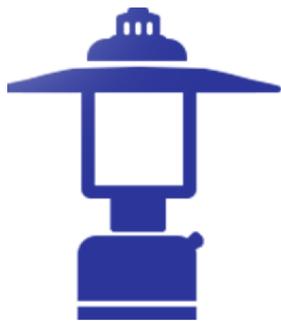# PROBLEM-BASED LEARNING AND LEADERSHIP COMPETENCY PROFILES: A COMPARATIVE STUDY OF PUBLIC AND PRIVATE SECTOR ORGANIZATIONS

APRENDIZAJE BASADO EN PROBLEMAS Y PERFILES DE COMPETENCIAS DE LIDERAZGO: UN ESTUDIO COMPARATIVO DE ORGANIZACIONES DEL SECTOR PÚBLICO Y PRIVADO

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ABSTRACT

This study explores differences in leadership competencies and behavioral styles between public and private sector organizations, using problem-based learning (PBL) as both a developmental and research framework. Through a comparative case study design, leadership competencies were assessed using a coordinate-based analytical model that maps individuals along two dimensions: task versus people orientation and decision-making speed. The analysis reveals clear sector-related patterns: private sector employees tend to exhibit dynamic, task-oriented profiles with faster decision-making, while public sector employees often demonstrate stable, relationship-focused profiles marked by caution, collaboration, and adherence to procedures. Importantly, both sectors show similar developmental gaps in essential soft skills, including empathy, feedback practices, conflict management, and inclusive leadership. By framing these findings in an educational context, the study underscores the value of PBL not only as a research tool but also as an active, experiential learning strategy that fosters reflection, critical thinking, and competency development. The study contributes to leadership and organizational education by illustrating how sectoral context shapes leadership behaviors and competencies, and by demonstrating the practical utility of a coordinate-based model for assessing leadership in real-world settings. Moreover, the model and methodology provide a replicable, transparent framework that can be applied in training programs, human resource development, and organizational learning initiatives, supporting the integration of empirical analysis with hands-on skill-building.

Keywords:

Leadership Competencies, Behavioral Styles, Problem-Based Learning, Coordinate Analysis, Public and Private Sector.

RESUMEN

Este estudio analiza las diferencias en competencias de liderazgo y estilos de comportamiento entre organizaciones del sector público y privado, utilizando el aprendizaje basado en problemas (ABP) como marco tanto de desarrollo como de investigación. A través de un diseño de estudio de caso comparativo, las competencias de liderazgo se evaluaron mediante un modelo analítico basado en coordenadas que posiciona a los individuos en dos dimensiones: orientación a tareas versus orientación a personas y rapidez en la toma de decisiones. El análisis evidencia patrones claros según el sector: los empleados del sector privado tienden a mostrar perfiles dinámicos y orientados a tareas, con decisiones más rápidas, mientras que los empleados del sector público presentan con mayor frecuencia perfiles estables y enfocados en

las relaciones, caracterizados por la cautela, la colaboración y la consistencia procedimental. Es relevante destacar que ambos sectores muestran brechas similares en habilidades blandas esenciales, como empatía, prácticas de retroalimentación, manejo de conflictos y comportamientos de liderazgo inclusivo. En un contexto educativo, estos hallazgos subrayan el valor del ABP no solo como herramienta de investigación, sino también como estrategia de aprendizaje activa y experiencial que fomenta la reflexión, el pensamiento crítico y el desarrollo de competencias. El estudio aporta al campo de la educación en liderazgo y organización al mostrar cómo el contexto sectorial moldea comportamientos y competencias de liderazgo, y al demostrar la utilidad práctica de un modelo basado en coordenadas para evaluar el liderazgo en entornos reales. Además, el modelo y la metodología ofrecen un marco replicable y transparente aplicable en programas de formación, desarrollo de recursos humanos y aprendizaje organizacional, facilitando la integración del análisis empírico con la construcción práctica de habilidades.

Palabras clave:

Competencias de Liderazgo, Estilos de Comportamiento, Aprendizaje Basado en Problemas, Análisis de Coordenadas, Sector Público y Privado.

