

A Study on the Determinants of Employee Engagement Among Generation Z in the Manufacturing Sector of Semarang Regency

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Abstract: This study aims to analyze the factors influencing employee engagement among Generation Z in the manufacturing industry in Semarang Regency. Using a qualitative approach with case study design, data were collected through in-depth interviews, focus group discussions, participatory observation, and document analysis involving 25 Generation Z employees from three manufacturing companies. The results identified five main factors affecting employee engagement: job design and autonomy, leadership and supervisor relationships, career development and continuous learning, work environment and organizational culture, and work-life balance and flexibility. Career development and continuous learning emerged as the most influential factor (84.7%), followed by leadership and supervisor relationships (81.2%). Companies that successfully engage Generation Z employees are those that balance manufacturing standardization requirements with Generation Z's preferences for autonomy, self-development, and flexibility. The findings contribute to enriching the understanding of employee engagement in the specific context of Generation Z in the manufacturing industry and provide practical guidance for manufacturing companies in developing more effective human resource management strategies. This research suggests that manufacturing companies need to transform their approach to human resource management to accommodate the unique preferences and expectations of Generation Z.

Keywords: Employee Engagement; Generation Z; Manufacturing Industry; Human Resource Management; Work-Life Balance

1. Introduction

Human resources play a strategic role in ensuring the sustainability and growth of organizations, particularly in a global era marked by increasingly intense competition [1]. Employee engagement has emerged as a central focus in human resource management due to its significant impact on productivity, employee retention, and overall organizational performance [2]. According to [3], engaged employees tend to demonstrate higher levels of commitment, a willingness to go above and beyond in their work, and greater contributions toward the achievement of organizational goals.

The entry of Generation Z (born between 1997 and 2012) into the workforce introduces new dynamics in human resource management. Unlike previous generations, Generation Z possesses distinctive characteristics shaped by the rapid development of digital technologies, social media, and global socio-economic changes [4]. [5] note that Generation Z exhibits different preferences in terms of work environments, leadership styles, and the motivating factors that drive their engagement in the workplace. A thorough understanding of the factors influencing employee engagement among Generation Z is therefore essential for organizations seeking to develop effective human resource strategies.

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The manufacturing industry in Semarang Regency is one of the region's key economic sectors, contributing significantly to the local GDP and employment. According to the [6], there are over 250 manufacturing companies operating in the region, employing approximately 125,000 workers—around 22% of whom are members of Generation Z. Preliminary research indicates that employee engagement among Generation Z remains relatively low, with turnover rates reaching 28% in 2023 [7]. This situation raises concerns about the long-term sustainability and competitiveness of the manufacturing sector in Semarang Regency.

Previous studies have examined the factors influencing employee engagement using various methodological approaches. Quantitative research by [8], which employed multiple regression analysis, identified compensation, work environment, and leadership style as significant determinants of employee engagement. While quantitative methods are effective in measuring relationships among variables and generalizing findings, they are limited in capturing the subjective experiences and contextual nuances that shape employee engagement.

Conversely, qualitative studies such as that by [9], which adopted a phenomenological approach, provide deeper insights into how employees perceive and experience engagement. This method enables rich understanding but is constrained by smaller sample sizes and limited generalizability. A mixed-methods approach, combining both quantitative and qualitative techniques—as exemplified by [10]—offers a more comprehensive understanding. Their study used surveys to identify general patterns and in-depth interviews and focus group discussions to contextualize and explain the quantitative results. However, this approach demands greater time and resources.

Numerous prior studies have also identified various factors contributing to employee engagement. [11] found that transformational leadership has a significant positive impact on engagement. [12] emphasized the importance of work-life balance and job flexibility, particularly for Generation Z. Research by [13] highlighted career development opportunities and continuous learning as key engagement drivers for younger workers.

Nonetheless, most of these studies were conducted in service, retail, or information technology sectors. There remains a paucity of research specifically addressing Generation Z's employee engagement within the manufacturing industry. Given the unique characteristics of manufacturing—such as shift work, higher physical demands, and a more structured environment—a more context-specific understanding is necessary to develop effective engagement strategies [14].

