

# Effect of Leadership and Work Environment on Work Discipline with Job Satisfaction as an Intervening Variable at Municipal Waterworks of Padang

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## ABSTRACT

This study aims to determine the extent of the effect of leadership and work environment on work discipline with job satisfaction as an intervening variable at Municipal Waterworks of Padang. The sample in this research is permanent employee at Municipal Waterworks of Padang with a total of 245 people. This number of samples determined according to the Slovin formula, which collect a total of 152 samples taken using proportional cluster random sampling. Data collected using Likert scale questionnaires. Analysis technique using SEM, which uses SmartPLS analysis. The study found that leadership has a positive and significant impact on the working environment and job satisfaction, also on work attitude through job satisfaction and work environment, the working environment has positive and significant impact on work satisfaction and work discipline also through job satisfaction, and work satisfaction has a positive and significant impact on work discipline at Municipal Waterworks of Padang.

**Keywords:** Leadership, Working Environment, Work Satisfaction, Work Discipline

## 1. INTRODUCTION

Discipline is related to an employee's attitude and behavior in following company's rules. To create discipline, it is necessary to instill disciplined values in employees. Employee discipline can be seen from the responsibilities, attitudes, behavior, and actions of employees in complying with all applicable laws and social norms as well as all forms of regulations while they work for the company. An employee respects himself and also respects others through discipline. When an employee carries out his duties and authorities without a supervisor, the employee is basically aware of his responsibilities. This means that the employee is able to carry out his duties and fundamentally, he values his potential and abilities.

[8] states emphasized that discipline must be possessed by employees to ensure orderly execution of work and maintain good relations between employees for the sake of cooperation and mutual support for each other. Through discipline an employee in addition to respecting himself also respects others, in this case the researcher wants to know how to create work discipline at Municipal Waterworks of Padang.

According to [14] factors that influence work discipline include job satisfaction. [3] that job satisfaction is a feeling of pleasure over the achievement and success of an employee in a job that is directly related to productivity and personal well-being and is appropriately rewarded for his efforts. If the employee is satisfied with his job, then the employee has a positive and proud attitude, and evaluates his work because the work situation and conditions can meet the need, desire, and expectation. Therefore, researchers are interested in researching job satisfaction at Municipal Waterwork of Padang.

Furthermore, in the research of [2] found that leadership has a significant and positive impact on work discipline. A leader is said to be effective in his leadership, if his subordinates are well disciplined. Leaders play a very important role as role models for their subordinates in order to determining employee discipline. Leaders need to set an example, be disciplined, honest, fair and stick to what is said verbally.

According to [10] the creation of good work discipline is not only a physical work environment, but also a good non-physical work environment. [12] also said the same thing that a well-executed working

environment will have a major influence on work discipline. Comfortable work environment only applicable if employees can carry out their duties optimally, safely and comfortably. It means that the better and more comfortable working environment for employees, the higher work discipline applied in organization.

**2. THEORY**

**2.1 Work discipline theory**

According to [19] discipline is the loyalty and obedience of a person or group to written or unwritten rules that are reflected in behavior and actions. Furthermore, according to [4] discipline means all employee actions that comply with the policies, standards and rules that apply in the organization to achieve the goals that have been set. The indicators in this study serve to measure work discipline. [19] suggested that work discipline consists of 4 important indicators as follows: frequency of attendance, compliance with work standards, compliance with work regulations, work ethic.

**2.2 Job satisfaction theory**

According to [13] work satisfaction is the emotional direction that employees have to their tasks in the workplace and is an important component for employee motivation and encouragement for better performance. Furthermore, according to [3] that job satisfaction is a feeling of pleasure over the achievement and success of an employee in a job that

is directly related to productivity and personal well-being and is appropriately rewarded for his efforts.

Job satisfaction indicators according to [20] there are 5 indicators that can be measured, namely: salary satisfaction, satisfaction with the job themselves, satisfaction with promotions, satisfaction with supervisors, satisfaction with coworkers.

