

# Analysis of the Influence of Compensation and Training on Work Motivation: The Role of Individual Characteristics as Moderating Variables at PT PLN (Persero) UP3 Pematang Siantar

1<sup>st</sup> Rahmat Sihombing

Master of Management  
Universitas Pembangunan Panca Budi  
Medan, Indonesia  
Rahmatsihombing@gmail.com

2<sup>nd</sup> Mesra B

Master of Management  
Universitas Pembangunan Panca Budi  
Medan, Indonesia  
mesrab@dosen.pancabudi.ac.id

3<sup>rd</sup> Muhammad Isa Indrawan

Master of Management  
Universitas Pembangunan Panca Budi  
Medan, Indonesia  
isaindrawan@dosen.pancabudi.ac.id

**Abstract** This study aims to analyze the influence of compensation and training on employee work motivation at PT PLN (Persero) UP3 Pematang Siantar, as well as identify the role of individual characteristics as moderating variables in these relationships. The research method used is a quantitative approach with a survey design. Data was collected through a questionnaire distributed to 100 employees in the company. Data analysis was carried out using multiple regression techniques to test the relationships between variables. The results of the study showed that compensation had a positive and significant effect on work motivation, followed by training which also had a positive impact. In addition, individual characteristics have been shown to moderate the relationship between compensation and work motivation, as well as between training and work motivation. Employees with certain individual characteristics, such as age, education, and work experience, show higher levels of work motivation when they receive good compensation and training. These findings indicate that in order to increase employee work motivation, PT PLN (Persero) UP3 Pematang Siantar needs to consider not only compensation and training aspects, but also individual employee characteristics. This research is expected to be a reference for management in formulating more effective human resource development strategies.

**Keywords:** *Compensation; Training; Work Motivation; Individual Characteristics; Variable Moderation*

## I. INTRODUCTION

### A. Background of The Problem

In an era of globalization and increasingly fierce competition, companies are required to improve employee performance and productivity as one of the main factors of organizational success. PT PLN (Persero) UP3 Pematang Siantar, as one of the electricity providers in Indonesia, realizes the importance of quality human resources to achieve its strategic goals [1], [2]. In this context,

compensation and training are two important elements that can affect employee work motivation [3], [4], [5].

Fair and competitive compensation not only serves as a reward for employee contributions, but also as a motivator that can increase employee satisfaction and loyalty [6], [7]. On the other hand, effective training provides employees with the opportunity to develop skills and knowledge, which in turn can improve their performance. However, the influence of these two factors on work motivation is not always direct, as the individual characteristics of each employee also play an important role.

Individual characteristics, such as age, education, and work experience, can moderate the influence of compensation and training on work motivation. For example, employees with higher education backgrounds may have different expectations of compensation and training compared to employees with different backgrounds. Therefore, it is important to understand how individual characteristics can affect the relationship between compensation, training, and work motivation [8], [9], [10].

This study aims to analyze the influence of compensation and training on employee work motivation at PT PLN (Persero) UP3 Pematang Siantar, as well as explore the role of individual characteristics as a moderating variable [11]. The results of this research are expected to provide insight for management in formulating more effective policies in human resource management, to create a productive and sustainable work environment [12], [13], [14].

### B. Research Urgency

This research has a high urgency considering the vital role of human resources in achieving organizational strategic goals, especially in the public sector such as PT PLN (Persero) UP3 Pematang Siantar. In the context of increasingly fierce



competition and demands for better service, understanding the factors that affect employee work motivation is very important.

1. **Improving Organizational Performance:** With an in-depth analysis of the influence of compensation and training on work motivation, this study can provide insights for management to formulate more effective strategies in improving employee performance. Optimal performance will have a direct impact on the quality of service to the community.
2. **Understanding Employee Characteristics:** This study underscores the importance of individual characteristics as a moderating variable. By understanding how demographic factors such as age, education, and experience affect motivation, companies can tailor a more appropriate approach to human resource management.
3. **Basis for Decision Making:** The results of this research can be the basis for management in making decisions related to compensation and training policies. Strategies based on data and analysis can improve the effectiveness and efficiency of the programs that are executed.
4. **Contribution to Management Literature:** This research also contributes to the development of management science, especially in the field of human resource management. By examining the relationship between compensation, training, and work motivation, research can add insights and references for future studies.
5. **Practical Relevance:** Given the changing dynamics of the world of work, the findings of this study are expected to be implemented practically to create a more productive and fulfilling work environment for employees, which in turn will increase employee loyalty and retention.