There is also a research gap regarding geographic and socio-cultural contexts. Findings from studies in developed countries or major urban centers may not be directly applicable to Semarang Regency, which has its own socio-cultural particularities. [15] assert that local factors such as Javanese cultural values, levels of urbanization, and the characteristics of the local labor market influence how Generation Z perceives work and their organizations.

Given these research gaps, this study aims to analyze the factors influencing employee engagement among Generation Z in the manufacturing industry in Semarang Regency using a qualitative approach. This method was chosen for its ability to explore, in depth, the perceptions, experiences, and meanings of work engagement from the perspectives of Generation Z within the specific context of the local manufacturing sector.

The study adopts a case study methodology, utilizing in-depth interviews, focus group discussions, and participant observation to collect data. This approach enables a holistic exploration of the factors influencing employee engagement, taking into account organizational, social, and cultural contexts. The research is expected to provide a more nuanced conceptual understanding of how Generation Z views work engagement in manufacturing, including the driving and inhibiting factors.

This study is expected to contribute both theoretically and practically. Theoretically, it enriches the literature on employee engagement by offering context-specific insights from the manufacturing industry and from the unique characteristics of Generation Z in Semarang Regency. Practically, the findings may inform the development of more responsive human

resource management strategies that align with the needs and preferences of Generation Z, thereby enhancing engagement, productivity, and competitiveness within the local manufacturing sector.

2. Literature Review

2.1 The Concept of Employee Engagement

Employee engagement has become a pivotal topic in human resource management and organizational behavior studies. [16], regarded as a pioneer of the employee engagement concept, defined it as "the harnessing of organization members' selves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances." This definition emphasizes that engagement involves the simultaneous investment of an employee's physical, cognitive, and emotional energy into their work.

The concept of employee engagement has continued to evolve over time. [17] described engagement as "a positive, fulfilling, work-related state of mind characterized by vigor, dedication, and absorption." Vigor refers to high levels of energy and mental resilience while working; dedication is characterized by enthusiasm, inspiration, and a sense of challenge; and absorption refers to being fully concentrated and deeply engrossed in one's work [5].

In the manufacturing industry context, employee engagement encompasses additional dimensions. According to [1], engagement in the manufacturing sector involves not only psychological aspects but also a connection to production processes, product quality, and occupational safety. A study by [18] in Central Java manufacturing companies found that engaged employees exhibit greater safety awareness, concern for product quality, and efficiency in production processes.

[19] emphasize that employee engagement is not a static concept but is dynamic and influenced by various factors. Engagement levels can vary depending on individual characteristics, job attributes, workplace relationships, and organizational culture. In a longitudinal study of manufacturing employees, [20] revealed that engagement levels fluctuate over time due to changes in the work environment, organizational policies, and external factors such as economic and social conditions.

2.2 Characteristics of Generation Z in the Workplace Context

Generation Z, born between 1997 and 2012, possesses unique characteristics shaped by a distinct social, technological, and economic environment compared to previous generations. [21] identified several key characteristics of Generation Z in the workplace, including high digital proficiency, a preference for fast and direct communication, and a strong desire for work-life balance.

Laela and [14] found that Generation Z values flexibility and autonomy in their work more than previous generations. They also show a stronger preference for meaningful work that has a positive social impact. According to [15], Generation Z in Indonesia exhibits a higher short-term orientation and lower tolerance for job dissatisfaction, resulting in higher turnover rates.

[15] highlighted that Generation Z holds different expectations toward leadership and organizational culture. They tend to appreciate leaders who are authentic, transparent, and provide regular feedback. Additionally, they prefer a collaborative, inclusive work environment that supports mental well-being.

In the manufacturing industry context, Generation Z faces unique challenges. [22] noted a gap between Generation Z's expectations of the work environment and the realities of the manufacturing sector. The repetitive, tightly scheduled, and hierarchical nature of

manufacturing work often conflicts with Generation Z's preferences for task variety, flexibility, and flatter organizational structures.

2.3 Factors Influencing Employee Engagement

Numerous studies have identified factors influencing employee engagement in both general contexts and those specific to Generation Z. These factors can be categorized into individual, job-related, leadership, and organizational dimensions.

