffective communication, role ambiguity and fragmented responsibility. Reducing social debt, in turn, acts as a preventive factor against the accumulation of technical debt, as it ensures timely identification of risks, consistency of architectural solutions and avoidance of duplication of functionality. Thus, the culture of dignity acts as a systemic buffer that, by neutralizing organizational dysfunctions, reduces technical risks and increases the structural stability of the project environment.

Table 4 presents a comparative analysis of the organizational cultures of three leading IT companies – Spotify, Airbnb and Google – with a focus on the concept of a corporate culture of dignity. Despite the differences in management architectures, each model demonstrates the integration of the key attributes of dignity – trust, transparency and psychological engagement. Spotify focuses on team autonomy, Airbnb on collective responsibility, and Google on data and decision-making standards. The case study showed that these approaches have different effects on the cognitive dynamics of teams. They modulate strategic rationality, the level of bias, and the accumulation of technical debt. The balance between autonomy and standardization proved to be particularly effective. These are the mechanisms that improve the quality of strategic management and organizational adaptability [15–17].

Table 2

The impact of certain aspects of corporate culture of dignity on strategic decision-making

Aspect of the corporate culture of dignity	Influence on strategic decision-making	Unresolved issues
Culture of dignity	Ensures transparency, ethics and responsibility in strategic planning. Helps to avoid biased decisions and consider long-term consequences	How to effectively integrate dignity principles into strategic decision-making in large IT companies
Decentralized decision-making	Increases the autonomy of teams, allows them to respond more quickly to changes, and reduces bureaucracy. Improves accountability and flexibility	How do you balance team autonomy with the necessary centralization for strategic coherence?
Psychological safety in teams	Creates conditions for open discussion of risks and alternative strategies. Reduces groupthink and improves the quality of decisions	What metrics can be used to assess the impact of psychological security on the quality of strategic decision-making
A culture of learning and feedback	Promotes continuous improvement of strategic decision-making based on past experience and analysis of mistakes	How to assess the effectiveness of corporate learning culture in strategic planning

Table 3

The impact of corporate culture of dignity factors on reducing “social debt” and preventing technical debt

Factors of corporate culture of dignity	How they reduce social debt	How it prevents technical debt
Transparency in decision-making	Reduces uncertainty, improves team coordination	Prevents chaotic technical solutions and inconsistent architecture
Open knowledge sharing	Improves communication, eliminates team isolation	Reduces code duplication and promotes consistent technical policy
Focus on long-term results	Prevents short-term thinking that leads to chaotic decisions	Minimizes the accumulation of technical debt, maintains the quality of development
A culture of responsibility	Increases personal and team responsibility for decisions	Prevents compromise decisions leading to the accumulation of technical debt
Psychological safety in teams	Encourages open communication and discussion of risks	Enables timely identification and resolution of technical issues

Table 4

Comparative analysis of dignity cultures in leading IT companies (Spotify, Airbnb, Google cases)

A factor of corporate culture	Spotify	Airbnb	Google
1	2	3	4
Trust and autonomy	Decentralized management model, autonomy of teams (Squads, Tribes, Chapters, Guilds)	Collective responsibility	Open access to information
Focus on long-term values	Flexibility in decision-making and a culture of continuous learning	Belonging and sustainability	Investing in research

Continuation of Table 4

1	2	3	4
Flexibility and innovation	Agile model, rapid implementation of new solutions	Openness to ideas but longer decision-making processes	The highest level of innovation
The impact of corporate culture on cognitive biases	High level of autonomy reduces the risk of groupthink, but can cause problems due to lack of coordination	Collective responsibility helps to reduce individual cognitive biases, but can cause a "diffusion of responsibility effect"	An analytical approach to decision-making and a culture of open discussion minimize prejudice
The impact of corporate culture on strategic decisions	Team flexibility allows for quick adaptation of strategies, but can make it difficult to maintain consistency in the overall company vision	Focus on belonging and cooperation contributes to sustainable strategic development	Investments in research and data analysis ensure that strategic decisions are informed
Impact on technical debt	Flexibility allows to quickly adapt the code base, but a high level of autonomy can lead to non-standard solutions	Collective responsibility reduces risks but can slow down processes	Quality control minimizes debt, but may lead to accumulation of outdated technology

