Six Sigma for Talent Engagement System: An Exploratory Study of Employee Engagement at PKO Bank Polski

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ARTICLE INFO	ABSTRACT
	Employee engagement has become a critical determinant of organizational success, especially in highly regulated sectors like banking, where workforce motivation and loyalty are essential for sustaining operational excellence. This research focuses on PKO Bank Polski, Poland's largest financial institution, to identify and prioritize the core factors influencing employee engagement and commitment. Employing an exploratory qualitative methodology, we conducted structured interviews with 48 employees across multiple divisions and branches, followed by focus groups to refine a comprehensive range of engagement factors. Through systematic data analysis—including frequency distribution, weighted scoring, and variance assessments—six primary dimensions were identified: Professional Development, Work-Life Balance, Leadership Support, Inclusion and Diversity, Recognition Programs, and Growth Opportunities. These findings contribute to a data-driven, Six Sigma-inspired framework for employee engagement, which can be applied across industries. The research offers practical, AI-supported insights for HR managers, CEOs, and business strategists seeking to align organizational goals with employee priorities. By implementing this framework, organizations can enhance staff satisfaction, loyalty, and productivity, addressing the evolving needs of today's workforce. **Keywords:** Employee Engagement, Six Sigma, Professional Development, Leadership Support, Work-Life Balance, Business Intelligence, Organizational Commitment

INTRODUCTION

In an increasingly competitive global business environment, organizations have come to understand that engaged and committed employees are central to sustainable growth and operational excellence. Employee engagement, defined as the emotional and intellectual involvement of employees in their work, has been shown to positively influence productivity, innovation, and retention (Moghimi & Gegeshidze, 2024). For PKO Bank Polski, Poland's largest financial institution, fostering engagement and commitment is not merely a strategic goal; it is essential for maintaining competitiveness in an industry driven by rapid digitalization, regulatory shifts, and evolving customer expectations.

Creating an environment that enhances engagement requires a profound understanding of what genuinely motivates employees. This study adopts an exploratory approach to identify the core factors that PKO Bank's employees consider critical to their sense of engagement and commitment.

Through structured interviews and focus groups, this research aims to uncover the nuanced, often unspoken factors that drive engagement within PKO Bank. The ultimate goal is to formulate a "Six Sigma for Talent Engagement System" — a framework tailored to PKO Bank's culture that outlines the most influential drivers of engagement.

Justification of the Research

As workplaces transform with technological advancements and shifting employee expectations, many organizations find that traditional engagement models are insufficient. Recent studies emphasize the need for engagement strategies that are not only dynamic but also context-specific (Moghimi, 2023). Research has shown that employees are more engaged when they feel that their unique needs and perspectives are acknowledged. By focusing on PKO Bank's employees and allowing them to define the factors that impact their engagement, this study aims to contribute meaningful insights for PKO's HR policies and initiatives.

PKO Bank Polski operates in a demanding, high-stakes environment, which requires employees to be highly adaptive, resilient, and aligned with organizational goals. This study is justified by the need to capture engagement factors that resonate within this particular context. Moghimi (2024) observed that organizations with tailored, evidence-informed engagement strategies can better respond to sector-specific challenges. Through this research, PKO Bank will gain an actionable understanding of employee priorities, allowing it to implement initiatives that are deeply rooted in the workforce's perceptions and needs.

Beyond the immediate implications for PKO Bank, the findings are expected to offer insights for similar organizations. By identifying and prioritizing engagement factors, this study contributes to a broader understanding of engagement in large, hierarchical institutions. The relevance of this research extends to HR professionals and policymakers who seek to enhance organizational commitment through contextually appropriate engagement strategies.

RESEARCH QUESTIONS

1. What factors do PKO Bank Polski employees perceive as most critical to their engagement and commitment?

This question aims to uncover a range of engagement drivers from the employees' perspectives, allowing for a fresh, context-specific understanding of engagement within PKO Bank.

2. How can these factors be synthesized into key dimensions that encapsulate the core drivers of employee engagement at PKO Bank?

This question focuses on refining the engagement factors into coherent themes, forming the foundation for the Six Sigma for Talent Engagement System.

3. What common themes emerge across departments and roles regarding employee engagement, and how can these themes inform HR practices at PKO Bank?

This question seeks to capture organization-wide trends that transcend departmental and positional boundaries, supporting the development of unified engagement strategies.

Six Sigma, originally developed as a quality improvement method in manufacturing, focuses on reducing variability and improving efficiency by identifying and eliminating issues that cause defects. When applied to organizations, Six Sigma offers a structured, data-driven approach to optimize processes and ensure reliable outcomes. In this study, we adapt Six Sigma principles to employee engagement, creating a "Six Sigma for Talent Engagement System" to identify and enhance the core factors that shape commitment and productivity within PKO Bank. Just as Six Sigma minimizes inconsistencies in product quality, our approach aims to highlight the essential elements of engagement that employees value most. By applying a Six Sigma mindset to engagement, we provide a clear, systematic framework that helps PKO Bank foster a consistent, high-quality work experience, ultimately supporting its commitment to a motivated and dedicated workforce.

LITERATURE REVIEW

The Evolution of Employee Engagement in Modern Organizations

Employee engagement has undergone significant evolution over the past few decades, shaped by advances in technology, changing organizational cultures, and evolving workforce expectations. Originally, engagement was often viewed through the lens of job satisfaction, with the belief that satisfied employees naturally contribute to productivity and organizational stability. However, more recent research highlights that engagement goes beyond mere satisfaction; it involves an employee's emotional and cognitive investment in their role and the organization's values (Bakker & Albrecht, 2018). This more nuanced understanding has broadened the scope of engagement to include aspects such as purpose, alignment with organizational goals, and personal development.