INTRODUCTION

Leadership is increasingly recognized as a key factor in the success and resilience of organizations in times of uncertainty, rapidly changing conditions, and growing complexity in both business and societal environments. In contemporary organizations, leaders are no longer limited to supervisory and administrative roles; they play a central part in fostering a motivating work climate, engaging in strategic thinking, and developing the potential of their team members. This is particularly relevant in the context of public and private sectors, which differ in goals, operational logic, stakeholder accountability, and organizational culture (Boyne, 2002; Northouse, 2019; Rainey, 2009).

The development of leadership competencies—such as emotional intelligence, motivation, conflict resolution, systems thinking, and ethical decision-making—is becoming a critical element of long-term success and innovation (Goleman, 1998; Yukl, 2013). Both sectors face a shared challenge: how to strategically and effectively cultivate leaders capable of managing people and processes in complex environments (Chappell & Hager, 1995; Muerza et al., 2024).

In response to this challenge, problem-based learning (PBL) has increasingly gained recognition as one of the most effective pedagogical approaches for developing 21st-century competencies. PBL is grounded in active, collaborative, and reflective learning, where participants acquire knowledge by solving authentic, real-world problems (Barrows, 1986; Hmelo-Silver, 2004). This approach facilitates a direct link between academic theory and practice, and fosters critical thinking, teamwork, and accountability. Recent research has further demonstrated that PBL contributes significantly to the development of scientific and analytical skills, as it encourages learners to formulate hypotheses, analyze evidence, and construct knowledge through inquiry-based processes (Pozuelo-Muñoz et al., 2023). In the context of leadership development, PBL is particularly valuable as it simulates the complexity of leadership situations and provides a safe space for experimenting with different styles and strategies. Moreover, integrating PBL with agile methodologies has been shown to enhance professional competence by promoting adaptability, iterative learning, and collaborative problem-solving, all of which are essential skills in dynamic organizational environments (Chueh & Kao, 2024).

An important dimension of the presented projects is their interdisciplinary nature. Participants came from diverse professional backgrounds, allowing for a multiperspective approach to the analysis of competencies in organizations. Interdisciplinarity is essential in understanding complex phenomena such as leadership, organizational dynamics, and change, as it transcends the limitations of individual disciplines and encourages integrative thinking.

Studies on PBL implementation highlight that interdisciplinary collaboration enriches the learning process by enabling participants to combine different forms of expertise and perspectives when addressing complex problems (Pozuelo-Muñoz et al., 2023). Similarly, educational models that integrate agile principles emphasize cross-functional teamwork and knowledge exchange as key mechanisms for strengthening professional competence and innovation (Chueh & Kao, 2024). This collaborative and interdisciplinary environment supports the development of adaptive leadership skills capable of responding effectively to contemporary organizational challenges.

This article presents a comparative case study of two applied projects in which participants analyzed leadership competencies of employees in organizations from both the public and private sectors. Using a quantitative analysis of behavioral styles and a coordinate-based competence positioning model, the study explored how leadership characteristics and competence profiles vary depending on the organizational sector. The core research question guiding this study was: How do leadership competencies and behavioral styles of employees differ based on the organizational sector in which they operate?

Leadership competencies encompass a set of knowledge, skills, behaviors, and attitudes that enable individuals to effectively guide others, manage change, make strategic decisions, and develop high-performing teams, and is crucial for projects (Hatefi et al., 2025).

Core leadership competencies commonly include: effective communication, emotional intelligence, the ability to motivate others, empathy, delegation, conflict resolution, decisiveness, strategic thinking, and ethical behavior (Boyatzis, 2008; Yukl, 2013). An increasing number of scholars emphasize the importance of soft skills, referring to interpersonal and intrapersonal abilities. According to Robles (2012), soft skills are often decisive for leadership quality, as they significantly influence organizational climate, employee satisfaction, and long-term team performance.

Entrepreneurship competence can be treated as a transversal soft skill competence set that strongly overlaps with leadership, particularly when understood as initiative, opportunity recognition, collaborative problem solving, and mobilization of resources. The European EntreComp framework (Bacigalupo et al., 2016) conceptualizes entrepreneurship competence beyond venture creation, emphasizing competences such as taking initiative, evaluating ideas, planning and leading, mobilizing resources, working with others, and learning through experience. These competences are transferable across domains and can be developed within diverse subject or professional contexts, often already as part of the "hidden curriculum," but more effectively when intentionally designed and reflected upon.