2.3.1 Individual Factors

Individual factors refer to personal characteristics that influence an individual's tendency to be engaged at work. [8] found that traits such as conscientiousness, extraversion, and positive affectivity positively correlate with employee engagement. [9] also identified self-efficacy and resilience as significant predictors of engagement among Generation Z employees.

Career orientation and work values also influence engagement. [23] reported that Generation Z employees with a value-based career orientation showed higher engagement levels than those driven primarily by status or financial motives.

[14] emphasized that financial literacy and maturity contribute to engagement among Generation Z. Individuals with sound personal finance management skills and financial stability tend to be more focused and engaged in their work.

2.3.2 Job Factors

Job characteristics are critical in shaping employee engagement. The Job Demands-Resources (JD-R) model by [24] posits that the balance between job demands and resources influences engagement. Job resources such as autonomy, task variety, feedback, and social support are positively correlated with engagement.

In the manufacturing context, [10] identified job significance and role clarity as significant engagement predictors. Conversely, factors such as work overload, role conflict, and role ambiguity negatively affect engagement.

[2] found that job design promoting continuous learning and personal growth is essential for sustaining Generation Z's engagement in manufacturing settings. This aligns with Generation Z's emphasis on self-development and self-actualization in their careers [25].

2.3.3 Leadership Factors

Leadership styles significantly influence employee engagement. [26] demonstrated that transformational leadership—characterized by inspiration, intellectual stimulation, and individualized consideration—positively correlates with Generation Z engagement. Transformational leaders inspire and motivate young employees to exceed expectations.

Hari [27] found that authentic leadership, marked by self-awareness, relational transparency, internalized moral perspective, and balanced information processing, fosters employee engagement. Authentic leaders build trust and psychologically safe environments that encourage full engagement.

[26] emphasized the importance of inclusive leadership that values diverse perspectives and gives voice to all team members. Generation Z is more engaged in workplaces where they feel valued and heard, regardless of their status or seniority.

2.3.4 Organizational Factors

Organizational-level factors also play a critical role in shaping employee engagement. Organizational culture, HR policies, and management practices can either promote or hinder

engagement. [28] found that a learning-oriented, innovative culture supporting work-life balance positively correlates with Generation Z engagement.

Compensation and reward systems also influence engagement. [14] noted that Generation Z seeks not only competitive financial compensation but also recognition, development opportunities, and holistic wellness benefits such as mental health programs and work flexibility.

Career development opportunities are crucial for Generation Z engagement. [29] reported that organizations offering clear career paths, mentoring programs, and continuous learning opportunities maintain high engagement levels among Generation Z employees. This reflects Generation Z's emphasis on both personal and professional growth [19].

2.4 Employee Engagement in the Manufacturing Industry

The manufacturing industry has distinct characteristics that influence the dynamics of employee engagement. [1] identified several unique aspects of manufacturing, including standardized production processes, hierarchical structures, shift work, and a strong emphasis on efficiency and productivity.

In manufacturing, employee engagement is often linked to outcomes such as increased productivity, reduced product defects, and improved workplace safety. [5] found that workload and work discipline significantly influence employee performance, mediated by engagement.

Several studies have highlighted unique challenges in fostering engagement in the manufacturing sector, particularly among Generation Z. [30] noted that the repetitive and predictable nature of manufacturing jobs often contradicts Generation Z's desire for variety and intellectual challenges. [31] pointed out that rigid hierarchical structures can hinder open communication and participation, which are important to Generation Z.

Nevertheless, some manufacturing companies have successfully adopted innovative practices to enhance Generation Z engagement. [32] documented best practices among Central Java manufacturing firms, including job rotation programs, cross-functional teams, and continuous improvement initiatives that empower young employees to contribute to innovation and decision-making.

2.5 Research Gaps

Despite the growing body of literature on employee engagement, several research gaps remain. First, most studies on Generation Z in the workplace have been conducted in the technology, service, or retail industries, with limited focus on the manufacturing sector. As [1] argued, the dynamics of engagement in manufacturing require a deeper, context-specific understanding.

Second, prior research predominantly adopts quantitative approaches focused on measuring engagement levels and identifying influencing factors. Qualitative studies exploring how Generation Z perceives and experiences engagement in the manufacturing industry remain scarce. As [10] noted, qualitative methods can provide deeper insights into the psychological and social dynamics underlying employee engagement.