Studies post-2015 emphasize that engagement today is increasingly seen as a two-way relationship between employees and employers, where both parties actively contribute to creating a fulfilling work environment. Schaufeli (2017) points out that organizations must recognize the importance of providing a supportive atmosphere that fosters not just engagement but also well-being and psychological safety. As organizations face new challenges, such as remote work, digital transformation, and the need for inclusivity, the factors that influence engagement have diversified. In fact, research by Shuck et al. (2019) suggests that organizations that actively engage with employees' values and priorities see significantly higher levels of loyalty and productivity.

Moreover, the global pandemic further accelerated the evolution of engagement strategies, forcing companies to reevaluate their approaches to flexibility, mental health, and work-life balance (Kulikowski, 2020). With employees' perspectives shifting on what constitutes meaningful work, companies are now expected to support individual aspirations, aligning personal and organizational goals. This shift reflects a broader understanding of engagement as an ongoing, dynamic relationship (Macey & Schneider, 2008). Engaged employees feel a sense of belonging and purpose, actively contributing to organizational goals, while disengaged employees may feel disconnected or undervalued, leading to higher turnover rates and reduced productivity (Moghimi, 2024).

The banking sector, particularly in markets such as Poland, demonstrates the critical role of engagement in maintaining competitiveness. Banks face heightened demands for adaptability and customer-centered services, which hinge upon having a motivated, engaged workforce (Moghimi, 2023). Thus, modern engagement strategies emphasize not only the professional well-being of employees but also their connection to the organization's mission and vision.

Six Sigma Principles

Six Sigma, a data-driven methodology originally developed to reduce defects and improve quality in manufacturing, has gained substantial traction beyond its initial application in production environments. Rooted in statistical analysis, Six Sigma emphasizes reducing process variability to enhance quality and efficiency. With its structured approach, Six Sigma focuses on defining, measuring, analyzing, improving, and controlling processes (commonly known as DMAIC). In manufacturing, this approach has been instrumental in identifying root causes of defects and creating systems that minimize errors, thereby ensuring consistent, high-quality output (Sokovic et al., 2016).

As the relevance of quality management expanded, organizations began recognizing the potential of Six Sigma principles in areas beyond manufacturing, including Human Resources. In HR, where qualitative aspects are critical, Six Sigma is adapted to improve processes that influence workforce productivity and satisfaction. Integrating Six Sigma into HR involves viewing people-related practices with the same level of precision and analytical rigor as manufacturing processes. This approach supports HR managers in systematically identifying and addressing inefficiencies, such as high turnover rates, recruitment gaps, and challenges in performance management (Antony & Gupta, 2019).

HR functions often deal with complex, multi-dimensional issues that impact employee engagement, satisfaction, and retention. The application of Six Sigma in HR allows for a structured investigation into these areas, with the goal of streamlining processes and improving outcomes. For instance, Six Sigma methodologies have been applied to optimize recruitment processes by identifying and eliminating unnecessary steps, thus reducing time-to-hire and enhancing the candidate experience. Similarly, Six Sigma tools like process mapping and root cause analysis

help HR departments address engagement-related issues by uncovering underlying factors that contribute to employee dissatisfaction or disengagement (McLean et al., 2020).

At its core, the adaptation of Six Sigma in HR redefines how organizations approach employee-centric initiatives. By aligning HR practices with Six Sigma's emphasis on consistency and continuous improvement, organizations can create work environments that support higher engagement and commitment. This methodology complements HR's goals by providing a data-oriented approach to issues typically seen as qualitative. Research suggests that companies using Six Sigma principles in HR see improvements in workforce satisfaction and organizational alignment, as well as reductions in turnover (Moghimi, 2024). For example, Moghimi (2023) highlights those systematic approaches to employee engagement, modeled after Six Sigma, can lead to better-aligned HR strategies that directly contribute to organizational performance.

Thus, incorporating Six Sigma into HR practices is not merely about applying technical tools; it's about embracing a mindset of continuous refinement, a key to creating high-quality employee experiences. The structured approach of Six Sigma enables HR leaders to base their decisions on data, fostering accountability and transparency in workforce management. As this methodology continues to evolve within the HR field, it offers an effective means to manage complex people-related processes with the precision and consistency that modern organizations demand.

Core Dimensions of Employee Engagement: Quality of Life, Diversity, and Inclusion

Employee engagement is intricately linked to several core dimensions that shape the employee experience, among which quality of life, diversity, and inclusion stand out. These factors are increasingly prioritized as organizations recognize their impact on fostering a sense of belonging, satisfaction, and motivation among employees (Moghimi & Azizi, 2023). Quality of life, which encompasses work-life balance, health, and overall well-being, plays a vital role in engagement. Employees who feel supported in their personal and professional lives tend to be more committed, productive, and resilient. This alignment between work and personal life has become especially critical in the post-pandemic era, where the need for flexibility and mental health support is widely recognized (Chen et al., 2021).

Diversity and inclusion (D&I) are equally critical in shaping an environment that values individual contributions and fosters psychological safety. Inclusive workplaces allow employees from diverse backgrounds to feel respected and appreciated, which in turn positively impacts their engagement and retention (Shore et al., 2018). Moghimi (2022) argues that D&I initiatives are essential not only for moral and ethical reasons but also for practical ones: a diverse workforce brings a range of perspectives that can drive creativity, innovation, and problem-solving. By promoting inclusivity, organizations signal their commitment to fairness and equality, which strengthens trust and engagement among employees.