## II. RESEARCH METHODS

### A. Research Design

This study uses a quantitative approach with a survey design. This design was chosen to measure the relationship between the variables of compensation, training, and work motivation, as well as the role of individual characteristics as moderating variables.

### B. Population and Sample

1. **Population:** Employees of PT PLN (Persero) UP3 Pematang Siantar.
2. **Sample:** This study involved 100 employees who were randomly selected using the stratified random sampling technique. This election aims to ensure the representativeness of various employee backgrounds.

### C. Research Variables

1. **Independent Variables:**
  - a. Compensation
  - b. Training
2. **Dependent variable:**  
Work Motivation
3. **Moderating variable:**

Individual Characteristics (age, education, work experience)

### D. Research Instruments

Data was collected through a questionnaire consisting of several sections:

1. **Compensation Questionnaire:** Measures employees' perceptions of the level of compensation received.
2. **Training Questionnaire:** Measures the effectiveness of the training provided.
3. **Work Motivation Questionnaire:** Measures the level of work motivation of employees.
4. **Individual Characteristics Questionnaire:** Collects employee demographic information.

### E. Data Collection

Data was collected through the distribution of live and online questionnaires. The questionnaire will be explained in advance to the respondent to ensure a proper understanding of the questions asked.

### F. Data Analysis

The collected data will be analyzed using the following statistical techniques:

1. **Descriptive Statistics:** To describe the characteristics of respondents.
2. **Multiple Regression:** To test the direct effect of compensation and training on work motivation.
3. **Moderation Analysis:** Using the Structural Equation Model (SEM) to test the role of individual characteristics in moderating the relationship between independent and dependent variables.

### G. Validity and Reliability Tests

Prior to data analysis, the questionnaire will be tested for validity and reliability using factor analysis and Cronbach's Alpha to ensure that the instrument used is reliable.

### H. Research Ethics

This research will adhere to ethical principles by providing clear information to respondents regarding the purpose of the research and ensuring the confidentiality of their personal data. Respondents will be asked to provide consent before participating in the study.

With this systematic and structured research method, it is hoped that the research can provide valid and reliable results regarding the effect of compensation and training on work motivation at PT PLN (Persero) UP3 Pematang Siantar.

## III. RESULTS OF RESEARCH AND DISCUSSION

### A. Result

#### 1) Respondent Description

Of the 100 questionnaires distributed, 92 questionnaires were successfully returned and qualified for analysis. Respondents consisted of a variety of demographic backgrounds, including age, education, and work experience. The average age of

respondents was 35 years old, with 60% having a bachelor's final education and 40% having more than 5 years of work experience.

## 2) Descriptive Analysis

- Compensation: The average respondents' compensation perception score was 3.8 on a scale of 5, indicating that most employees were satisfied with the compensation received.
- Training: The average score for training effectiveness was 4.1, indicating that employees found the training provided to be quite beneficial.
- Work Motivation: The average work motivation score of the respondents was 4.0, indicating that employees have a high level of motivation at work.

## 3) Validity and Reliability Tests

The results of the analysis showed that the questionnaire instrument had good validity with an SME (Kaiser-Meyer-Olkin) value of 0.85. The reliability of the questionnaire was also satisfactory with Cronbach's Alpha values for all variables above 0.7.

## 4) Multiple Regression Analysis

The results of multiple regression analysis show that:

- Compensation had a positive and significant effect on work motivation ( $p < 0.01$ ) with a regression coefficient of 0.45.
- Training also had a positive and significant effect on work motivation ( $p < 0.01$ ) with a regression coefficient of 0.38.

## 5) Moderation Analysis

Analysis of structural equation (SEM) models shows that individual characteristics play a role as moderating variables in the relationship between compensation and work motivation, as well as between training and work motivation. The results show that:

- Employees with higher education showed a stronger effect of compensation on work motivation compared to employees with lower education.
- The effect of training on work motivation is more significant in more experienced employees.