For the purpose of this study, a behavioral style typology based on a two-dimensional coordinate analysis was applied. The model draws from psychological theories of personality and organizational behavior, and classifies individuals along two key axes: decision-making speed and orientation toward tasks or relationships. This framework produces four main behavioral styles:

Lion/Rabbit: Decisive, ambitious, and goal-oriented individuals with strong abilities to make decisions in dynamic situations. Their style is typically effective in fast-paced and demanding environments.

Lamb/Turtle: Stable, thoughtful, and cooperative individuals who operate consistently and reliably. They tend to prefer safety and structure over risk-taking.

Combined Styles: Individuals who integrate elements of multiple styles, indicating a high degree of adaptability but potentially also internal tension or indecisiveness.

This model enables deeper insight into team dynamics, identification of behavioral preferences among employees, and assessment of development needs within organizations.

In addition to individual styles, the broader organizational context plays a significant role in shaping how competencies are expressed and valued. Existing literature highlights substantial differences between the public and private sectors in terms of goal structures, control mechanisms, funding sources, and stakeholder accountability (Boyne, 2002; Rainey, 2009). The private sector is typically geared toward maximizing productivity and profit, fostering agile, results-oriented leadership styles characterized by efficiency, innovation, and competitiveness. Leaders in such environments often operate under greater uncertainty and are held directly accountable for business outcomes.

Conversely, the public sector is more heavily regulated, accountable to a broader public, and bound by legal and ethical standards. Goals are frequently multidimensional, incorporating social responsibility and political oversight. As a result, public sector leaders are expected to act with caution, emphasize consensus-building, and follow process-oriented decision-making. These differences also influence the development of competencies—stability, transparency, ethics, and collaboration are more highly valued in the public sector, while the private sector emphasizes efficiency, proactivity, and goal orientation (Van Wart, 2013).

Furthermore, organizational agility and the ability to manage both routine and innovative processes simultaneously (ambidexterity) are closely linked to organizational effectiveness and leadership competencies (Ardabili et al., 2025). Knowledge sharing, reflective learning, and adaptability are essential for fostering innovation and ensuring success in dynamic environments.

Altogether, these findings suggest that leadership development programs must be contextualized according to sector-specific conditions, organizational nature, and existing culture. Models that enable quantitative and visual categorization of behavioral styles, such as the one used in this study, offer valuable tools for strategic human resource planning and targeted training interventions.

MATERIALS AND METHODS

The methodological design of the study was based on the goal of developing a reliable and transferable diagnostic approach for identifying leadership competencies across different organizational environments. The study was conducted as a **comparative case study,** allowing for the analysis of both differences and overlaps between two complex organizational contexts.

Description of the Research Sample and Context

The study involved two organizations selected through **purposive sampling**, aimed at contrasting sectoral characteristics:

Municipality of Murska Sobota – representing the public sector, characterized by hierarchical structures, procedural order, and work under regulatory accountability;

CEROP d.o.o. – a private sector organization oriented toward efficiency, productivity, and market results, with an emphasized need for agile responsiveness and strategic decision-making.

Both organizations served as authentic research environments, with direct access to employees and managers. All employees who voluntarily completed the questionnaire were included (convenience sample).

Research Instrument and Measurement Dimensions

To assess leadership competencies, a structured questionnaire was developed based on four key dimensions derived from theoretical literature:

Empathy and interpersonal relations

Delegation and organizational task structure

Motivation, initiative, and goal orientation

Stability, reliability, and rule compliance

Each dimension was assessed using a 5-point Likert scale (1 = not developed at all; 5 = highly developed).

Measurement Model: Coordinate Analysis

Based on the responses, a coordinate analysis model was applied, enabling the quantification of leadership styles within a two-dimensional space. Calculations were performed at the individual level:

X-axis = (A + C) – (B + D)

Y-axis = (A + B) – (C + D)

Radius (r) = $\sqrt{(X^2 + Y^2)}$

The model allows for simultaneous evaluation of:

an individual's orientation (toward tasks or people),

decision-making speed / responsiveness.

A high absolute value of *r* indicates a strong behavioral orientation. Based on the calculated X, Y, and *r*, each individual was classified into a behavioral style (Lion/Rabbit, Lamb/Turtle, or a combined profile). To ensure contextual validity, results were interpreted alongside qualitative descriptions of job roles.