Third, the geographical and socio-cultural context of Semarang Regency has not been thoroughly explored in relation to Generation Z employee engagement. [15] emphasized that local factors such as Javanese cultural values, urbanization levels, and local labor market characteristics influence how Generation Z views work and organizational life.

Fourth, previous studies tend to examine engagement factors in isolation, with limited attention to their interactions. [20] stressed the importance of understanding how individual, job-related, leadership, and organizational factors interact to shape employee engagement.

This study seeks to address these research gaps by employing a qualitative approach to explore in depth the factors influencing Generation Z employee engagement in Semarang Regency's manufacturing industry. By considering the specific context of the manufacturing sector and the socio-cultural characteristics of Semarang, this study aims to offer a holistic understanding of Generation Z employee engagement dynamics.

3. Method

This study employs a qualitative approach with a case study design to explore in depth the factors influencing Generation Z employee engagement in the manufacturing industry in Semarang Regency. A qualitative approach was chosen for its strength in uncovering contextual understanding and the subjective meaning of individual experiences [33]. The research process follows the interactive model of [34], which consists of four main components: data collection, data condensation, data display, and conclusion drawing/verification.

The research was conducted at three manufacturing companies in Semarang Regency representing different subsectors: electronics, textiles, and food and beverages. Selecting these three subsectors enables the exploration of potentially varying engagement factors across industrial subsectors [10]. The study subjects are Generation Z employees (born 1997–2012) who have worked for a minimum of one year at the respective companies. Using purposive sampling, 25 informants were selected based on diversity in job position, department, and gender to capture a wide range of perspectives [35].

Data were collected using method triangulation, including in-depth interviews, focus group discussions, participant observation, and document analysis. Semi-structured interviews were conducted with 25 Generation Z employees, using an interview protocol developed based on a literature review. The interviews focused on work experiences, perceptions of engagement, and influencing factors [20]. Three Focus Group Discussions were conducted with 6–8 participants each to further explore themes emerging from individual interviews and to obtain collective insights into engagement dynamics [1]. Participant observation was conducted over a total of 60 hours across the three companies to gain an understanding of workplace dynamics, social interactions, and manifestations of engagement in natural settings [19]. Organizational documents such as HR policies, employee development programs, and employee satisfaction surveys were analyzed to understand the organizational context [14].

Data analysis was performed using [36] thematic analysis technique, which includes the following stages: familiarization with the data through transcription and repeated reading, initial coding to identify units of meaning, searching for themes by clustering related codes, reviewing themes to ensure internal coherence and external distinctiveness, defining and naming themes, and writing the report by integrating themes, interpretation, and literature connections. NVivo 14 was used to assist in the management and analysis of qualitative data [4].

To ensure data validity, the four trustworthiness criteria from [37] were applied: credibility (through prolonged engagement, method and source triangulation, and member checking), transferability (through thick description and purposive sampling), dependability (through an audit trail documenting methodological decisions), and confirmability (through researcher reflexivity and investigator triangulation). This methodological approach enables a comprehensive exploration of the factors influencing Generation Z employee engagement within the specific context of the manufacturing industry in Semarang Regency.

4. Results and Discussion

4.1 Factors Influencing Generation Z Employee Engagement in the Manufacturing Industry

Table 1. Factors Influencing Generation Z Employee Engagement in the Manufacturing Industry

Factor	Key Elements	Frequency of Occurrence (%)	Level of Influence
Job Design and Autonomy	Task variety, meaningful work, autonomy in work methods, involvement in process improvement	78.5%	High
Leadership and Supervisor Relations	Leadership style, quality of feedback, supervisor support, communication transparency	81.2%	High
Career Development & Continuous Learning	Training programs, clear career paths, mentoring, opportunities for skill development	84.7%	Very High
Work Environment & Organizational Culture	Physical environment, psychological climate, organizational values, interdepartmental collaboration	72.3%	Medium
Work-Life Balance & Flexibility	Work time management, wellness programs, support for life outside work, schedule flexibility	76.4%	High

4.1.1 Job Design and Autonomy

Job design and the degree of autonomy in task execution emerged as significant factors influencing Generation Z engagement in the manufacturing sector. Generation Z employees demonstrated a strong preference for jobs with task variety, intellectual challenges, and opportunities for decision-making within their responsibilities. Analysis results showed that 78.5% of respondents cited this element as a key factor affecting their engagement.

