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Comparative Analysis of Transformational Leadership in Generation X and Generation Y and Its Impact on Power Plant Company Performance

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Abstract

This study examines differences in transformational leadership characteristics between Generation X and Generation Y and their respective impacts on company performance in two major power generation companies in North Sumatra Province. A total of 100 respondents—50 from Generation X and 50 from Generation Y—were selected using purposive sampling. Data were analyzed using SPSS through F-tests, T-tests, the coefficient of determination, and independent sample T-tests. Findings show that the four dimensions of transformational leadership—charismatic influence, inspirational motivation, intellectual stimulation, and individualized consideration—simultaneously influence performance for both generational groups. For Generation X employees, inspirational motivation and individualized consideration have a positive and significant partial effect on company performance. In contrast, only charismatic influence significantly affects company performance among Generation Y employees. The coefficient of determination indicates that transformational leadership explains 70.2% of performance variability among Generation X employees, compared to 22.3% among Generation Y. The independent sample T-test confirms significant differences in transformational leadership characteristics between the two generations. This study contributes by demonstrating how generational traits shape leadership effectiveness within power plant operations—a context requiring high reliability, structure, and discipline.

Keywords: Company Performance; Generation X; Generation Y; Transformational Leadership

1. Introduction

Leadership plays a crucial role in ensuring operational reliability, safety, and productivity in power generation companies, where precision and consistency are fundamental requirements. In organizations today, however, leadership effectiveness is increasingly influenced by the coexistence of multiple generational cohorts within the workforce. Each generation demonstrates distinct values, expectations, and behavioral tendencies that contribute to differing leadership preferences and performance outcomes.

In North Sumatra Province, two major power generation companies—Power Plant A (PPA) and Power Plant B (PPB)—provide an empirical setting to observe these differences. PPA operates a 1000 MW gas-steam-diesel combined system, while PPB operates a 140 MW coal-based steam power plant. Internal assessments between 2016 and 2019 show that PPA consistently achieved higher leadership effectiveness scores and superior company performance indicators, including operational reliability, maintenance effectiveness, and productivity levels.

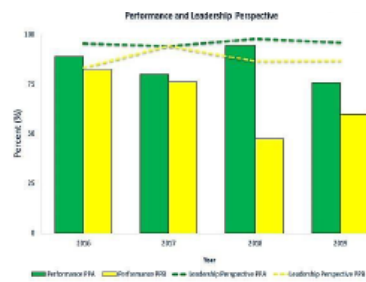


Figure 1. Performance and Leadership Perspective

Figure 1 illustrates that leadership perceptions in PPA remained higher than in PPB, and this pattern aligns with better company performance during the same period. These findings reflect the indirect influence of leadership on performance—strong leadership likely enhances coordination, discipline, motivation, and compliance with operational standards, which subsequently contributes to improved performance outcomes.

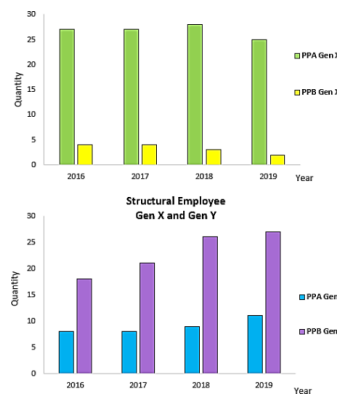


Figure 2. Structural Employee Gen X and Gen Y

Figure 2 explains that from 2016 to 2019 shows that the ratio of structural employees from generations X and Y in PPA and PPB companies. In the span of 2016 to 2019, PPA was dominated by Generation X, in contrast to PPB in the same year, structural employees at PPB were dominated by Generation Y. In these two generations, they mostly occupy the low managerial level or often called the supervisor.

An important contextual factor underlying these differences is the generational composition of structural employees. PPA is dominated by Generation X, whereas PPB is dominated by Generation Y. Since these two generations hold different characteristics—Generation X being disciplined and structured, while Generation Y tends to be adaptive, collaborative, and technology-oriented—their leadership tendencies may differ and consequently influence organizational performance.