Data Collection and Statistical Processing

Data collection was conducted over four weeks using a digital questionnaire. Participants received a **research ethics statement** in advance, ensuring anonymity and GDPR compliance. Participation was voluntary.

Data analysis was conducted in three steps:

calculation of A–D dimension scores;

coordinate transformation (X, Y, r);

visualization of results – including charts, scatterplots, and team matrices.

Descriptive statistics (means, medians, standard deviations) were used to identify sector-level trends.

Ensuring Scientific Rigor

To ensure the scientific rigor of the study, the principles of **validity** and **reliability** of both the data and interpretations were strictly followed. The following procedures were implemented:

Triangulation of methods and sources: The quantitative model based on numerical indicators of the four competence dimensions was complemented by qualitative interpretation based on participants' job descriptions. This provided a multifaceted understanding of behavioral styles and reduced the risk of oversimplification.

Expert review of the questionnaire: The measurement instrument was reviewed by a human resource psychology expert prior to deployment. The review included assessment of content relevance, linguistic clarity, and logical structure. Minor terminological adjustments were made following the review.

Cross-sector validation: Comparable analyses were conducted separately for the public and private sectors using the same methodology. This enables reliable horizontal comparison and confirms the model's adaptability to diverse organizational settings.

Together, these procedures strengthen the scientific credibility of the study and support its replicability in other contexts—an important contribution to empirical research in organizational development and education.

Transferability and Applicability of the Method

The coordinate analysis model of competencies and behavioral styles proved to be highly useful in both educational and organizational contexts. Its key strength lies in **visual clarity and interpretability**, which support quick understanding and informed decision-making related to human resource strategies. Based on the results, organizations can:

effectively identify team dynamics and potential challenges,

tailor developmental approaches to individual needs,

plan customized coaching processes and training interventions,

and strategically manage leadership potential.

The method demonstrated high transferability across various organizational settings, regardless of sector, industry, or team size. Its flexibility makes it suitable even for international environments, where a structured and comprehensible approach to understanding behavioral styles is of particular value.

An additional advantage is its cost-effectiveness—the method allows for moderately complex yet empirically grounded analysis without the need for expensive diagnostic tools or external consultants. This makes it an accessible tool for organizations seeking to systematically improve their internal HR processes and strengthen leadership development.

Based on this experience, we propose broader integration of the method into educational programs, HR diagnostics, and as support for leadership coaching and organizational change.

Ethical Compliance

The research was conducted in accordance with ethical guidelines for social sciences and humanities, upholding the principles of voluntariness, anonymity, and transparency. All participants were fully informed about the purpose of the research, data collection methods, and how the data would be used.

They gave informed consent for participation and analysis of their responses. The questionnaire was designed without including sensitive personal data, and all analyses were conducted in accordance with applicable data protection legislation (GDPR).

As the research did not involve any physical or psychological interventions, formal approval from an ethics committee was not required.

RESULTS AND DISCUSSION

The quantitative analysis of employee behavioral styles across the two organizations reveals significant differences that reflect the influence of organizational context on the development and expression of leadership competencies. The use of the coordinate model enabled the systematic classification of employees according to their orientation (task- vs. people-focused) and decision-making

speed, thereby shedding light on behavioral preferences in both the public and private sectors.

Quantitative Distribution of Styles

In the case of CEROP d.o.o., a private sector company, a higher concentration of Lion/Rabbit behavioral profiles was identified. These individuals scored higher on the X-axis (task orientation) as well as on the Y-axis (decision-making speed), which indicates characteristics such as decisiveness, competitiveness, proactivity, and strong results orientation. Such behavioral styles are aligned with a dynamic business environment, where expectations are high, responsiveness is critical, and goals are clearly defined.