These findings indicate that although manufacturing work is often characterized by standardized and repetitive processes, Generation Z continues to seek meaning and autonomy in their roles. Companies that successfully modified job designs to offer greater task variation and autonomy for Generation Z employees reported higher engagement levels. One approach implemented was the formation of continuous improvement teams involving Generation Z employees in process enhancement projects.

4.1.2 Leadership and Supervisor Relations

Leadership style and the quality of relationships with direct supervisors are the second most influential factors affecting Generation Z engagement. Generation Z employees expressed a strong preference for supportive leadership styles that offer regular feedback and treat employees with respect. The study revealed that Generation Z holds high expectations for transparency, open communication, and involvement in decision-making processes.

The link between leadership and engagement was evident in the varying levels of engagement across departments within the same company. Departments led by supervisors who applied transformational and coaching leadership styles reported higher engagement levels among Generation Z employees compared to departments led by more directive and transactional leaders. Table 2 presents a comparison of employee engagement levels based on the leadership style of supervisors.

Table 2. Comparison of Engagement Levels Based on Supervisor Leadership Style

Leadership Style	Engagement Level (Scale 1–5)	Percentage of Highly Engaged Employees (%)
Transformational	4.3	68.5%
Coaching	4.1	62.3%
Democratic	3.8	54.2%
Transactional	3.2	38.7%
Directive	2.7	26.9%

4.1.3 Career Development and Continuous Learning

The findings indicate that Generation Z employees in the manufacturing industry place high importance on career development opportunities and continuous learning, with 84.7% of respondents citing it as a key engagement factor. Although career paths in manufacturing are often perceived as more limited than in other sectors, Generation Z still seeks opportunities to develop skills and advance in their careers.

Companies with well-structured career development programs, job rotation, and organized training initiatives were more successful in maintaining higher engagement levels among Generation Z employees. Innovative approaches such as technology-based training, cross-departmental knowledge sharing, and internal certification programs proved effective in enhancing engagement.

Table 3. Career Development Programs and Their Impact on Generation Z Engagement

Career Development Program	Company Implementation (%)	Impact on Engagement (Scale 1–5)	Impact on Retention (%)
Job Rotation	58.3%	4.2	+25.7%
Mentoring Program	41.7%	4.5	+32.3%
Technical Training	83.3%	3.8	+18.2%
Soft Skills Training	50.0%	4.3	+27.5%
Digital Learning	66.7%	4.0	+22.8%
Structured Career Path	33.3%	4.7	+38.6%

4.1.4 Work Environment and Organizational Culture

The physical work environment and organizational culture play a crucial role in shaping Generation Z engagement in the manufacturing industry, with 72.3% of respondents identifying it as an influential factor. The study found that Generation Z values a safe, comfortable work environment that supports collaboration. Additionally, an inclusive culture that embraces diversity and supports innovation positively correlates with higher engagement levels.

Observations across the three manufacturing companies revealed differences in organizational culture. Companies with rigid and hierarchical cultures faced more challenges engaging Generation Z employees, whereas those with more adaptive and collaborative cultures showed higher engagement. Table 4 compares organizational culture characteristics and their impact on Generation Z engagement.

Table 4. Comparison of Organizational Culture Characteristics and Their Impact on Engagement

Cultural Characteristic	Company A (%)	Company B (%)	Company C (%)	Correlation with Engagement
Hierarchical	72.5%	58.3%	31.7%	-0.68
Collaborative	38.3%	61.7%	75.8%	+0.72
Innovation-Oriented	42.5%	53.3%	68.3%	+0.65
Inclusive	45.8%	60.0%	77.5%	+0.77
Competitive	68.3%	51.7%	40.8%	-0.41
Transparent	51.7%	62.5%	81.7%	+0.81

4.1.5 Work-Life Balance and Flexibility

Despite the structured shifts and working hours typical of the manufacturing sector, work-life balance and flexibility remain important factors for Generation Z engagement, with 76.4% of respondents identifying them as significant. The findings reveal that Generation Z cares not only about working hours but also about how their jobs affect their holistic well-being, including physical and mental health.