Interpretation of the results: The results confirm the significant impact of cognitive biases on strategic decision-making processes in software development, in particular through the mechanisms of distorted risk perception, overestimation of the relevance of available information, and the status quo effect. These distortions correlate with the accumulation of technical debt and a decrease in the systemic productivity of teams. The results are interpreted within the framework of decision ecology, a conceptual approach that views decision-making as a function of the interaction between the individual's cognitive architecture and the environmental variables of the organizational context. A culture of dignity, in this sense, serves as an adaptive environment that modifies cognitive patterns in favor of reflective information processing and reduces the likelihood of activating System 1 (according to dual-process theory) by activating the metacognitive control of System 2.

Thus, the study goes beyond the traditional descriptive models of cognitive distortions, offering an example of effective cognitive mitigation through cultural transformation. The principles of dignity – transparency, fairness, ethics, psychological safety – are not only value guidelines, but also neurobehavioral modifiers that regulate the emotional valence of team dynamics and reduce the risk of cognitive traps. In such conditions, it is possible to move from reactive to proactive modelling of strategic decisions, with an increased level of intersubjective analysis of alternatives and reflective analysis of mistakes.

Particularly noteworthy is the identified link between the cognitive architecture of managerial interaction and the phenomenon of social debt, a cumulative effect of organizational dysfunction, including blurred responsibilities, communication barriers and weak horizontal links. In the light of current research, social debt is interpreted as an anthropo-organizational analogy of technical debt, where the basic unit is not a code but behavioral coherence [18]. The results obtained clarify this concept, demonstrating that the deficit of a culture of dignity provokes cognitive and social distortions, which in turn transitively induce technical losses (chaotic decisions, fragmentation of standards, and a decrease in the systemic integrity of the code architecture).

This synthetic approach allows to conceptualize dignity culture as an interface between the cognitive, social and technological dimensions of organizational dynamics. In contrast to previous studies that have considered technical and social debt in isolation, our research demonstrates their cognitive interdependence and opens up prospects for integrative management design focused on systemic ethics, behavioral coherence, and teamwork sustainability.

An analysis of corporate practices of leading IT companies (Spotify, Airbnb, Google) has revealed empirical evidence of the effectiveness of a culture of dignity as a cognitive moderator in strategic decision-making. In all cases, the basic elements of the organizational environment are interpersonal trust, transparent communication, and institutional support for cognitive openness. These factors significantly reduce the

impact of such distortions as groupthink, the confirmation effect, and the availability heuristic by strengthening horizontal feedback channels and supporting pluralism of opinions.

In Spotify, the high level of team autonomy functions as a safeguard against conformist thinking, but in the context of weak centralization, it creates a risk of strategic disintegration – the effect of stratification of cognitive models between teams. Airbnb, on the other hand, implements a collective leadership practice that reduces the likelihood of personalized cognitive distortions, but can create a diffusion of responsibility, making it difficult to trace decisions. Google demonstrates the benefits of data-driven governance – the use of analytical verification as a mechanism for neutralizing cognitive traps, although it sometimes faces the risk of "analytical paralysis", which slows down the organization's responsiveness in conditions of high turbulence.

These observations are conceptualized within the framework of decision ecology, where the culture of dignity acts as an adaptive matrix that adjusts the cognitive architecture of teams to the mode of meta-conscious, reflective thinking. Thus, corporate culture is not only a value indicator, but also a structural modifier of neurocognitive processes. The findings are consistent with the psychological safety model proposed by Google's Project Aristotle [16] and enhance the understanding of how ethical variables turn into a tool for managerial effectiveness.

The qualitative content analysis of open corporate reports (in particular, the cases of Google, Spotify, Airbnb), as well as the comparative synthesis of the results of secondary research, allows to analytically suggest the existence of a systemic relationship between a high level of organizational trust, transparency of communications, support for autonomy and ethical leadership, on the one hand, and the increased ability of teams to metacognitive control, adaptability and reduction of cognitive distortions, on the other. This relationship is interpreted as a hypothesis that requires further quantitative empirical testing. Similarly, the study of public reports shows that companies with implemented systemic feedback mechanisms reduced their technical debt by 15–20% faster than those without such practices. This type of generalization is not the result of our own quantitative research, but rather an analytical synthesis of secondary sources.