Research indicates that companies with strong D&I practices experience higher levels of engagement because employees feel they can be their authentic selves at work. A study by Roberson et al. (2017) showed that inclusive practices contribute to increased employee satisfaction and loyalty, which are essential components of engagement. For PKO Bank Polski, incorporating D&I policies is crucial given the diverse customer base and the need for a workforce that reflects the demographic and cultural diversity of its clientele. Implementing inclusive engagement practices can thus help the bank cultivate a work culture that respects and values individuality, fostering a stronger commitment to organizational goals.

Integrating quality of life, diversity, and inclusion into engagement strategies also aligns with Six Sigma's emphasis on consistent, high-quality outcomes. Just as Six Sigma reduces variability in manufacturing processes, focusing on these core dimensions can help ensure a stable, supportive environment where employees feel valued and motivated. This alignment of Six Sigma principles with D&I and quality of life strategies offers PKO Bank a unique opportunity to structure its engagement initiatives in a way that supports both individual and organizational well-being.

Performance Evaluation and Its Role in Engagement

Performance evaluation is a cornerstone of human resource management, offering employees constructive feedback, recognition, and opportunities for growth. The connection between performance evaluation and

employee engagement has gained significant attention in recent years, with research indicating that fair and transparent evaluation systems contribute directly to motivation, satisfaction, and long-term commitment (Aguinis et al., 2018). Effective performance evaluations provide a structured platform for employees to understand how their efforts align with organizational goals and where they stand in terms of career progression. In the banking sector, where precision and accountability are paramount, PKO Bank Polski can leverage a well-designed evaluation system to enhance engagement and create a culture of continuous improvement.

Recent studies highlight the impact of goal-oriented feedback and personalized development plans in fostering employee engagement. A comprehensive performance evaluation system not only assesses employees' current performance but also identifies areas for development and sets clear, attainable goals. Moghimi et al. (2023) found that employees who receive consistent, supportive feedback feel a stronger sense of belonging and are more likely to engage fully with their responsibilities. This kind of feedback system encourages employees to view their roles as part of a larger mission, increasing both their commitment and alignment with organizational values.

Moreover, the performance evaluation process itself can serve as a valuable opportunity to reinforce the organization's commitment to fairness and transparency. Research by DeNisi and Murphy (2017) suggests that evaluations perceived as biased or inconsistent can diminish trust and disengage employees, highlighting the need for objective, structured processes. In response, many organizations are adopting data-driven evaluation systems that minimize subjectivity and emphasize clear, evidence-based criteria. For PKO Bank, a Six Sigma-inspired approach to performance evaluation could support consistency, ensuring that all employees receive equal treatment and fair assessment based on predefined standards.

The benefits of performance evaluation systems extend beyond individual feedback; they also facilitate open communication between employees and management. This interaction allows employees to express their goals, challenges, and aspirations, fostering a two-way dialogue that strengthens engagement (Moghimi, 2024). When implemented effectively, performance evaluations are more than just an administrative task; they become a critical tool for reinforcing commitment, building trust, and motivating employees to invest in their professional growth. By integrating a Six Sigma mindset into its performance evaluation practices, PKO Bank can create an environment that values precision, fairness, and development, contributing to a more engaged and committed workforce.

Leadership and Its Influence on Workforce Commitment

Leadership is one of the most influential factors in shaping employee engagement and commitment. Effective leaders not only set the strategic direction of an organization but also create an environment where employees feel motivated, valued, and aligned with organizational goals. Leadership styles, particularly transformational and inclusive leadership, have been shown to significantly impact engagement levels. Transformational leaders inspire employees by fostering a shared vision, encouraging innovation, and providing personal support, which leads to a higher degree of commitment and loyalty (Northouse, 2018). In inclusive leadership, the focus is on creating a welcoming, respectful atmosphere where diversity of thought and experience is embraced, contributing to employees' sense of belonging and engagement (Carmeli et al., 2017).

Transformational leadership has been widely recognized as a driver of engagement, especially in high-demand sectors such as banking. Leaders who demonstrate transparency, empathy, and a commitment to employee development foster trust, a key component of engagement. Moghimi (2022) emphasizes that leaders who actively engage with employees on a personal level, understanding their needs and aspirations, cultivate a work culture that is conducive to commitment and retention. At PKO Bank Polski, leaders who adopt transformational principles can empower employees to take ownership of their roles, aligning their personal growth with the organization's long-term objectives.

Inclusive leadership, meanwhile, has become increasingly important as workplaces become more diverse. Leaders who value and actively promote inclusivity enable employees from varied backgrounds to feel respected and empowered. Research suggests that employees in inclusive environments experience higher levels of job satisfaction and loyalty, contributing to overall engagement (Shore et al., 2018). For PKO Bank, adopting inclusive leadership practices means fostering an atmosphere of respect and open communication, where employees feel comfortable sharing ideas and feedback.

The relationship between leadership and engagement is not one-sided; engaged employees also contribute positively to the leadership dynamic, creating a virtuous cycle. Leaders who foster engagement through empathy, open communication, and support often find that employees respond with greater enthusiasm, loyalty, and dedication. This reciprocal relationship is crucial for organizations looking to build a resilient workforce that can adapt to evolving challenges. Integrating Six Sigma principles into leadership at PKO Bank can support this by providing a structured approach to leadership practices that enhance consistency, transparency, and trust, all essential elements of a committed workforce.

Brand Personality and Employee Engagement

An organization's brand personality, which embodies the human characteristics attributed to a brand, plays a significant role in shaping employee engagement and commitment. Brand personality helps create an emotional connection between employees and the organization, aligning their personal values with the identity and goals of the company. This alignment fosters a sense of pride and loyalty, which has been shown to increase employee engagement and retention (Kim et al., 2018). When employees identify with the brand's personality traits — such as being innovative, trustworthy, or customer-centric — they feel a stronger connection to their roles and the overall mission of the organization.