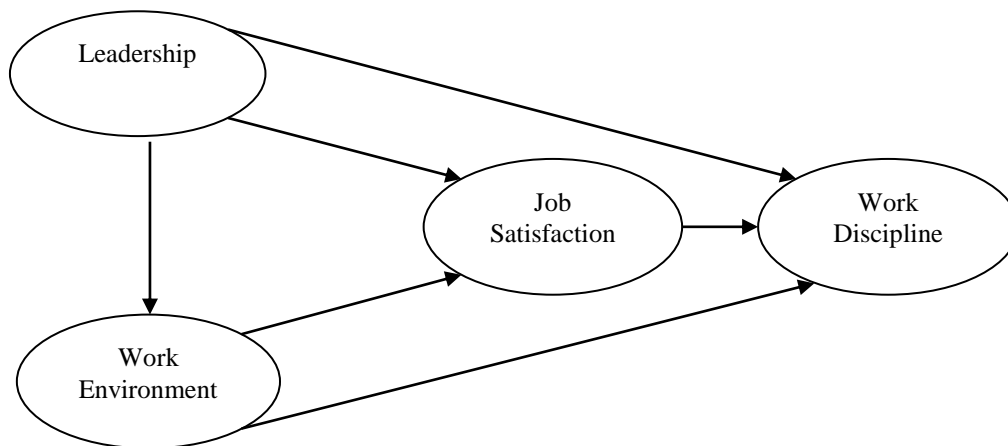
**2.3 Leadership theory**

According to [6] leadership is the ability to influence others. According to [2] leadership is the ability to impact a group and reach its goals. A leader has the greatest influence on employees to behave positively and able to work together and carry out organizational tasks so that they will make a real contribution to achieving organizational goals. According to [11] there are 5 indicators of leadership that can be measured, namely: having a clear vision and mission, providing vision and mission to all elements of the company, generating enthusiasm/motivation to employees, invite employee participation, set a good example.

**2.4 Work environment theory**

According to [9] the work environment is associated with a particular organizational climate in which employees perform their tasks. A comfortable and safe work environment can attract employees because they are likely to met their needs.

**Conceptual Framework**



**Figure 1.** Conceptual Framework

Furthermore, according to [21] the work environment is a physical and non-physical situation that surrounds the workplace and can give the

impression that work is fun and safe. A supportive working environment has positive impact on work continuity, while less supportive work environment

has a negative impact on work continuity. The indicators used to refer to the research of [15] which measure the work environment with 2 indicators : physical working environment, non-physical working environment.

### 3. METHOD

#### 3.1 Population and sample

The population of this study was all permanent employees of Municipal Waterworks of Padang as many as 245 people. The sample selection in this study was performed using a targeted sampling method, from a population of 245 people Padang Municipal Waterworks employees, a total of 152 people that will sampled in this study. The research instruments used in this research are conservation and questionnaires.

#### 3.2 Operational definition

##### 3.2.1 Work Discipline

Work discipline is the obedience and loyalty of the employees of Municipal Waterworks of Padang to written and unwritten regulations which are reflected in the form of behavior and actions to achieve goals.

##### 3.2.2 Job Satisfaction

Job satisfaction is a positive feeling of employees of Municipal Waterworks of Padang regarding the work of employees' expectations with the reality they

get in the organization. A high level of satisfaction indicates a positive attitude towards work.

##### 3.2.3 Leadership

Leadership is effort and ability of a person to influence others to produce better performance to achieve organizational goals.

##### 3.2.4 Work Environment

The working environment is a condition around employees while carrying out daily work activities, both physical and non-physical, which can be an obstacle for Municipal Waterworks employees to perform their assigned tasks.

### 3.3 Data Analysis Technique

#### 3.3.1 Descriptive Analysis

This analysis is intended to describe the characteristics of each research variable, how to present data in a frequency distribution table that calculates and interprets consistency and variability values.