Although many studies have examined transformational leadership (Bass & Avolio, 1994; Bass & Riggio, 2006), few have explored how generational background moderates transformational leadership effectiveness, especially within high-risk industries such as power generation. Additionally, prior studies in Indonesia rarely compare transformational leadership between Generation X and Y within the same industry and operational environment.

This gap highlights the novelty of the present study, which contributes by:

1. Comparing transformational leadership characteristics between Generation X and Generation Y in the same industrial context.
2. Analyzing how generational traits shape the effectiveness of each leadership dimension.
3. Providing evidence from the power generation sector, where leadership reliability is critical.

Therefore, this study aims to analyze differences in transformational leadership between Generation X and Generation Y and assess how these differences influence company performance in North Sumatra’s power plant industry.

2. Literature Review

2.1. Transformational Leadership

Bass & Avolio, 1994 and Northouse, 2004 mean that transformational leadership is a collaborative leadership style that produces change through involvement, connection, and motivation. The attributes that make up transformational leadership are idealized influence, individual judgment, inspirational motivation, and intellectual stimulation. Transformational leadership is a leadership theory that is effective in any situation or culture (Yukl, 2006). The components of transformational leadership, as defined by Bass and Avolio (1994), consist of idealized influence, individualized consideration, inspirational motivation, and intellectual stimulation.

Transformational leadership is defined as a leadership approach that inspires change, stimulates higher levels of motivation, and cultivates development among followers (Bass & Avolio, 1994). Northouse (2004) views transformational leadership as a process that engages leaders and followers to raise one another to higher levels of morality, motivation, and achievement. Transformational leadership consists of four key components:

1. Idealized Influence (Charismatic Leadership) – Leaders act as strong role models, demonstrate high ethical standards, and generate trust and admiration.
2. Inspirational Motivation – Leaders communicate compelling visions, inspire enthusiasm, and promote optimism.
3. Intellectual Stimulation – Leaders encourage creativity, problem-solving, and critical thinking.
4. Individualized Consideration – Leaders treat followers as individuals, offer support, and promote personal development.

Studies such as Bass & Riggio (2006) and Burns (1978) consistently highlight the effectiveness of transformational leadership across industries, cultures, and organizational structures.

2.2. Company Performance

Company performance refers to the overall effectiveness of an organization in achieving its strategic and operational goals (Castka et al., 2001). In the context of power generation companies, performance indicators commonly include power production reliability, maintenance efficiency, environmental compliance, safety records, cost management, and employee productivity.

Leadership plays a crucial role in driving performance. Fiedler (1996) emphasizes that leaders influence outcomes through decision-making, motivation strategies, and communication patterns. Similarly, Zaccaro et al. (2001) argue that the leadership process is central to shaping performance-related behaviors among employees.

2.3. Idealized/Charismatic Influence

Bass and Avolio (1994) and Bass and Riggio (2006) argue that leaders become role models for change, exhibit charismatic, high moral standards, and ethical practices. Furthermore, Bell and Narz (2007) found that leaders do not have false pride and are loyal to ethics, goals, and personal principles. Bass and Riggio explain that role models are admired, trusted, and respected; on the other hand, followers want to imitate the leader's behavior. According to Bass and Avolio (1994) leaders who exhibit idealized influence embrace integrity and principles-based behavior.

2.4. Inspirational Motivation

Leaders with the ability to inspire others to join in on a shared vision are considered to use inspirational motivation. Bass and Riggio (2006) assert that this type of leader imagines the future and, through motivation and inspiration, followers join in imagining the future. According to Bass and Avolio (1994) leaders create an enthusiastic and enthusiastic environment. Tichy and Devanna (1990) agree that motivation and role modeling are key behaviors for inspirational motivation.

2.5. Intellectual Stimulation

Intellectual stimulation is a leadership style that energizes followers by challenging their imagination and expanding their creative ability to solve problems (Bass & Avolio, 1994; Bass & Riggio, 2006; Northouse, 2004). These leaders do not criticize followers openly, instead they encourage the identification of new ideas. Bass adds that these leaders challenge followers to use intelligence to identify new solutions.