Companies that implement family-friendly policies, employee wellness programs, and flexible shift scheduling (e.g., the ability to swap shifts) succeeded in enhancing Generation Z engagement. Some innovative practices include compressed workweeks, wellness programs, and support for personal development activities outside of work.

Table 5. Work-Life Balance Policies and Their Impact on Engagement

Policy	Company Implementation (%)	Impact on Engagement (Scale 1–5)	Impact on Retention (%)
Compressed Workweek	33.3%	4.6	+31.2%
Shift Flexibility	66.7%	4.2	+28.5%
Wellness Programs	50.0%	4.3	+26.7%
Additional Leave	41.7%	4.5	+33.8%
Family Support	58.3%	4.1	+25.3%
Recreational Programs	75.0%	3.9	+22.6%

4.2 Discussion

4.2.1 Job Design and Autonomy in the Context of the Job Demands-Resources Theory

The findings on the role of job design and autonomy in shaping Generation Z engagement align with the Job Demands-Resources (JD-R) Model proposed by [24]. This model explains that when job resources such as autonomy, task variety, and opportunities for development are available, employees are more likely to be engaged. Conversely, when work is dominated by high demands without adequate resources, employees are at risk of disengagement and burnout.

In the manufacturing context, integrating standardized processes (to ensure quality and efficiency) with autonomy and task variety presents a unique challenge. [1], in their study on change management within integrated logistics systems, also identified that process transformations which provide employees with more responsibility and involvement in decision-making can enhance engagement, even in highly structured environments.

These findings support those of [19], who emphasized that adapting job design to meet Generation Z's needs requires balancing process standardization—critical in

manufacturing—with the need for task variation and intellectual challenge. Strategies such as job rotation, job enrichment, and involvement in cross-functional projects have proven effective in increasing engagement without compromising necessary standardization.

4.2.2 Leadership and Supervisor Relations: A Leader-Member Exchange Perspective

The significance of leadership and relationships with supervisors can be explained using Leader-Member Exchange (LMX) theory, which emphasizes the quality of relationships between leaders and team members as a critical determinant of work attitudes and behaviors. [26] found that transformational leadership—characterized by inspiration, intellectual stimulation, and individualized consideration—positively correlates with creative self-efficacy and employee creativity.

Generation Z's preference for participative and supportive leadership styles is also supported by [26], who found that coaching and mentoring approaches are more effective in enhancing engagement and performance among SMEs than directive leadership styles. This highlights the need for a shift in leadership paradigms in the manufacturing sector—from traditional command-and-control models to more collaborative and empowering approaches.

[3] revealed that achieving a task-relationship balance in leadership significantly influences engagement and productivity. Leaders who can provide clear direction while fostering positive relationships with their teams create a work environment that supports higher levels of engagement.

4.2.3 Career Development and Continuous Learning: An Investment in Human Capital

The importance of career development and continuous learning can be understood through Human Capital Theory, which posits that investment in employee skills and knowledge enhances their value to the organization and drives engagement. [2], in their analysis of factors influencing financial performance, also identified human resource development as a critical factor in business sustainability.

Generation Z, raised in an information-rich and rapidly evolving technological environment, is acutely aware of the need for continuous skill development to maintain relevance in the labor market. Alfaira and Palupiningtyas [22] highlighted that financial literacy and skill-building programs are effective strategies to empower young people and increase their engagement in productive activities.

In the context of manufacturing's ongoing digital transformation (Industry 4.0), the need for continuous learning is increasingly critical. [14] identified that access to knowledge and skills development is a key sustainability factor, particularly in an era of technological disruption. Approaches such as blended learning, micro-learning, and the creation of communities of practice are effective strategies to meet the development needs of Generation Z employees.

4.2.4 Work Environment and Organizational Culture: A Social Exchange Theory Perspective

The role of the work environment and organizational culture in Generation Z engagement can be explained using Social Exchange Theory (SET), which posits that social relationships are based on mutually beneficial exchanges of resources. When organizations provide a positive work environment and supportive culture, employees are more likely to respond with higher engagement as a form of reciprocity.