#### 3.3.2 Data Analysis with Partial Least Square (PLS)

Data analysis performed using partial least square (PLS) method. PLS is a data analysis method that does not rely on many assumptions. For example, data should be normally distribute, it does not need to be large because this survey

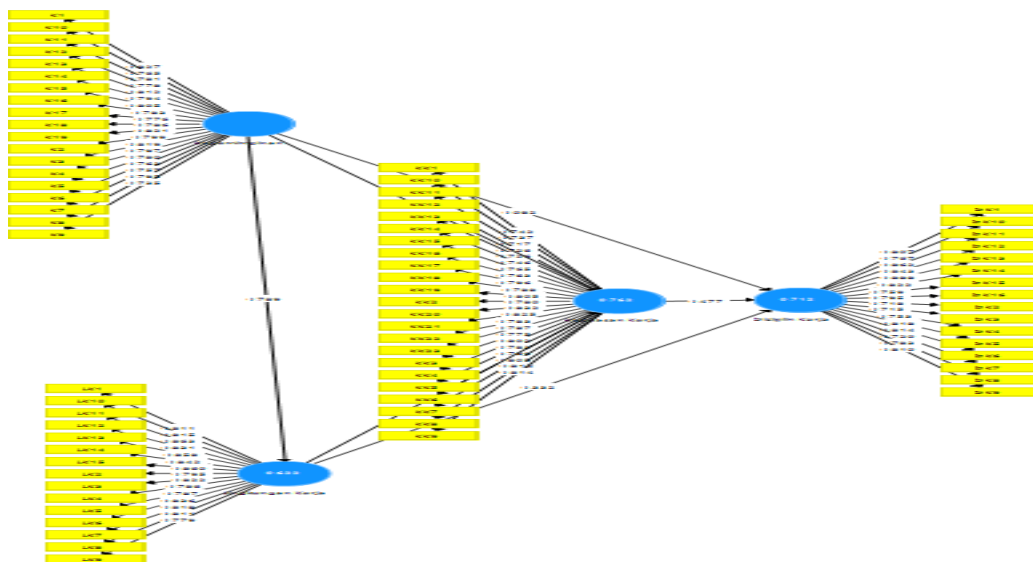


Figure 2. Variable Relationship Model

was limited to 152 respondents. There are two models of Structural Equation Modeling (SEM) PLS, outer model and inner model.

3.3.2.1. Outer Model

Outer model used to test construct validity and instrument reliability. Outer model consists of convergent validity and composite reliability.

3.3.2.2. Inner Model

Inner model used to test the hypothesis. Prior to testing the hypothesis, testing of the research test model (goodness of fit) must be done. The PLS inner model evaluated used R<sup>2</sup> (R-square) for dependent construct.

**4. RESULT AND DISCUSSION**

**4.1 Result**

The results of the hypothesis using PLS describe below:

*4.1.1 Convergent Validity Test*

Convergent validity test performed by examining the loading factor or outer loading. It is said to meet convergent validity if it has an outer loading value > 0.7. Figure 2 shows that the convergent validity is high because all indicators have a loading factor above 0.7.

*4.1.2 Composite Reliability Test*

Composite reliability is sufficient above 0.7.

**Table 1.** Result of Composite Reliability Analysis

Variable	Composite Reliability	Explanation
Work Discipline	0.964	Reliable.
Job Satisfaction	0.969	Reliable.
Leadership	0.973	Reliable.
Work Environment	0.969	Reliable.

*Source: Data Processed Results, 2021*

Table 1 shown that composite reliability value for all constructs were above 0.7 indicated that all constructs in the estimation model met the criteria.

Hypothesis testing performed to confirm the direct and indirect effect.