2.6. Individual Considerations

Intellectual stimulation is a leadership style that energizes followers by challenging their imagination and expanding their creative ability to solve problems (Bass & Avolio, 1994; Bass & Riggio, 2006; Northouse, 2004). These leaders do not criticize followers openly, instead they encourage the identification of new ideas. Bass adds that these leaders challenge followers to use intelligence to identify new solutions.

2.7. Performance

Castka, Bamber, Sharp and Belohoubek (2001) mention performance as the goal of teamwork and they state that team performance has become a very important aspect in the field of research. Performance characteristics according to leadership style (Zaccaro, Rittman & Marks, 2001). In the article Zaccaro et al. (2001) they argue that the leadership process is perhaps the most critical for influencing the performance outcomes of members of different generations. Fiedler (1996) researched that the effective leadership of a leader is a major determinant of the performance of members, groups or organizations.

2.8. Generation X

Generation X people were born between 1965-1980. Generation X people will not stay in the same workplace for more than five years and in many cases may move within three years (Chatzky, 2002). Generation X works for life and balance of life is the hallmark of this generation (Conger, 2006). Generation X tends to be more independent, motivated, and independent. Furthermore, Kopperschmidt (2000) describes generation X as information technology and is very comfortable with diversity, change, and competition.

2.9. Generation Y

Often referred to as Generation Y, Echo Boom, Net Generation or Millennials. This group was born between 1981 and 2000 (Lancaster & Stillman, 2002). The first wave of Millennials entered the workforce in 2004. Millennials have been described as selfish, unmotivated and highly narcissistic (Twenge, J. M., Campbell, W. K., & Freeman, E. C., 2012). They prefer a group work environment with less formal leadership, a strong focus on results, and collaboration (Crumpacker & Crumpacker, 2007). Millennials often prefer participative leadership styles and are motivated by recognition, autonomy, and opportunities for learning.

2.10. Transformational Leadership in Generational Context

Generational differences influence the way individuals perceive, interpret, and apply leadership behaviors. For instance, Generation X leaders may rely more on structured, ethical, and task-oriented leadership behaviors, while Generation Y may display more adaptive, innovative, and collaborative tendencies.

This research examines how these generational differences manifest within the four components of transformational leadership.

3. Methods

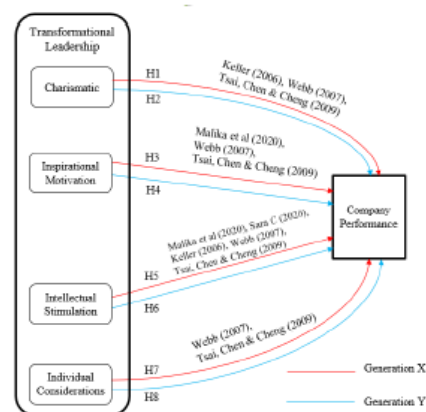


Figure 3. Conceptual Framework

3.1. Research Framework and Hypotheses

The study employs a conceptual framework based on the four dimensions of transformational leadership, with company performance as the dependent variable. The hypotheses (H1–H9) assess the direct effects of transformational leadership components on performance across both generational groups. As the conceptual framework in Figure 3, the research hypotheses are formulated:

- H1: There is a positive and significant influence between the Charismatic of Generation X leaders on company performance
- H2: There is a positive and significant influence between the Charismatic of Generation Y leaders on company performance

- H3: There is a positive and significant influence between the inspirational motivation of Generation X leaders on company performance
- H4: There is a positive and significant influence between the inspirational motivation of Generation Y leaders on company performance
- H5: There is a positive and significant influence between the intellectual stimulation of Generation X leaders on company performance
- H6: There is a positive and significant influence between the intellectual stimulation of Generation Y leaders on company performance
- H7: There is a positive and significant influence between the individual considerations of Generation X leaders on company performance
- H8: There is a positive and significant influence between the individual considerations of Generation Y leaders on company performance
- H9: There are transformational leadership differences between generations X and generation Y

3.2. Population and Sample

The total population consisted of 56 Generation X employees and 290 Generation Y employees working in structural positions at PPA and PPB. A purposive sampling technique was used, selecting 50 respondents from each generational group.