In contrast, in the Municipality of Murska Sobota (MO MS), representing the public sector, there was a predominance of Lamb/Turtle behavioral styles. These profiles were more frequently located in the lower-left quadrant of the coordinate system, indicating lower decision-making speed and a stronger orientation toward interpersonal relationships. Individuals in this quadrant tend to be stable, thoughtful, cooperative, and risk-averse—traits that are often valued in environments where procedural compliance and public accountability are central pillars of operation. Figure 1
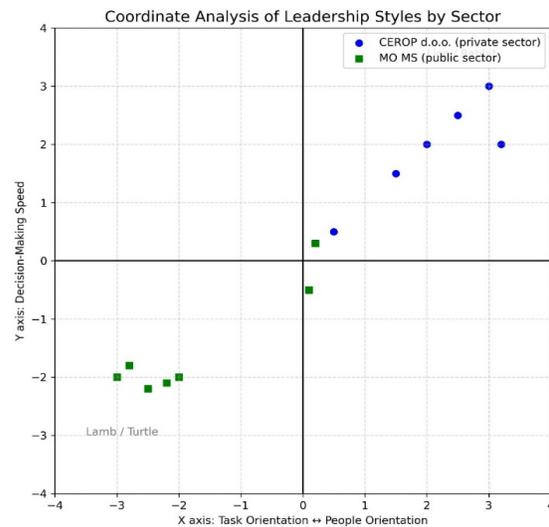

Figure 1: Coordinate analysis of employee behavioral styles in the public and private sectors

The visual representation shows the distribution of individuals based on their coordinates on the X and Y axes. The X-axis reflects orientation toward tasks (positive values) or people (negative values), while the Y-axis indicates decision-making speed. The upper right quadrant

contains dynamic profiles (Lion/Bunny), while the lower left shows stable and cooperative styles (Lamb/Turtle). Blue circles represent employees from CEROP d.o.o., and green squares represent employees from the Municipality of Murska Sobota.

Tabular Overview of Distribution (Table 1)

Table 1: Distribution of behavioral styles by sector.

Behavioral Style	CEROP (private sector)	MO MS (public sector)
Lion/Bunny	5	1
Lamb/Turtle	2	6
Combined styles	1	2

Visualization of Behavioral Dispersion

Additional visualizations were prepared to illustrate the placement of individuals within the coordinate system. These 2D scatterplots enabled quick recognition of team dynamics, identification of leadership gaps, and insights into optimal leadership styles in relation to team composition. In the private sector, the concentration of Lion/Bunny styles indicates potential for high operational performance, while the dispersed and mostly introverted profiles in the public sector point to the need for a more encouraging and inclusive leadership approach.

Analysis of Competency Dimensions

The analysis of the four core competency dimensions (A–D) defined by the model offered an additional layer of understanding of the differences between employees in the public and private sectors. Each dimension represents a set of interrelated behavioral and functional capabilities:

Dimension A: empathy, interpersonal communication, inclusive behavior

Dimension B: organization, structured delegation, effective resource management

Dimension C: initiative, motivation, goal orientation

Dimension D: adherence to rules, norms, structure, and stability

In the public sector (MO Murska Sobota), dimensions D and A were rated the highest, indicating an organizational culture that emphasizes normative behavior, transparency, and collaboration. Employees often operate in environments with strictly defined rules and procedures, making the high score for dimension D a logical outcome of the institutional setting. Strong orientation toward effective interpersonal communication also emerged, which can be interpreted as a response to the need for collaboration within structured team settings.

In contrast, employees in the private sector (CEROP d.o.o.) scored higher on dimensions C and B, reflecting an organizational culture that values proactiveness, personal responsibility, result orientation, and clear goal structures. The prominence of dimension C among these employees indicates a high level of motivation for success, a readiness to take responsibility, and openness to change. Dimension B highlights strong organizational, planning, and operational management skills, essential in environments where high productivity and efficiency are expected.

This competency analysis enables a more precise understanding of which abilities dominate in different sectors, and which should be further developed. For instance, private organizations could benefit from investing in empathy and interpersonal relationship development to enhance organizational culture, while public institutions could increase agility by fostering proactiveness and operational efficiency. Thus, the analysis is not merely descriptive but holds clear diagnostic and developmental value.

Development Needs and Potentials

Although both participating organizations demonstrated strong competencies in certain dimensions, the comprehensive analysis revealed key shared developmental gaps that affect long-term team success and leadership effectiveness. These gaps represent strategic opportunities for targeted interventions in the future. The most prominent needs were:

Structured and constructive feedback: Despite general awareness of communication's importance, systematic mechanisms for regular, honest, and development-oriented feedback between employees and leaders are lacking.

Enhanced empathy and inclusive leadership: Both organizations showed a need for better understanding and consideration of diverse perspectives within teams, which directly impacts employee engagement and psychological safety.