*4.1.3 Hypothesis Test*

**Table 2.** R-Square Analysis Result

Variabel	R-Square	R-Square Adjusted
Job Satisfaction	0.762	0.759
Work Discipline	0.712	0.706
Work Environment	0.622	0.619

*Source: Data Processed Results, 2021*

Table 2 shown the r-square on work satisfaction was 0.762, meaning leadership and working environment variables explain the job satisfaction variable by 76.2%, the remaining 23.8% explained by other constructs outside this study. The R-square of work discipline is 0.712, which means that the variables of leadership, work environment and job satisfaction explains 71.2% of the work discipline variables, the remaining 28.8% explained by other construct outside this study. Furthermore, the working environment r-square of 0.622 means leadership variable explains the working environment variable by 62.2% while 37.8% explained by other constructs outside this study.

This test is done by running bootstrap in a SmartPLS 3.3 program to get the relationship between exogenous variables and endogenous variables.

4.1.3.1 Direct Effect Hypothesis Test

Hypothesis test performed to determine direct effects between variables. This test performed by running bootstrap in SmartPLS 3.3 programme to get the connection between exogenous and endogenous variables. The direct effect of hypothesis test is done by looking at p-values <0.05.

**Table 3.** Results of Inner Model Analysis

Hypothesis	Original Sample (O)	Sample Mean (M)	SD	T Statistic ((O/STDEV))	P Value	Explanation
Leadership ->Work Environment	0.789	0.779	0.053	14.841	0.000	Significant
Leadership ->Job Satisfaction	0.828	0.819	0.046	18.022	0.000	Significant
Work Environment ->Job Satisfaction	0.452	0.445	0.064	7.113	0.000	Significant
Job Satisfaction ->Work Discipline	0.477	0.482	0.110	4.351	0.000	Significant
Leadership ->Work Discipline	0.738	0.724	0.063	11.715	0.000	Significant
Working Environment ->Work Discipline	0.547	0.545	0.084	6.500	0.000	Significant

Source: Data Processed Results, 2021

Based on table 3, the results of hypothesis testing of the direct effect of each variable are explained. The path coefficient value of leadership effect on the work environment is 0.789 with p-values 0.000 <0.05, meaning that there is a significant effect.

The path coefficient value of leadership effect on job satisfaction is 0.828 with p-values 0.000 <0.05, meaning that there is a significant effect.

The path coefficient value of the working environment effect on work satisfaction is 0.452 with p-values 0.000<0.05, meaning that there is a significant effect.

The path coefficient value of job satisfaction effect on work discipline is

0.477 with p-values 0.000<0.05, meaning that there is a significant effect.

The path coefficient value of leadership effect on work discipline is 0.738 with p-values 0.000<0.05, meaning that there is a significant effect.

The path coefficient value of work environment effect on work discipline is 0.547 with p-values 0.000<0.05, meaning that there is a significant effect.

4.1.3.2 Indirect Effect of Hypothesis Test

Hypothesis test is performed to identify and determine indirect effect between variables. Indirect effect hypothesis can be accepted if it produces p-values <0.05.

**Table 4.** Calculation of Indirect Variable Coefficients

Hypothesis	Original Sample (O)	Sample Mean (M)	SD	T Statistic ((O/STDEV))	P Values	Information
Leadership ->Job Satisfaction ->Work Discipline	0.225	0.228	0.064	3.513	0.000	Significant
Working Environment ->Job Satisfaction ->Work Discipline	0.215	0.214	0.058	3.718	0.000	Significant
Leadership ->Work Environment ->Work Discipline	0.262	0.257	0.076	3.436	0.001	Significant
Leadership ->Work Environment ->Work Satisfaction	0.356	0.347	0.057	6.259	0.000	Significant

Source: Data Processed Results, 2021

Table 4 shown results of hypothesis testing for indirect effect of each variable are explained. The path coefficient value of leadership effect on work discipline through work satisfaction is 0.225 with p-values  $0.000 < 0.05$ , meaning that there is a significant effect.

The path coefficient value of the work environment effect on work discipline through job satisfaction is 0.215 with p-values  $0.000 < 0.05$ , means it has a significant effect.