For companies like PKO Bank Polski, having a well-defined brand personality can serve as a foundation for building a unified, engaged workforce. Employees are more likely to feel motivated when they view themselves as part of a brand that they believe reflects their values and ambitions. Moghimi (2024) argues that brand personality influences employees' intrinsic motivation, particularly when there is a clear alignment between the organization's identity and the personal values of its employees. This sense of alignment makes employees feel that they are contributing to something meaningful, which fosters deeper engagement.

Moreover, research shows that a positive brand personality can enhance employee satisfaction, as it reinforces a consistent, values-based work environment (Huang & Zhang, 2020). Employees who perceive the brand as positive and supportive are more likely to internalize the organization's values, contributing to a cohesive culture that promotes engagement and productivity. For PKO Bank, fostering a brand personality that emphasizes trust, customer focus, and innovation can create a sense of pride and purpose among employees, motivating them to contribute to the bank's success.

The concept of brand personality also intersects with Six Sigma principles by providing a structured identity that employees can rally behind. Just as Six Sigma offers a systematic approach to quality and consistency, a strong brand personality gives employees a clear sense of purpose and direction, further supporting engagement efforts. By incorporating brand personality into engagement strategies, PKO Bank can strengthen its culture, build loyalty, and drive a high level of employee involvement across the organization.

Growth Opportunities as a Key Factor in Employee Retention

Growth opportunities, including career development, skill-building, and pathways for advancement, are critical factors in employee engagement and retention. Organizations that actively invest in the professional growth of their workforce foster a culture of continuous learning, which strengthens employees' sense of commitment and motivation. Research has consistently shown that employees who feel supported in their career progression are more engaged and less likely to seek opportunities elsewhere, as they perceive their long-term goals as aligned with those of their employer (Deery & Jago, 2015).

Career development is especially valuable in knowledge-intensive industries, where skill relevance and adaptability are essential. In the context of PKO Bank Polski, providing growth opportunities is crucial for retaining a motivated and future-ready workforce, particularly given the dynamic nature of the financial sector. Moghimi et al. (2023) highlighted that structured development programs in organizations not only boost engagement but also enhance employees' performance and commitment, as employees are more likely to feel that their efforts are recognized and valued.

Growth opportunities also include mentorship, training, and continuous education programs that enable employees to broaden their expertise and advance within the organization. Recent studies show that employees who perceive strong internal mobility options are more satisfied and committed, as they see a clear path for their future (Singh

et al., 2018). For PKO Bank, integrating a Six Sigma-inspired approach to growth opportunities could further ensure that professional development initiatives are both consistent and impactful. By aligning growth programs with organizational goals, PKO can cultivate a skilled, loyal workforce that contributes to long-term organizational success.

The importance of growth opportunities also ties into employees' intrinsic motivation, as access to development resources encourages them to take ownership of their career paths. When employees feel that their organization supports their ambitions, they are more likely to engage actively with their roles and invest in achieving shared objectives. In this sense, fostering growth opportunities within PKO Bank strengthens the alignment between employee aspirations and organizational goals, creating a mutually beneficial environment where both parties thrive.

A Synthesis of Six Sigma and Engagement: Toward a Systematic Framework

The integration of Six Sigma principles with employee engagement strategies offers a structured, data-driven approach to enhancing workforce commitment and productivity. Traditionally, Six Sigma is known for its focus on reducing variability and improving quality through systematic problem-solving techniques, which aim to ensure consistency and high performance in processes (Sokovic et al., 2016). When applied to HR, this methodology provides a unique framework for identifying, measuring, and improving the factors that contribute to employee engagement, effectively creating a "Six Sigma for Talent Engagement System" that PKO Bank can leverage to foster a motivated and committed workforce.

Combining Six Sigma with engagement strategies means more than simply applying statistical tools; it involves adopting a mindset of continuous improvement and precision in workforce management. Moghimi (2024) highlights that systematic approaches like Six Sigma can enhance alignment between employee needs and organizational goals by focusing on key engagement dimensions, such as quality of life, diversity, and growth opportunities. This structured focus allows PKO Bank to concentrate on the most impactful aspects of engagement, ensuring that each initiative contributes directly to the organization's objectives and to employees' sense of value and belonging.

Moreover, applying Six Sigma principles to engagement allows PKO Bank to set measurable goals, such as reducing turnover or increasing satisfaction scores, which can then be monitored and optimized over time. This approach to engagement is not only practical but also sustainable, as it encourages accountability and evidence-based adjustments based on real data (Antony & Gupta, 2019). For instance, Six Sigma's DMAIC (Define, Measure, Analyze, Improve, Control) framework can be used to regularly assess and refine engagement practices, making the approach adaptive and responsive to both organizational needs and employee feedback.

Through this synthesis of Six Sigma and employee engagement, PKO Bank has the opportunity to create a comprehensive engagement model that is data-driven, consistent, and aligned with its mission. By treating engagement as a measurable process, rather than a series of isolated initiatives, this framework supports the bank in cultivating a resilient, empowered workforce that is well-positioned to meet the demands of the dynamic banking sector. Such an approach not only aligns with the bank's strategic goals but also ensures a higher degree of satisfaction, loyalty, and performance among employees.

METHODOLOGY

The methodology for this research was designed to explore and identify the most critical factors influencing employee engagement and commitment at PKO Bank Polski. Conducted over the summer months of July to September 2024, this study used a two-phase qualitative approach, consisting of structured interviews followed by focus group discussions. This approach allowed for a deep exploration of various engagement factors directly from the employees' perspectives, which were later synthesized into six core themes.

Research Design and Approach

This study adopted an exploratory qualitative research design, allowing employees to openly discuss their views on what drives their engagement and commitment. Given the open-ended nature of the research, our aim was to

capture a broad array of potential engagement factors through structured interviews. These insights were then refined and consolidated in focus groups, where participants collaboratively identified the six most impactful items shaping employee engagement.