Adaptive decision-making in unpredictable situations: The ability to make fast yet thoughtful decisions in uncertain and changing contexts (e.g., crisis management, legal changes, market shifts) is recognized as a development priority, especially in the public sector.

Based on these findings, targeted organizational development recommendations were proposed, including:

Individualized leader development based on their behavioral styles and competency profiles, focusing on

dimensions that are underdeveloped or critical for their specific roles.

Implementation of coaching and supervision as tools for self-reflection and systematic strengthening of selected competencies, enabling the development of a personalized leadership style.

Establishment of structured internal team dialogues to openly discuss expectations, behavioral norms, boundaries, and collaboration goals. Such dialogues increase cohesion and prevent latent conflicts.

Development and implementation of personalized soft skills training plans, based on actual competency analysis. These plans may include simulations, training, reflective journals, case studies, and mentoring.

This development approach marks a shift from generic, one-size-fits-all programs to data-driven strategic talent management. Thus, the quantitative competency analysis becomes more than just a descriptive tool—it evolves into a strategic compass that supports tailored development planning and long-term organizational learning, resilience, and innovation.

The research results highlight the multifaceted differences between employees in the public and private sectors, particularly in their behavioral styles and the expression of leadership competencies. The interpretation of these results through the lens of organizational theory and work psychology reveals significant structural and cultural environmental influences on the development of individual behavioral profiles.

Differences Between Sectors and Their Interpretation

In the case of CEROP Ltd., which operates in the private sector, the results showed a predominance of Lion/Rabbit behavioral styles, suggesting a culture that encourages fast decision-making, innovation, and proactivity. These patterns align with the literature that characterizes the private sector as a more competitive, flexible, and goal-oriented environment (Boyne, 2002; Rainey, 2009). Employees in such environments are often encouraged to show initiative, take risks, and respond quickly to changes in the market.

On the other hand, employees at the Municipality of Murska Sobota, representing the public sector, exhibited a predominance of Lamb/Turtle styles, confirming the traits typical of the public sector—formalized procedures, stability, and an emphasis on procedural alignment and legal compliance. Slower decision-making in this context is not necessarily a weakness but rather a result of a structured decision-making system and an emphasis on transparency and accountability (Rainey, 2009). However, such orientation may hinder faster implementation of change,

which can be a challenge during periods of organizational transformation.

Cultural Context of the Slovenian Work Environment

The findings must also be interpreted in the context of the specific characteristics of the Slovenian public and private sectors. The Slovenian public sector is traditionally more hierarchically organized, with a strong presence of legislative frameworks, formal procedures, and oversight mechanisms, reinforcing an emphasis on stability, predictability, and procedural compliance. As a result, employees' behavioral styles are often more oriented toward cooperation, consensus, and cautious decision-making.

Conversely, the private sector in Slovenia is subject to greater market competition, with a stronger emphasis on operational efficiency, agility, and financial results. In such an environment, faster decision-making, innovation, and initiative are more frequently rewarded, which is reflected in the predominance of more dynamic behavioral styles.

These differences are not necessarily universal, but they do provide important background for understanding the observed patterns and allow readers from other cultural environments to better assess the transferability of the findings.

Findings on Soft Skills

An important finding of the study is that both organizations—regardless of sector—exhibited notable gaps in soft skills, indicating the need for a systematic development of this segment of competencies, which are crucial for effective performance in modern, complex organizational environments. The most commonly observed shortcomings can be categorized as follows:

Giving and receiving feedback: A lack of structured and developmentally oriented feedback reduces the opportunity for learning from experience, hinders behavioral correction, and decreases transparency within teams.

Empathic communication: Poorly developed awareness and understanding of others' emotional states leads to misinterpretations, a reduced sense of belonging, and a higher likelihood of conflicts.

Conflict resolution: In several cases, conflicts were handled passively or not adequately addressed, which can lead to chronic tension and a decline in trust within the team.

Active listening: A disconnect was observed between verbal and nonverbal perceptions of cooperation, indicating a need for training in conscious listening and responsive behavior.

Inclusive leadership: Leaders often did not sufficiently involve team members in decision-making processes,

which reduces the sense of autonomy and responsibility, and contributes to a passive work culture.

These competencies are fundamental to effective leadership, as they directly influence the quality of the work environment, team dynamics, levels of motivation, and overall productivity (Goleman, 1998; Robles, 2012). In rapidly changing environments, soft skills are becoming even more critical than technical knowledge, as they enable effective adaptation, collaboration, and the resolution of unpredictable situations.