The path coefficient value of leadership impact on work attitude through work environment is 0.262 with p-values of  $0.001 < 0.05$ , means it has a significant effect.

The path coefficient value of leadership effect on work satisfaction through environment is 0.356 with p-values  $0.000 < 0.05$ , meaning that there is a significant effect.

## **4.2 Discussion**

### **H1: Leadership effect on the working environment**

Based on the results of data analysis, the leadership has positive and significant effect on the work environment at Municipal Waterworks of Padang. This is because leadership has an important role in supporting the implementation and effectiveness of work, where effective leaders rely on emotional appeal to be able to help convey their messages to create an optimal work environment. This finding is reinforced by research by [18] that leadership has positive and significant impact on the work environment.

### **H2: Leadership effect on job satisfaction**

Based on data analysis, leadership is known to has positive and significant impact on work satisfaction at Municipal Waterworks of Padang. This is because leadership is a leading activity carried out by the leader. With fair and appropriate leadership, subordinates feel fairness among fellow employees, this will allow to foster a sense of work satisfaction in employees. The findings in this study are reinforced by [5] and [6] that leadership has significant and positive impact on work satisfaction.

### **H3: Work environment effect on job satisfaction**

Data analysis shown working environment has significant and positive impact in work satisfaction at Municipal Waterworks of Padang. This is because the conditions of the work environment can affect a person in doing work. Employees who can do work comfortably without significant interference, be will able to complete the job well, so that they will get maximum results and will make employees satisfied with the results of their work.. The findings in this study are reinforced by research conducted by [1] and [13] that the work environment has positive and significant effect on job satisfaction.

### **H4: Job satisfaction effect on work discipline**

Based on data analysis, showed that job satisfaction has positive and significant impact on work discipline at Municipal Waterworks of Padang. This because job satisfaction is something that is individual, so employees who have achieved psychological job satisfaction will bring up a positive attitude in employees, thereby encouraging work passion, morale and the realization of company goals. The results in this study are supported by [7] and [14] that work satisfaction has significant and positive impact on work discipline.

### **H5: Leadership effect on work discipline**

Data analysis shown that leadership has significant and positive effect on work discipline at Municipal Waterwork of Padang. Successful achievements by the company is not only determined by the skills and abilities of the leader, but is also influenced by the visible impact, namely employee work discipline which is the continuous obedience of employees to the regulations made by the company. This is where the role of leadership is to determine the success or failure of the company in achieving its goals. The findings in this study are supported by [16] and [2] which states that leadership has positive and significant effect on work discipline.

### **H6: Working environment effect on work discipline**

Data analysis shown working environment has a positive and significant impact on work discipline at Municipal Waterworks of Padang. The work environment both physical and non physical has a considerable influence on the company's operations. Working environment has direct effect on employee work discipline in completing their responsibilities. For this reason, companies need to pay sufficient attention to their work environment, if the work environment is not managed properly, it will reduce work discipline. The results in this study are reinforced by research conducted by [10] [21] and [12] which stated the work environment has positive and significant impact on work disciplines.

### **H7: Leadership effect on work discipline through job satisfaction**

Data analysis shown that leadership has a positive and significant impact on work discipline through work satisfaction at Municipal Waterworks of Padang. A leader must guide, move, influence, control thoughts, feelings, and motivate employees, in order to achieve organization goals. If a job is considered enjoyable by employees, it will result in good performance. When leadership is applied properly it will create job satisfaction, with good job satisfaction it will strengthen work discipline. This result is consistent with studies by [5] which stated leadership has positive and significant impact on work satisfaction and by [7] which stated that work

satisfaction has positive and significant impact on work discipline.