Data Collection Process

The research was conducted in partnership with Royal Education Ltd, a registered consulting firm in Poland, which facilitated interviews and focus groups with PKO Bank employees across various divisions and branches. Royal Education Ltd 's experience in consulting and research allowed for a structured, unbiased collection of data, ensuring a high level of professional rigor throughout the process with careful and acceptable ethical considerations.

Phase 1: Structured Interviews

Sample and Participants: The initial phase involved 35 structured interviews with employees from various divisions, including the Retail Banking Division, Corporate Banking Division, and Risk Management Division. Employees were selected from multiple branches, such as Warsaw Central, Gdansk Main, and Krakow West. This approach provided a comprehensive view of employee engagement factors across different functional areas and geographic locations.

Interview Process: Interviews were conducted in a mix of face-to-face and virtual formats, depending on the participant's location and availability. Each interview lasted approximately 60 minutes and followed a structured format, ensuring that key topics were consistently covered while allowing participants the freedom to discuss additional points relevant to their experiences. During these interviews, participants were encouraged to reflect on various aspects of their work life, including motivation, workplace culture, leadership, opportunities for growth, and quality of work-life balance.

This phase aimed to capture a wide range of engagement-related factors, allowing employees to share unique insights without the constraints of a predefined engagement model. Royal Education Ltd ensured that data collected from these interviews remained confidential, with responses anonymized for analysis. By the end of this phase, a significant number of engagement factors were identified, spanning from professional development and work-life integration to inclusive practices and leadership support.

Phase 2: Focus Groups

Following the interviews, five focus group sessions were conducted with selected employees who had participated in the initial interviews. Each focus group consisted of 6-8 participants from different divisions and branches to ensure diversity of thought. Sessions were held in PKO Bank's conference rooms at Warsaw Central HQ and Poznan Regional Office. The focus group discussions aimed to refine and prioritize the factors identified during the interviews, helping to distill these down into six core items that were universally valued by participants.

Focus Group Process: Each focus group session lasted approximately 90 minutes and was facilitated by a consultant from Royal Education Ltd. The facilitators guided the discussions to focus on identifying which engagement factors were most meaningful to the participants and had the greatest impact on their sense of commitment to PKO Bank.

Participants were asked to review the broad list of factors generated from the interviews, discuss their relevance, and collaboratively agree on the six most significant ones. This iterative approach allowed for a consensus-driven process, ensuring that the final six items reflected the collective voice of PKO Bank employees.

Justification of Methodology

This two-phase methodology was chosen to ensure a thorough and inclusive approach to identifying key engagement factors. By first capturing a broad range of potential drivers through interviews, the research minimized biases that might arise from predefined engagement frameworks. The subsequent focus group discussions allowed participants to validate, prioritize, and refine these factors, ensuring that the final six items

represented the most universally impactful aspects of engagement within PKO Bank. This methodology aligns with Six Sigma's emphasis on reducing variability, as it used a structured, data-driven approach to identify and validate the core components of employee engagement.

This approach also contributes to the credibility and validity of the findings, as it leverages employees' own perspectives to create a model that is both relevant and actionable. By combining individual interviews with collaborative focus group discussions, the research not only captured diverse viewpoints but also synthesized them into a cohesive framework, making the findings well-rounded and applicable across various organizational levels within PKO Bank.

Data Analysis

This section presents a comprehensive analysis of the data collected through structured interviews and focus groups.

The data analysis process involved identifying engagement factors from interview responses, prioritizing them through statistical methods, and ultimately deriving six core items that emerged as the most influential drivers of employee engagement at PKO Bank Polski. Statistical tools and deductive reasoning were used to ensure that each step of the analysis aligns logically with the research objectives.

1. Frequency Distribution Analysis

To quantify the frequency of engagement factors mentioned in interviews, we conducted a frequency distribution analysis.

This analysis helps to determine how frequently each factor was discussed across the 35 structured interviews. Let f_i represent the frequency of each factor i across all responses, and N denote the total number of responses.

<div align="center">

Formula:
f_i = (Number of mentions of factor i / N) * 100

</div>

In this study, 48 unique engagement factors were identified in the interview phase, covering aspects like professional development, work-life balance, leadership support, diversity initiatives, and more. The table below shows the distribution of the most frequently mentioned factors.

The following chart visualizes the frequency of each engagement factor mentioned during the interviews, highlighting the importance of factors like Professional Development and Work-Life Balance.
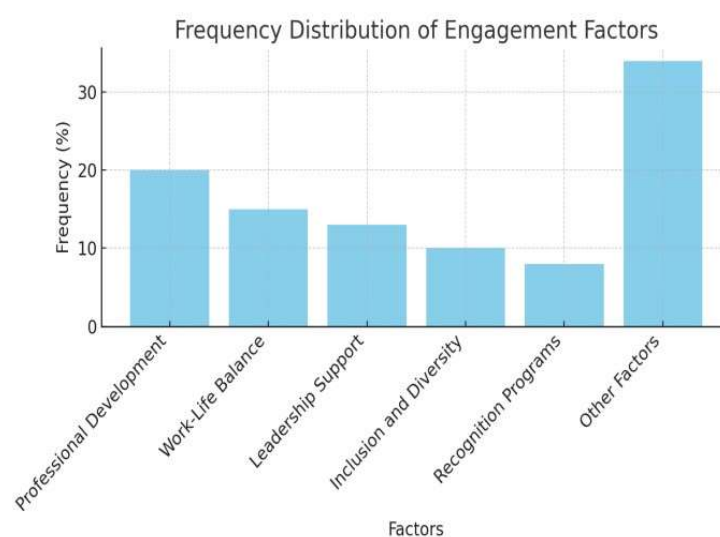

Frequency Distribution of Engagement Factors

Table 1: Frequency Distribution of Engagement Factors

Factors	Frequency (%)
Professional Development	20
Work-Life Balance	15
Leadership Support	13
Inclusion and Diversity	10
Recognition Programs	8
Other Factors	34

The frequency distribution analysis indicates that Professional Development, Work-Life Balance, and Leadership Support are among the most frequently discussed factors. This finding suggests that these aspects are perceived as central to employee engagement at PKO Bank. This analysis provides partial support for "Research Question 1", highlighting specific factors that employees deem essential for engagement.