Coaching approaches, which have proven effective in developing empathic communication and reflective practice, are used not only in organizational settings but also in mental health and education. For example, Cajnko et al. (2025) demonstrated that the development of coaching skills can significantly contribute to fostering psychological resilience and emotional intelligence—key components of modern inclusive leadership.

Given the increasing need for cross-sector collaboration, agile working methods, and greater employee responsibility, strengthening these skills is becoming a strategic priority for organizations. This opens opportunities for integrating coaching programs, mentoring, simulations, and reflective practices into organizational learning, which would contribute to greater long-term resilience and success across both sectors.

The Role of Problem-Based Learning (PBL)

In the context of the research, Problem-Based Learning (PBL) proved to be a particularly effective approach, serving as the central pedagogical and methodological framework for the implementation of the projects. PBL is based on the principle that learning and the development of competencies occur most effectively through the active resolution of real, complex problems that place participants in unpredictable, multidimensional challenges of the modern work environment.

Through PBL, project participants:

developed critical thinking, problem orientation, and analytical skills,

strengthened communication skills, collaborative dynamics, and team responsibility,

deepened their understanding of organizational complexity and the importance of behavioral styles in solving work-related challenges,

and acquired methods for translating academic knowledge into concrete, practical strategies to improve organizational practices.

This approach ensured that the research process did not take place in isolation from the educational process, but that both were integrated into a unified learning cycle. Through the act of researching, participants simultaneously developed the very competencies that were the subject of analysis. This dual-level learning model represents an important step toward authentic and transformative pedagogy, which is not confined to the classroom but creates direct impact in organizational settings.

In addition to directly developing soft skills, PBL also enhanced participants' reflective capacity, as they were required to justify their assumptions, analyses, and proposals before practitioners and academic experts. As a result, the approach contributed to greater confidence, responsibility, and commitment to ongoing professional development.

In line with the findings of (Barrows, 1986; Hmelo-Silver, 2004), PBL proved to be an effective means of bridging the gap between theory and practice. It was particularly suitable for complex fields such as leadership competency development, where the combination of knowledge, experience, and personal introspection is key to success. In natural science education, PBL enables entrepreneurship competences development without adding separate curriculum units as these competences are trained through the problem-solving cycle itself (Repnik et al., 2021). Importantly, efficiency can be operationalized by evaluating solution strategies against realistic criteria, such as time, quality, and material/human resources, which aligns with both organizational performance expectations and competence-oriented education.

A Practical Example of PBL

To further clarify the application of the PBL approach in the context of the research, we present an example of a specific challenge addressed by participants during one of the projects.

In the case of the private company CEROP d.o.o., the initial problem was: "How can internal communication between departments be improved to achieve greater operational efficiency and reduce errors in waste management procedures?"

Participants were tasked with analyzing existing information flows, identifying communication bottlenecks and breakdowns between department heads and operational staff. Within the PBL process, they conducted structured interviews with employees, analyzed internal documentation, and organized simulations of communication flows. Based on the collected data, they proposed the introduction of new feedback protocols, visual communication boards (kaizen methods), and the standardization of terminology in operational instructions.

In the public organization – Municipality of Murska Sobota – the focus of the PBL process was: "How to strengthen

inclusive leadership and improve collaboration between expert departments and management in the preparation of strategic documents?"

Participants analyzed team dynamics, the organizational structure, and the frequency of interactions between departments. Their solutions included proposals to introduce rotational coordination meetings, create cross-sectoral working groups, and conduct workshops on change leadership. Particular attention was also given to the way feedback was delivered and to decision-making transparency.

These examples demonstrate that PBL contributes not only to the development of generic competencies, but also to the creation of directly applicable solutions for complex organizational challenges.

Practical Value of the Findings

One of the key added values of this study is its high applicability, which is reflected in the direct usefulness of the results for practice – both at the level of individuals and entire organizational systems. Based on the quantitative coordinate analysis of behavioral styles and competency dimensions, specific, structured recommendations were developed and tailored to the characteristics of each organization and its sector.