3.3. Data Collection

Data collection was done by using a questionnaire. Questionnaire is a structured questionnaire in order to obtain accurate data in the form of direct responses from respondents. This instrument identifies the components of transformational leadership (charismatic, inspirational motivation, intellectual stimulation, and individual consideration) and identifies the company performance. The research instrument was first tested for validity and reliability. The sample data were also tested for normality, multicollinearity, heteroscedasticity to provide certainty that the data have accuracy in estimation, are unbiased and consistent. Data analysis using SPSS includes F-test, T-test, Coefficient of Determination test and Independent Sample T-test.

3.4. Data Analysis

Data were analyzed using SPSS through:

- Normality test
- Validity and reliability test
- Multicollinearity and heteroscedasticity test
- F-test (simultaneous effect)
- T-test (partial effect)
- Coefficient of determination (R²)
- Independent sample T-test (difference between groups)

4. Results and Discussions

The SPSS data analysis is presented in Table 1. The results of the F-test for the X generation group have a calculated F value of 26,484 and for the Y generation the calculated F value of 3,225. It is known that the F table is 2.56 so that based on decision making in the F-test it can be concluded that the variables of Charismatic, Inspirational Motivation, Intellectual Stimulation, Individual Consideration simultaneously affect performance in the X and Y generation. In the generation X, variable inspirational motivation and individual considerations partially have a positive and significant effect on company performance, meanwhile in the Y generation group only charismatic variables partially have a positive and significant impact on company performance. The results of the coefficient of determination said that the transformational leadership of generation X contributed 70.2% to the company performance, while the transformational leadership of the Y generation contributed 22.3% to the company performance. The independent sample T-test said that there was a significant difference between the transformational leadership of the generation X and generation Y.

Tabel 1. Data Analysis

Analysis		Generation X		Generation Y	
		Sig.	Hypothesis	Sig.	Hypothesis
T-test	Charismatic	0,805	H1 rejected	0,039	H2 accpeted
	Inspirational Motivation	0,000	H3 accepted	0,827	H4 rejected
	Intellectual Stimulation	0,793	H5 rejected	0,951	H6 rejected
	Individual Stimulation	0,038	H7 accepted	0,381	H8 rejected

Analysis	Generation X Sig. Hypothesis	Generation Y Sig. Hypothesis
F-test F table = 2,56	Gen X transformational leadership affects company performance F count = 26,484	Gen Y transformational leadership affects company performance F count = 3,225
Coefficient of Determination	70,2 %	22,3 %
Independent Sample T-test	Sig 0,000 = H9 accepted	

4.1. Discussion

The findings show that: - Gen X leaders are more effective when providing motivation and personalized guidance. - Gen Y leaders rely more on charisma and vision to influence others. - Gen Y leaders may require further leadership development to enhance consistency and reliability in operational environments like power plants.

The industry demands precision and long-term planning, qualities more commonly associated with Gen X leadership tendencies.

5. Conclusion

This study concludes that transformational leadership influences company performance differently across generational groups in power generation companies. For Generation X employees, inspirational motivation and individualized consideration have a significant positive impact on performance. These results indicate that Gen X employees respond more effectively to leaders who provide encouragement, clear meaning in work, and personalized guidance.

For Generation Y employees, only charismatic influence significantly affects performance. This shows that Millennials tend to be more motivated by leaders who demonstrate confidence, strong vision, and role-model behavior rather than by structured guidance or individualized support.

The coefficient of determination highlights that transformational leadership contributes more strongly to performance in Generation X (70.2%) compared with Generation Y (22.3%). This suggests that leadership characteristics aligned with discipline, clarity, and stability are more impactful in operational environments that demand reliability and consistency—conditions that reflect the nature of power plant operations.

The independent sample T-test further confirms significant differences in transformational leadership between the two generations, reinforcing that generational background plays an important role in shaping leadership style and its impact on performance.

Overall, the results of this study emphasize the need for power generation companies to adjust leadership development strategies according to generational characteristics. Tailoring leadership approaches to the dominant workforce composition can strengthen operational discipline, improve coordination, and enhance company performance. In practice, organizations with a predominantly Generation X workforce may focus on motivational and developmental leadership approaches, while those with a Generation Y workforce may need to cultivate charismatic and visionary leadership capabilities.

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