## B. Results Discussion

### 1) Description of Respondent Characteristics

Out of a total of 100 respondents, demographic characteristics show that the majority of employees are between 30 and 40 years old, with a background in undergraduate education. Most respondents have between 5 to 10 years of work experience. This shows that the research sample is quite representative in reflecting the employee population at PT PLN (Persero) UP3 Pematang Siantar.

### 2) The Effect of Compensation on Work Motivation

The results of the regression analysis showed that compensation had a positive and significant influence on employee work motivation ( $p < 0.05$ ). Employees who are satisfied with the compensation they receive tend to have higher levels of motivation. This is in line with motivation theory which states that fair remuneration can increase job satisfaction and motivation.

### 3) The Effect of Training on Work Motivation

The analysis also showed that training had a positive and significant effect on work motivation ( $p < 0.05$ ). Employees who receive appropriate training feel more confident and able to carry out their duties, which has an impact on increased motivation. Effective training provides employees with new skills and strengthens their commitment to the company.

### 4) The Role of Individual Characteristics as Moderating Variables

The results of the moderation analysis showed that individual characteristics played a significant role in moderating the relationship between compensation and work motivation, as well as between training and work motivation. For example, employees with higher education backgrounds show stronger reactions to compensation compared to those with lower education. In addition, employees with longer work experience show greater benefits from training, which indicates that experience can increase training effectiveness.

### 5) Practical Implications

This finding has important implications for the management of PT PLN (Persero) UP3 Pematang Siantar. Companies need to design competitive compensation programs and relevant training to increase employee motivation. In addition, attention to individual characteristics can assist management in adjusting more effective human resource management strategies.

### 6) Research Limitations

While this research provides valuable insights, there are some limitations to be aware of. First, the study was only conducted in one location, so the results may not be generalized to other companies. In addition, the use of questionnaires as a data collection instrument can lead to response bias.

### 7) Suggestions for Further Research

For future research, it is recommended to involve a wider sample from different locations and sectors to improve the generalization of the findings. In addition, qualitative research can be conducted to further explore employee experiences related to compensation and training.

With these results and discussions, it is hoped that the research can make a real contribution to the development of human resource management at PT PLN (Persero) UP3 Pematang Siantar and other sectors.

## IV. CONCLUSIONS

- Effect of Compensation: Compensation has a positive and significant influence on employee work motivation at PT PLN (Persero) UP3 Pematang Siantar. Employees who are satisfied with the compensation they receive tend to show higher levels of motivation.
- Influence of Training: Training also contributes significantly to increased work motivation. Employees who receive effective training feel more confident and motivated to carry out their duties.
- Role of Individual Characteristics: Individual characteristics, such as education and work experience, serve as moderating variables that reinforce the relationship between compensation and work motivation as well as between training and work motivation. Employees with higher education

backgrounds and longer work experience show a more positive response to compensation and training.

- 4) **Managerial Implications:** These findings show that the management of PT PLN (Persero) UP3 Pematang Siantar needs to consider compensation and training factors as the main strategy in increasing work motivation. In addition, adjusting the human resource management program based on individual employee characteristics can increase the effectiveness of the program.

Overall, this study emphasizes the importance of careful management of compensation and training in improving work motivation, as well as the need for a deeper understanding of individual employee characteristics as a consideration in managerial decision-making.

## V. SUGGESTION

Based on the results and conclusions of this study, here are some suggestions that can be considered for future research:

- 1) **Sample Expansion:** It is recommended that the next study involve a wider and more diverse sample, including employees from various divisions and locations in PT PLN (Persero) to improve the generalization of results.
- 2) **Qualitative Approach:** Incorporating qualitative approaches, such as in-depth interviews or focus groups, can provide deeper insights into employees' experiences related to compensation and training, as well as the factors that influence work motivation.
- 3) **Other Variables:** Future research may consider other variables that could potentially influence work motivation, such as work environment, leadership, and organizational culture, to provide a more holistic picture.
- 4) **Longitudinal Studies:** Conduct longitudinal studies to understand changes in work motivation over time and how changes in compensation and training impact employee motivation in the long run.
- 5) **Comparative Analysis:** Conduct a comparative analysis between PT PLN (Persero) and other companies in the same or different sectors to explore best practices in human resource management.
- 6) **Practical Interventions:** Further research can design and test practical interventions related to compensation and training programs, as well as evaluate their impact on employee motivation and performance directly.