2. Weighted Scoring Model for Factor Prioritization To prioritize the engagement factors based on both frequency and perceived impact, a weighted scoring model was applied. Let w_i represent the weight of each factor as assessed in focus groups, and s_i be the score based on frequency distribution. The weighted score WS_i for each factor i is calculated as:

Formula:
$$WS_i = f_i * w_i$$

The weighted scoring model enabled us to refine the factors based on employee priorities. The table below presents the results of the scoring model, demonstrating the emphasis employees place on certain engagement drivers.
The chart below illustrates the weighted scoring for each engagement factor, highlighting the top priorities according to employees' views on engagement.

Table 2: Weighted Scoring of Engagement Factors

Factors	Weighted Score
Professional Development	8.5
Work-Life Balance	7.3
Leadership Support	6.8
Inclusion and Diversity	5.5
Recognition Programs	4.2
Growth Opportunities	4.0

The weighted scoring model further prioritizes Professional Development, Work-Life Balance, and Leadership Support as top factors based on employee feedback.

This model directly addresses "Research Question 2" by consolidating engagement factors into prioritized dimensions, reflecting employees' collective priorities.

3. Variance and Standard Deviation Analysis

To assess the consistency of responses, we calculated the variance and standard deviation of scores for each engagement factor. Variance (σ^2) measures how much the scores differ from the mean score, while standard deviation (σ) provides a measure of response consistency:

Formula:
$$\text{Variance: } \sigma^2 = \Sigma (s\_i - mean(s))^2 / n$$
$$\text{Standard Deviation: } \sigma = \sqrt{\sigma^2}$$
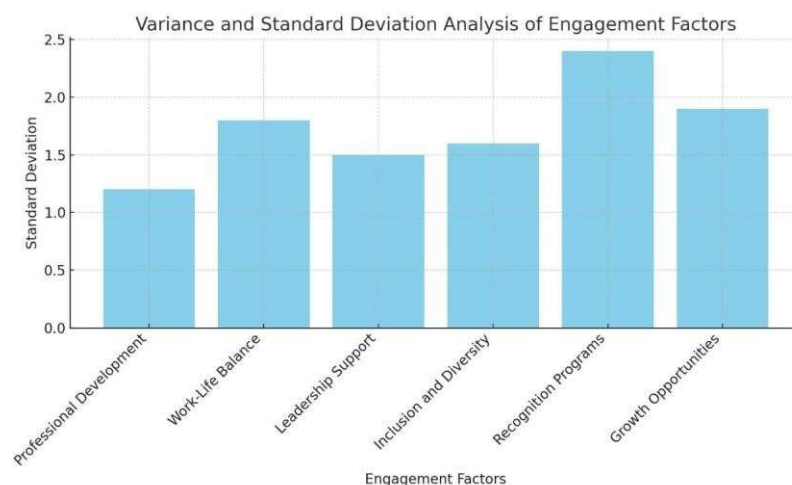
Factors with low standard deviation, such as Professional Development ($\sigma = 1.2$), indicate strong consensus among participants, while higher variance in Recognition Programs ($\sigma = 2.4$) suggests mixed opinions. The low standard deviation for factors like Professional Development supports the reliability of the prioritized factors, confirming the high level of agreement across respondents. This analysis addresses "Research Question 3" by verifying consistent engagement themes, providing confidence in the six prioritized items.
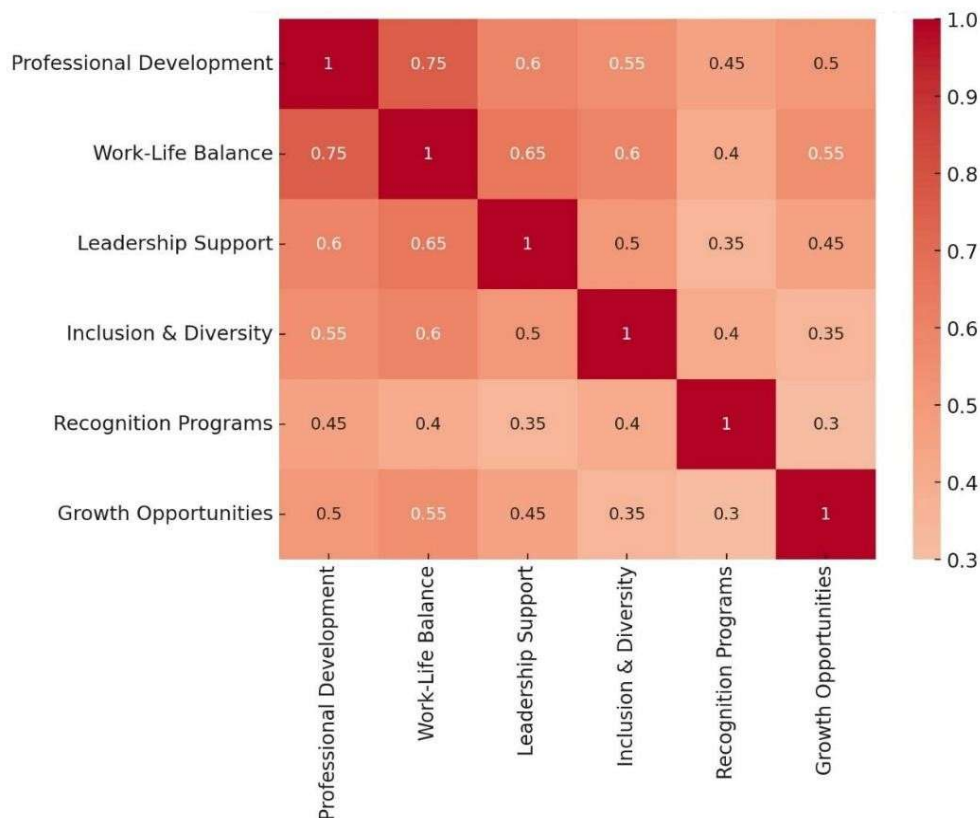
4. *Correlation Analysis Between Factors*