#### **H8: Work environment impact on work discipline through work satisfaction**

Data analysis shown working environment is known to has positive and significant effect on work discipline through work satisfaction at Municipal Waterworks of Padang. Working environment is one of the factors that influence the satisfaction of employees' work, where if the working environment is comfortable, it will affect the employee to work harder and concentrate in completing the job. When the work environment is implemented properly, it will create good work satisfaction as well and will strengthen work compliance. The result of this study are supported by [1] which stated working environment has positive and significant effect on job satisfaction, and research conducted by [14] that work satisfaction has significant and positive impact on work discipline.

#### **H9: Leadership effect on work discipline through the working environment**

Based on data analysis, leadership is known to has positive and significant effect on work discipline through the work environment at Municipal Waterworks of Padang. Achieving the success of an organization is determined by the ability of the leader. Leaders must also be able to maximize the potential in the organizational environment to increase organizational efficiency. The work environment really needs to be considered by the leadership because the work environment can directly affect employees doing their job. For employees, an adequate working environment can improve work compliance. Result in this research are supported by [18] which stated leadership has significant and positive effect on the working environment, and research conducted by [10] stated working environment has significant impact on work discipline.

#### **H10: Leadership effect on work satisfaction through the working environment**

Based on data analysis, leadership is known to has positive and significant effect on job satisfaction through the working environment at Municipal Waterworks of Padang. This shows that the work environment variable is able to increase the influence of leadership on job satisfaction and has a positive mediating effect. A leader must be able to create a conducive work atmosphere and manage the work environment well. A comfort working environment enhances employee work satisfaction. The findings in this study are reinforced by research conducted by [18] that leadership has a positive and significant effect on the work environment and research conducted by [1] and [17] which stated that working

environment has a significant impact on work satisfaction.

## **5. CONCLUSION**

The results of this research conclude the variables of leadership, working environment and work satisfaction have positive and significant impact on the work discipline of Municipal Waterworks of Padang.

Based on the conclusions, author suggest that can be submitted in this study are expected by the leadership to always be an example, able to motivate and inspire employees so that employees work more than expected, and to pay more attention to the work environment, especially the physical work environment by providing all equipment that supports employees in their work. work like computers and wifi, lighting, ventilation, air conditioning in the workplace. In addition, the leadership is also expected to provide equal opportunities to all employees for promotion based on work performance, competence, years of service, and provide training for skill development as well as provide balanced rewards and punishments so that employees can work professionally.

## **AUTHORS CONTRIBUTION**

First author contributes as researcher and data explorer of the journal, and the second author acts as a supervisor.

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## **REFERENCES**

- [1] Agbozo, G. K., Owusu, I. S., Hoedoafia, M. A., & Atakorah, Y.B." The Effect of Work Environment on Job Satisfaction: Evidence from the Banking Sector in Ghana". *Journal of Human Resource Management*. Vol. 5, No. 1, 12-18.2017.
- [2] Asrianto., Basamalah, H. S., Hamzah, H. M. N., Zakaria, J."Effect of Leadership, Work Motivation and Local Culture on Work Discipline and Employee Performance Wajo District". *International Journal of Innovative Science and Research Technology*. Vol. 4, No. 4.2019.