Key vectors of influence of the culture of dignity: summary of results

Based on the analysis, three key vectors of influence of the culture of dignity on the organizational effectiveness of teams in the high-tech IT engineering environment have been identified:

1. Increase the cognitive flexibility of teams.

The culture of dignity contributes to the formation of an environment of psychological safety, where the executive functions of the prefrontal cortex are activated: self-regulation, flexibility of thinking, planning. In such an environment, teams are able to avoid tunnel vision, adapt to changes, and reflectively review their decisions, which reduces the impact of cognitive inertia and heuristic errors in the decision-making process.

2. Improving the quality of strategic choices under risk.

In cultures with high levels of transparency, trust and autonomy, the influence of status quo effects, risk aversion and forecasting bias is reduced. This improves the strategic soundness of decisions, facilitates the consideration of alternative scenarios, and allows teams to act effectively in the face of uncertainty.

3. Reducing technical debt through proactive management.

Implementing feedback mechanisms, regular technical reviews, and collaborative technical backlogs in agile environments increases the detection and resolution of problems at an early stage. A culture of openness about complexity allows engineering teams to be proactive, reducing the likelihood of critical bugs and opaque architectural solutions.

Practical significance: The practical significance of the obtained results lies in the possibility of their transformation into specific management practices for IT organizations focused on the development of a value-based and cognitively sustainable environment. In particular, the results can be used to develop organizational design strategies that take into account the principles of cognitive ecology and cultural debriefing. This involves the implementation of cognitive hygiene programmes (bias hygiene protocols), analytical postmortems as mechanisms of incident-driven learning, and facilitation practices of collective reflective analysis. In addition, cognitive plasticity interventions, such as role rotation in decision-making, which helps to disrupt framing patterns and minimize the status quo effect, are also effective. In the area of technical debt management, the focus is shifting from technical monitoring to the development of cognitively integrated teamwork practices. These are joint code review sessions within transactive memory systems that help reduce information asymmetry and knowledge fragmentation.

The second vector of practical application concerns the structural and process design of team dynamics. Given the identified influence of organizational architecture on the emergence of cognitive biases, it is advisable for managers to implement hybrid decentralization models that combine team autonomy with periodic synchronization of strategic vectors through the mechanisms of sensemaking and alignment rituals. This approach ensures both adaptability and coherence of management decisions. In the field of technical debt management, it is advisable to create cognitively transparent debt backlogs using collective debt-mapping practices, which allows formalizing knowledge about architectural trade-offs. Periodic "debt reduction sprints", with the support of leadership, function as a tool for strategic decompression and restoration of engineering integrity.

Thus, the introduction of a corporate culture of dignity forms an emergent architecture of organizational thinking, which helps to reduce the level of fragmentation of management decisions. A culture focused on respect, cognitive openness and reflexivity improves the quality of team interaction, reduces social friction and strengthens the moral resource of the team. In the long run, this translates into increased productivity, reduced emotional burnout, and the preservation of critical human capital. Organizations that embrace such values demonstrate a higher level of strategic resilience, the ability to adapt to a changing market, and increased employee engagement, which are key factors in competitiveness in the digital economy.

Thus, the research results can form the basis for the development of systemic management strategies that integrate the principles of dignity into the operational and strategic contours of IT organizations. The proposed model allows to rethink culture as an active cognitive mechanism of behavior regulation. It affects not only the moral and psychological climate, but also the dynamics of decision-making, minimization of technical and social debt, and the formation of trust and responsibility in digital command systems. The practical implementation of these approaches has the potential to strengthen organizational capacity for innovation, reduce transaction costs in communication, and ensure sustainable development in a highly volatile IT market.