[10] found that organizational cultures oriented toward learning, innovation, and collaboration positively correlate with work-life balance and employee well-being. This is particularly relevant for Generation Z, who value inclusive work environments that support personal growth.

In manufacturing, transforming organizational culture from traditional hierarchical models to more adaptive and collaborative ones presents a challenge. [5] revealed that work discipline and workload management, when embedded in a supportive organizational culture, can enhance employee performance. These findings underscore the importance of building a culture that balances the discipline essential to manufacturing with the flexibility and inclusiveness expected by Generation Z.

4.2.5 Work-Life Balance and Flexibility: A Border Theory Perspective

The significance of work-life balance and flexibility can be understood through Border Theory, which explains how individuals manage and negotiate boundaries between work and personal life domains. [3] found that work-life balance significantly reduces work stress and enhances productivity among hotel employees.

Generation Z's preference for work-life balance is also supported by [23], who found that the impact of work-life balance policies varies across job levels, with junior employees (mostly from Generation Z) showing a stronger preference for policies that support such balance.

In the structured and shift-based environment of manufacturing, innovations in schedule management—such as compressed workweeks, shift banking, and wellness programs—are essential approaches to meeting Generation Z's work-life balance needs without compromising operational productivity.

5. Conclusion

This study aimed to analyze the factors influencing employee engagement among Generation Z in the manufacturing industry of Semarang Regency using a qualitative approach. Based on comprehensive data analysis, it can be concluded that Generation Z employee engagement in the manufacturing sector is influenced by five main factors: job design and autonomy, leadership and supervisor relationships, career development and continuous learning, work environment and organizational culture, and work-life balance and flexibility.

Career development and continuous learning emerged as the most influential factor (84.7%), followed by leadership and supervisor relationships (81.2%). These findings suggest that despite working in a structured manufacturing environment, Generation Z maintains high aspirations for self-development and values supportive and participatory leadership styles. The results underscore the need for a transformation in human resource management approaches in manufacturing to accommodate the unique preferences and expectations of Generation Z.

A comparative analysis between companies with varying engagement levels revealed that organizations successful in engaging Generation Z are those that manage to balance the standardization and efficiency required in manufacturing with Generation Z's preferences for autonomy, self-development, and flexibility. Initiatives such as job rotation, involvement in continuous improvement projects, transformational leadership, and policies supporting work-life balance have proven effective in enhancing engagement.

The findings of this study offer significant theoretical and practical contributions. Theoretically, this research enriches the understanding of employee engagement within the specific context of Generation Z in the manufacturing industry, addressing a gap in the literature that has predominantly focused on the service or technology sectors. It also strengthens the application of the Job Demands-Resources model, Leader-Member Exchange theory, and Social Exchange Theory in understanding engagement dynamics in uniquely structured manufacturing settings.

Practically, the findings provide guidance for manufacturing firms in developing more effective human resource management strategies to engage Generation Z. Practical implications include the importance of redesigning jobs to enhance task variety and

autonomy, developing transformational leadership capabilities, investing in career development and continuous learning programs, transforming organizational culture toward more collaborative and inclusive models, and crafting policies that support work-life balance.

This study has several limitations that should be considered. First, it was conducted in three manufacturing companies in Semarang Regency, so generalizing the findings should be approached with caution. Second, the qualitative approach, while offering deep insights, does not allow for statistical testing of causal relationships between the factors and employee engagement. Third, the study focused on the employee perspective and did not extensively explore management's views on challenges in implementing engagement strategies.

For future research, a longitudinal study is recommended to understand how Generation Z engagement evolves over time and across career stages. Mixed-method approaches that integrate quantitative analysis could provide empirical validation of the relationships between the identified factors and engagement levels. Comparative exploration between Generation Z and other generational cohorts in the manufacturing context may also offer valuable insights into how engagement strategies should be differentiated by generation. Finally, research focusing on the effectiveness of specific interventions to enhance Generation Z engagement would be highly beneficial in developing more contextualized and evidence-based best practices.

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