In the private sector (CEROP d.o.o.), the recommendations were based on identified strengths – such as strong result orientation, initiative, and operational agility – and included suggestions for developing competencies that support sustainable growth (e.g., development of inclusive leadership, long-term strategic planning, and multidimensional collaboration).

In the public sector (Municipality of Murska Sobota), recommendations focused on maintaining high levels of stability and collaboration while strengthening decisiveness, adaptability, and quicker responsiveness, particularly in project-based or crisis situations. Proposed measures included educational interventions, regular coaching, and systematic support for the development of soft skills.

This integration of research, education, and organizational diagnostics creates an important synergy between academic knowledge and practical applicability. The model does not stop at merely describing the current state but also enables predictive and strategic action, offering organizations tools for:

identifying internal behavioral patterns,

detecting development needs and potential,

designing targeted human resource strategies,

and measuring the effects of educational or organizational changes over time.

Such an approach represents an innovative example of modern methods for work and educational development, grounded in data, collaboration, and reflection. Thanks to its modularity and flexibility, it can be transferably implemented in other organizational contexts – regardless of industry, size, or geographic location.

In this sense, the study not only expands our understanding of leadership competencies across sectors but also offers a practical model for sustainable support of human capital development, which is essential for the long-term success of organizations.

Despite the interesting findings and the high practical value of the model, several limitations of the study should be noted, which may affect the broader generalizability of the results.

The first limitation is the relatively small and purposefully selected sample, involving only two organizations – one from the public and one from the private sector. This approach limits the ability to generalize the findings to the broader population of sectors.

The second limitation arises from the temporal perspective, as the analysis was conducted as a cross-sectional study. Consequently, it does not allow tracking the development of competencies or behavioral styles over time, which would be particularly important for assessing the long-term effects of educational approaches such as PBL.

The third limitation concerns the validation of the measurement instrument. Although the questionnaire was professionally reviewed, questions remain regarding its precise psychometric reliability and construct validity, which should be further explored using factor analysis or a larger sample.

All of the above limitations represent a starting point for future research, which could include more organizations, a broader range of industries, and a longitudinal approach, thereby enhancing the scientific rigor and practical value of the model.

CONCLUSIONS

The comparative study conducted between a public and a private organization empirically confirmed the existence of significant differences in the behavioral styles and expression of leadership competencies among employees. The private sector is characterized by a prevalence of dynamic, goal-oriented profiles (Lion/Rabbit), reflecting a higher level of initiative, decisiveness, and result orientation. In contrast, stable, collaborative profiles (Lamb/

Turtle) were more common in the public sector, indicating greater reliability, process orientation, and emphasis on interpersonal relationships.

A shared finding across both organizations is the need for further development of soft skills—particularly in competencies such as empathetic leadership, effective feedback, conflict resolution, and collaborative communication. These findings are consistent with contemporary leadership research, which increasingly highlights the importance of emotional intelligence and interpersonal skills in complex organizational environments.

The use of the Problem-Based Learning (PBL) approach proved to be an effective method for bridging higher education with practice during the research process. PBL enables participants to tackle real-life challenges, develop interdisciplinary skills, and strengthen self-reflection and responsibility for learning. At the same time, it encourages the creation of concrete, context-specific solutions, further enhancing its practical value in both educational and organizational settings.

The coordinate analysis model used in the study demonstrated several advantages: it allows for visually accessible classification of individuals by behavioral styles, provides a diagnostic basis for understanding team dynamics, and offers a foundation for strategic workforce development planning. Due to its flexibility, ease of interpretation, and visual clarity, the model is suitable for use across sectors, organization sizes, and even international contexts.

For future research, we propose:

expanding the sample to include a larger number of organizations and regions,

incorporating longitudinal measurements to track the development of behavioral styles over time,

conducting experimental studies to examine the effects of specific educational interventions,

and integrating qualitative methods (e.g., in-depth interviews or focus groups) to better understand cultural and organizational factors related to competency development.

Based on the results and theories that emphasize the role of knowledge leadership in promoting innovation and mutual learning (Rahman et al., 2025), we recommend that the development of soft and leadership competencies also include targeted training to foster knowledge sharing, collective learning, and team-based innovation. Such an approach can strengthen the internal agility of organizations and support sustainable leadership.

In this way, it is possible to advance our understanding of behavioral styles within the context of complex organizational systems and contribute to the development of more inclusive, agile, and sustainability-oriented leadership practices.

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