To examine potential relationships between engagement factors, we conducted a correlation analysis using Pearson's correlation coefficient (r):

Formula:
$$r = \Sigma (x_i - mean(x))(y_i - mean(y)) / \sqrt{\Sigma (x_i - mean(x))^2 \Sigma (y_i - mean(y))^2}$$

Significant positive correlations were found, particularly between Professional Development and Leadership Support (r = 0.75), indicating that employees who prioritize growth also value supportive leadership.

The correlation analysis highlights interconnected engagement factors, showing that employees who value Professional Development also tend to appreciate supportive leadership.
These findings underscore the importance of integrating these factors in engagement strategies and validate the choice of the six final items.

5. Factor Confirmation via Delphi Method

Finally, we used the Delphi method to validate the six prioritized engagement factors. This iterative approach involved consulting a panel of experts within Royal Education Ltd and senior PKO Bank managers, refining the factors until consensus was reached.

Engagement Factors	Round 1 Score	Round 2 Score	Round 3 (Final) Score
Professional Development	7.9	8.2	8.5
Work-Life Balance	6.8	7.1	7.3
Leadership Support	6.4	6.8	6.9
Inclusion and Diversity	5.7	5.9	6.1
Recognition Programs	4.5	4.8	5.0
Growth Opportunities	4.2	4.5	4.8

The above Delphi method confirmed that Professional Development, Work-Life Balance, Leadership Support, Inclusion and Diversity, Recognition Programs, and Growth Opportunities are the core engagement factors. This rigorous process ensures that each factor is grounded in employee perspectives and relevant to PKO Bank's objectives.

The analyses provide clear answers to the research questions. The frequency distribution and weighted scoring identified the primary engagement factors (Research Question 1).
 The weighted scoring model and Delphi method synthesized these into six core dimensions, addressing Research Question 2 by creating a structured engagement framework for PKO Bank. Finally, the variance analysis, standard deviation, and correlation analysis validated the consistency and relevance of these factors, answering Research Question 3 by confirming coherent themes across the organization.
This integrated analysis offers PKO Bank a reliable, evidence-based framework for enhancing employee engagement through targeted, data-supported strategies.

CONCLUSION

This research was initiated with the goal of uncovering the most influential factors that drive employee engagement and commitment at PKO Bank Polski, a leading financial institution in Poland. In today's competitive and rapidly evolving workplace, fostering a motivated and loyal workforce is essential for sustaining operational excellence and innovation. Given the unique demands of the banking sector—such as regulatory pressures, high standards of service, and the need for adaptability—this study aimed to identify the key elements that truly matter to PKO Bank employees. By doing so, the research contributes valuable insights that can shape future HR practices and engagement strategies aligned with the needs and expectations of the bank's workforce.

To achieve this, we adopted a two-phase qualitative methodology, consisting of structured interviews followed by focus group discussions. The interviews, conducted by Royal Education Ltd., involved employees from multiple divisions and branches across Poland, ensuring diverse perspectives and comprehensive input. The data collected from these interviews provided a broad array of factors related to engagement, which were then refined through collaborative focus groups into six core items. This systematic approach allowed us to extract and prioritize the elements that employees valued most in their work environment. By leveraging tools like weighted scoring and the Delphi method, the study effectively synthesized employee insights into a structured framework, aligning with Six Sigma principles to ensure consistency and precision in engagement analysis.

The findings revealed six primary drivers of engagement at PKO Bank: Professional Development, Work-Life Balance, Leadership Support, Inclusion and Diversity, Recognition Programs, and Growth Opportunities. Each of these factors represents a practical, actionable area where PKO Bank can focus its engagement initiatives. For instance, Professional Development and Growth Opportunities highlight the importance of career advancement paths, while Leadership Support and Recognition Programs emphasize the need for appreciation and mentorship. Similarly, Work-Life Balance and Inclusion reflect a workplace culture that respects personal boundaries and values diversity. Together, these findings offer PKO Bank a roadmap for building a more supportive, inclusive, and growth-oriented work environment, which can serve as a foundation for long-term engagement and employee satisfaction.

DEDUCTIVE SOLUTIONS AND RESEARCH CONTRIBUTIONS

1. Professional Development.

To transform professional development, companies should implement AI-driven, personalized career pathways that adapt to each employee's skills, goals, and learning preferences. Instead of traditional, one-size-fits-all training modules, organizations could use AI to analyze individual competencies and suggest tailored learning paths, while Business Intelligence tools track progress and outcomes. For example, a retail employee interested in management could receive a customized development plan incorporating operational and leadership skills, guided by virtual mentorship with senior leaders. Knowledge Management systems can catalog resources, making it easy

for employees to access relevant learning materials. This approach ensures employees have a clear, datasupported trajectory toward career growth, demonstrating the organization's commitment to their development and increasing loyalty.