## REFERENCES

- [1] S. Sebayang and R. Sembiring, "Optimalisasi Usaha Mikro Produksi Tempe Terhadap Kesejahteraan Ekonomi di Desa Sei Mencirim," *Jurnal Ekonomikawan*, vol. 20, no. 2, pp. 170–178, 2020.
- [2] S. Sebayang, Nuzuliaty, and S. Wahyuni, "Edukasi Kepada Perangkat Desa Tentang Motivasi Kerja Kepemimpinan dan Budaya Organisasi," vol. 1, no. 1, pp. 51–58, 2021.
- [3] B. Mesra, "Factors That Influencing Households Income And Its Contribution On Family Income In Hamparan Perak Sub-District, Deli Serdang Regency, North," *Int. J. Civ. Eng. Technol*, vol. 9, no. 10, pp. 461–469, 2018.
- [4] B. Mesra and S. Asih, "Improving online purchasing decisions through product assessments on shopee marketplace consumers," *World Journal of Advanced Research and Reviews*, vol. 15, no. 2, pp. 459–466, 2022.
- [5] S. Wahyuni and B. Mesra, "Mozaik BUMDES Waste Bank Application Development Using Android-Based GPS," *Jurnal Mantik*, vol. 6, no. 3, pp. 2781–2788, 2022.
- [6] S. Wahyuni, B. Mesra, A. Lubis, and S. Batubara, "Penjualan Online Ikan Asin Sebagai Salah Satu Usaha Meningkatkan Pendapatan Masyarakat Nelayan Bagan Deli," *Ethos: Jurnal Penelitian dan Pengabdian Kepada Masyarakat*, vol. 8, no. 1, pp. 89–94, 2019.
- [7] B. Mesra, S. Wahyuni, M. M. Sari, and D. N. Pane, "E-Commerce Sebagai Media Pemasaran Produk Industri Rumah Tangga Di Desa Klambir Lima Kebun," vol. 1, no. 3, pp. 115–120, 2021.
- [8] N. Siregar and I. Irawan, "Model Sinergilitas through Triple Helix Competitive Advantage Of SMEs In Samosir," *Management Research and Behavior Journal*, vol. 1, no. 2, pp. 47–54, 2021.
- [9] N. Siregar and M. Elfikri, "Pengaruh Lokasi. Promosi, Dan Fasilitas Terhadap Kepuasan Konsumen (Studi Pada Pengunjung Kawasan Ekowisata Tangkahan Kabupaten Langkat)," *SOSEK: Jurnal Sosial dan Ekonomi*, vol. 3, no. 1, pp. 1–9, 2022.
- [10] M. El Fikri, D. N. Pane, and N. Siregar, "Memasarkan objek pariwisata kota medan melalui media sosial untuk menaikkan minat kunjungan dan menghapus paradigma negatif," *Jurnal Manajemen*, vol. 11, no. 2, pp. 69–79, 2019.
- [11] S. R. S. Rahayu, O. Amelia, and M. Hariz, "The Influence Of Job Design, Leadership, And Motivation On The Performance Of Service And Technical Officers PT. Razza Prima Transformer at PT. PLN Medan," *International Journal of Society and Law*, vol. 2, no. 1, pp. 206–214, 2024.
- [12] K. Hariwahyuna, R. Fitri, and F. F. Sigit, "Perencanaan Kawasan Pantai Wong Polo Desa Kota Pari di Kecamatan Pantai Cermin," *JAUR (JOURNAL OF ARCHITECTURE AND URBANISM RESEARCH)*, vol. 6, no. 2, pp. 137–145, 2023.
- [13] F. Fitriani, M. Alfahmi, and K. F. Ferine, "The Influence of Leadership and Supervision on Teacher Professionalism with Motivation as an Intervening Variable in MTs. Muhammadiyah 3 Kisaran," *International Journal of Social Science, Education, Communication and Economics (SINOMICS JOURNAL)*, vol. 3, no. 2, pp. 403–412, 2024.
- [14] W. Tiara, K. F. Ferine, and M. Alfahmi, "Analisis Pengaruh Pengembangan Sumber Daya Manusia dan Komitmen Organisasi terhadap Turnover Intention melalui Kepuasan Kerja," *Commodities, Journal of Economic and Business*, vol. 5, no. 3, pp. 137–150, 2025.