- [3] Aziri, Brikend."Job satisfaction: A literature review.*Management research and practice.*" Vol. 3 No. 4, 77-86.2011.
- [4] Budgol, M."Different Approach to Work Discipline". [https://doi.org/10.1007/978-3-319-74008-9\\_1](https://doi.org/10.1007/978-3-319-74008-9_1). 2018.
- [5] Cakmak, E., Oztekin O., and Karadag E."The Effect of Leadership on Job Satisfaction". *Springer International Publishing Switzerland*. 2015.
- [6] Chang, Su Chao."A study on relationship among leadership, organizational culture, the operation of learning organization and employees' job satisfaction". *Emerald Group Publishing Limited* Vol. 14 No. 2, 155-185. <https://DOI.10.1108/09696470710727014>.2007.
- [7] Hadian, Dedi."Effect of job satisfaction on work discipline mediated by continuance commitment". *Jurnal Ekonomi, Bisnis & Entrepreneurship*. Vol. 13, No. 1, 17-24.2019.
- [8] Hafied, Hamzah."Leadership, Compensation, Work Discipline are Able to Improve Performance Clerk PD Market City of Makassar". *International Journal of Scientific & Technology Research*. Vol. 6, No. 03, 46-50.2017.
- [9] Hanaysha, Jalal."Testing the effects of employee engagement, work environment and organizational learning on organizational commitment". *Procedia - Social and Behavioral Sciences*. Vol.229, 289-297.2016.
- [10] Purwanta, Frida F., & Nawangsari Lenny C. "The Influence of Work Motivation, Organizational Culture, and Work Environment on the Work Discipline of Employees PT Inti Karya Persada Teknik". *International Journal of Scientific and Research Publications*. Vol. 8, No. 12, 86-92.2018.
- [11] Putra, A. K., ."Effect of Leadership, Motivation and Discipline of Work on Employee Performance CV. Kiong Ho Surabaya". *Journal of World Conference*. Vol. 1. No. 1, 9-16.2019.
- [12] Putri, E. M., Ekowati, V. M., Supriyanto, A. S., & Mukaffi, Z."The Effect Work Environment on Employee Performance Through Work Discipline". *International Journal of Research-Granthaalayah*. Vol. 7, No. 4, 132-140.2019.
- [13] Raziq, Abdul., & Maulabakhsh, Raheela. "Impact of Working Environment on Job Satisfaction". *Procedia Economics and Finance*. Vol. 23. 717-725. [https://doi:10.1016/S2212-5671\(15\)00524-9](https://doi:10.1016/S2212-5671(15)00524-9).2015
- [14] Rochman, Adhi Nur., & Aulia, Irfan Novianidy."The Effect of Job Satisfaction, Motivation and Organizational Climate on Employee Discipline PT Sinar Dewi Indah".*International Journal of Innovative Science and Research Technology*. Vol. 4, No. 8.2019.
- [15] Sheykhhan, A., & Saghaee, Abbas."How physical and non-physical working environment affects creativity: An empirical study". *Management Science Letters*, 1 (3) 335-340. <https://doi.org/10.5267/j.msl.2011.03.001>.2011.
- [16] Sudja, I. Nengah., & Yuesti, Anik."The Influences of Education and Training, Leadership, Work Environment, Teacher Certification on Discipline and Teacher's Professionalism in High School at Bali Province".*Scientific Research Journal (SCIRJ)*. Vol. 5, No. 9, 102-108.2017.
- [17] Sukdeo, Nita."The effect of the working environment on employee satisfaction and productivity: a case study in a clothing manufacturing factory".*Proceedings of the International Conference on Industrial Engineering and Operations Management*.2017.
- [18] Supaman, Lalu., Nasir, Mahyuddin., & Serif, Sarifudin." The Effect of Leadership on Working Conditions, Work Motivation, and Organization Commitment".*Global Journal of Management and Business Research: A Administration and Management*. Vol. 19, No. 15.2019.
- [19] Thiaief, Ilham., Baharuddin, Aris.,Priyono., & Idrus, Mohamad Syafi'i."Effect of Training, Compensation and Work Discipline against Employee Job Performance (Studies in the Office of PT. PLN (Persero) Service Area and Network Malang)".*Review of European Studies*. Vol. 7, No. 11.2015.
- [20] Tsai, Chien Wen."Leadership Style And Employee's Job Satisfaction In International Tourist Hotels". *Advances in Culture, Tourism and Hospitality Research. Emerald Group Publishing Limited*. Vol. 2, 293-332.2015.
- [21] Wirya, Komang Edy S."The Effect of Compensation and Work Environment on Work Discipline and Performance of Mini Mart Employees in Denpasar City". *Jurnal Ekonomi dan Bisnis Jagaditha*. Vol. 6, No. 1, 60-71.2019.