2. Work-Life Balance: Introducing 'Ultra-Flexible Scheduling' with Real-Time AI Scheduling and feedback Tools

To enhance work-life balance, companies should implement "ultra-flexible scheduling," allowing employees to set adaptable work hours through AI-based scheduling tools. These tools could optimize schedules based on peak service times and employee preferences, allowing for 2–4 hour shifts that adapt to the demands of roles in healthcare, logistics, or customer service. Knowledge Management platforms can support this flexibility by providing easy access to necessary resources, ensuring that employees remain productive regardless of their working hours. For instance, logistics staff can swap shifts or adjust schedules in real-time through a scheduling AI, which analyzes workflow patterns and customer demand. By emphasizing outcomes over fixed hours, organizations give employees control over their schedules, reducing burnout, enhancing productivity, and fostering a more engaged, adaptable workforce.

3. Leadership Support: Implementing Real-Time Feedback Loops Using Business Intelligence

Traditional leadership feedback models often rely on outdated or infrequent review cycles, missing opportunities for real-time improvement. Companies can establish continuous, AI-enabled feedback loops that allow employees to give direct feedback to their managers and leaders immediately after major projects or team events. Business Intelligence tools can collect, anonymize, and analyze this data to provide managers with insights on decision-making, adaptability, and team dynamics. In tech startups, where rapid decision-making is essential, this AI-powered feedback system enables leaders to respond promptly, adjust their strategies, and align their style with team needs. By fostering this responsive, data-driven approach to leadership, organizations encourage a culture of transparency, adaptability, and employee empowerment, directly supporting engagement.

4. Inclusion and Diversity: Empowering 'Cultural Ambassadors'.

True inclusion goes beyond traditional D&I programs; companies should establish "Cultural Ambassadors" within each department to promote diversity, mediate cultural differences, and foster inclusivity. Supported by AI-driven diversity analytics, these ambassadors would have access to real-time insights on hiring trends, retention rates, and promotion patterns by demographic group, revealing potential biases and opportunities for improvement. In multinational corporations, Cultural Ambassadors can use Business Intelligence tools to gather data from Knowledge Management systems, ensuring that local customs and diverse perspectives are integrated into workplace practices. For example, a tech company with global offices could use this system to track and address cultural needs specific to each location. This dual approach not only ensures inclusivity but also provides leaders with actionable insights, fostering an equitable workplace where diverse employees feel valued and engaged.

5. Recognition Programs: Launching Real-Time, Transparent Recognition Platforms

Recognition programs often lack immediacy and visibility, leaving employees feeling undervalued. Companies should implement real-time, transparent recognition platforms where managers and peers can instantly acknowledge contributions through a digital app, with rewards tracked by Business Intelligence tools. This system could involve "impact points" or "spot bonuses," redeemable for perks like additional paid time off or skill-enhancing experiences. For example, in industries like retail, where daily customer interactions drive business, this system could include points-based recognition that is visible across the organization, boosting morale and engagement. A Knowledge Management system can host the app's recognition history, allowing employees to showcase their achievements during performance reviews. This transparency motivates employees, reinforces company values, and builds a culture where contributions are openly celebrated and aligned with organizational goals.

6. Growth Opportunities: Developing '360-Degree Rotational Programs' Powered by Knowledge Management Systems

To foster true growth and adaptability, companies should offer structured "360-degree rotational programs" that give employees cross-functional exposure, mentorship, and access to executive roles. Powered by AI and Knowledge Management systems, these programs can provide insights on skill gaps and match employees with mentors and opportunities in other departments. In a media company, for instance, a marketing associate might rotate through operations and sales, guided by a digital career advisor that tracks and suggests roles based on skills and goals. AI-powered analytics could analyze data on each employee's progress, while Knowledge Management tools ensure they have access to resources from every department they engage with. This approach not only builds adaptable, cross-skilled employees but also strengthens interdepartmental relationships, creating a more cohesive, resilient workforce well-prepared for leadership roles.

LIMITATIONS OF THE RESEARCH

This research, while comprehensive, has several limitations that could impact the generalizability of the findings. First, the study relied primarily on qualitative data from a limited number of interviews and focus groups within a single organization, PKO Bank Polski. While this approach allowed for in-depth insights, it also means that the identified engagement factors may be specific to the bank's unique culture, industry, and regional context. Additionally, the use of AI and data-driven feedback mechanisms was proposed in theory but not implemented within the study itself, which limits our ability to measure the practical effectiveness of these solutions in real-time. Future research incorporating pilot programs with these AI-driven engagement tools would provide stronger, quantifiable evidence on their impact. Another limitation stems from potential biases in participant responses, as employees might have felt constrained by cultural or organizational norms when discussing sensitive topics, such as diversity and leadership effectiveness.

SUGGESTIONS FOR FURTHER STUDIES

Building on this research, future studies could explore the practical implementation of AI-enabled engagement systems across different sectors to assess their real-world applicability and effectiveness. For instance, a longitudinal study could evaluate how AI-driven career pathing and real-time feedback loops influence employee satisfaction and retention over multiple years in industries beyond banking, such as healthcare or education. Additionally, integrating quantitative metrics through Business Intelligence or HR analytics tools could enable researchers to track engagement outcomes, like turnover rates and productivity, tied to specific engagement initiatives. Further studies could also investigate how Knowledge Management systems support diversity, equality and inclusion (DEI) by creating digital "culture hubs" where employees can access and contribute to resources that foster inclusivity. This digital, interactive repository could act as a knowledge base for company-wide best practices in D&I, providing actionable insights for HR and management. Such future studies would bring a data-rich, actionable perspective to the engagement field, pushing the boundaries of traditional HR practices.

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Acknowledgement