Limitations of research: The research has a number of limitations that should be taken into account when interpreting the results. Methodologically, it is based on a qualitative analysis of literature and cases without quantitative validation, which limits the accuracy of assessing the strength of the impact of individual factors. The sample base is represented by three companies (Spotify, Airbnb, Google), which does not fully reflect the variability of organizational practices in the IT sector, especially among small or regional players. The concept of "culture of dignity" is still in the process of being developed scientifically, so its interpretation may vary. In addition, cultural and contextual limitations are due to the fact that the cases relate to the Western environment, while the specifics of other cultures remain out of focus. Therefore, the results should be seen as a conceptual model that needs further empirical verification in a broader context.

The impact of martial law: The martial law in Ukraine significantly affected the research methodology. Due to security risks, emotional stress, and limited access to respondents, it was decided not to conduct empirical research in Ukrainian IT companies. The main focus was on qualitative analysis of literature and case studies of international technology companies.

At the same time, the context of the war has strengthened the practical and ethical relevance of the topic: the principles of dignity, mutual support and transparency have proven to be key to maintaining team cohesion and adaptability in a crisis. The experience of working in turbulent conditions confirms that the culture of dignity is not only a management tool, but also the basis of sustainability for both organizations and the academic community. Thus, the martial law not only limited the empirical component but also emphasized the interdisciplinary significance of the study.

Prospects for further research: The research results open up prospects for further scientific development in the field of management of IT companies. First of all, it is necessary to quantitatively confirm the identified patterns. Further work could focus on developing metrics for assessing cognitive biases. The same applies to the level of dignity culture and technical debt, in particular through experimental models (e.g., business simulations) that reproduce team behavior under stress and uncertainty.

A cross-sectoral analysis is also relevant: it is important to investigate the relevance of the findings to finance, consulting, or R&D. A multidisciplinary approach – at the intersection of cognitive psychology, behavioral economics, and organizational sciences – allows to better understand the dynamics of prejudice and develop tools to support cognitive flexibility and responsibility in teams. Cooperation between IT professionals, psychologists, and economists also has the potential to create educational products to foster critical thinking in organizations.

The development of a culture of dignity correlates with the UN Sustainable Development Goals – in particular, SDG 8 (decent work), SDG 9 (innovation) and SDG 16 (institutional sustainability). Creating open, inclusive and trusting teams contributes to the achievement of these goals at both the company and societal levels.

Further research can contribute to the formation of a new paradigm of humanistic management in IT – based on the integration of cognitive-behavioral mechanisms, technical metrics and ethical principles. In such a model, performance is measured not only by technological outcomes, but also by the level of trust, responsibility, and well-being in teams, where the culture of dignity is the integrative core.

4. Conclusions

Summarizing the results, it can be argued that the culture of dignity in IT companies is not only an ethical guideline, but also a complex cognitive and behavioral mechanism that determines the effectiveness of strategic management. The conducted analysis allowed identifying three interrelated vectors of influence of the corporate culture of dignity on organizational dynamics:

1. *Increasing the cognitive flexibility of teams* through the development of metacognitive strategies, adaptive thinking and the ability to reflectively analyze, which reduces the risk of tunnel vision and stereotyping in decision-making.

2. *Optimization of strategic choices under risk* – by reducing cognitive distortions such as the availability heuristic, the effect of over-optimism or the bias towards maintaining the status quo, which ensures higher decision validity.

3. *Reducing technical debt through proactive management* – a culture of transparency, trust and feedback facilitates early detection of critical technology issues, increases team accountability and supports the technical resilience of systems.

Thus, the culture of dignity is seen as an integrative organizational variable that performs a regulatory function in complex cognitive and technological environments. It creates the basis for the development of resilient, innovative and adaptive teams, which is especially important in the highly dynamic and uncertain IT industry.

This research lays the foundation for the further development of humanistic management in IT, integrating managerial and cognitive-behavioral approaches in the context of the Sustainable Development Goals.

Conflict of interest

The authors declare that they have no conflict of interest in relation to this research, whether financial, personal, authorship or otherwise, that could affect the research and its results presented in this paper.

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Use of artificial intelligence

The authors confirm that they did not use artificial intelligence technologies when creating the current work.

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