J. Appl. Environ. Biol. Sci., 7(5)126-130, 2017
© 2017, TextRoad Publication

ISSN: 2090-4274
Journal of Applied Environmental and Biological Sciences
www.textroad.com

The Moderator Work Discipline on Performance of Lecturer through Work Ethos Based on Student Perception *Prodi* Mathematics Education Using Partial Least Square

Tri Yuni Hendrowati[1*] and Bambang Widjanarko Otok[2]

[1]STKIP Muhammadiyah Pringsewu Lampung
[2]Department of Statistics, 'Sepuluh Nopember' Institute of Technology (ITS), Surabaya

Received: January 11, 2017
Accepted: March 6, 2017

ABSTRACT

Workforce productivity a lecturer seen the dimension of the organization is the technical relationship between inputs and outputs. To achieve optimal productivity growth required several factors supporting among others is the existence of a harmonious work climate, work ethos and discipline high work. The purpose of this penlitian is examine the patterns of relationship work climate, working discipline, work ethos and workforce productivity lecturers prodi mathematics education based on the perception of the students. The results of the study showed that the productivity model work through the work ethos is the model fit and have high accuracy. The indicator on the work climate, working discipline, work ethos and workforce productivity is valid and reliable. Workforce productivity is seen from the measurement obtained that working with academic ability and skills development (*efficacy*) (88.1%), who works with the principle of effectiveness (85.8%) and that work using the principles of efficient (88.9%) was influenced by the dominant factor namely working discipline interaction with the work ethos (58.6%) and climate change work (47.6%). Working discipline that moderate work ethos of productivity provid the influence that is strengthened by 58.6%.
KEYWORDS: Performance, work ethos, working climate, discipline, moderating, PLS.

INTRODUCTION

Productivity is a system that consists of inputs, process and output. Inputs are said to use the resources efficiency using minimal resources while the output is a collection of results that show effectiveness to produce the amount and quality of output which is needed by a profit, success good services, increased activities and the existence of feedback [1].

The development of science, technology, art and culture tend to move forward more and more fast, so demanding the company more professional and good performance [2]. Each company is faced with the challenge of improving the quantity, productivity is focused, planned and sustainable development to improve the quality of the product [3]. In this case, required Professionalism improvement of company management and demand an active role and management performance [1][4].

According to [5], stated that the climate of the work is the internal environment that represents the factors in the organization that created the culture and social environment where the activities of the achievement of the purpose of progress. Then [6], stated that the climate of the work is the internal environment or the psychology of the organization that affect the practice and HR policies that received by members of the organization. Each organization will have a different working climate.

Other supporting factor in increasing the productivity of work is a work ethos. According to [2], the work ethos is defined as the behavior of the ethical work that became fashionable axis work ethics or in other words the more a simple, work ethos are all good habits that are based on the ethics that must be done to standstill work. The work ethos in the organization, includes the motivation that move, the main characteristics of the spirit basis, basic mind, code of ethics, moral code, behavior code, attitudes, public aspirations, beliefs, the principles and standards that became the basis of the behavior and the values that adopted the individuals of human beings in the organization or its social context [4][7].

The work ethos is an important part of the success of human beings, both in limited job community as well as in the wider social environment. With a high work ethos of the company or organization will be able to increase productivity as expected. Increased work ethos in the organization is the duty and responsibility of all layers, especially leader in build and guide his subordinates that can work with the good and right according to the tasks and their respective functions. With a good working ethos and it will be created a working atmosphere conducive environment that will support the implementation of the tasks that are good and provide a high level of productivity [3].

***Corresponding Author:** Tri Yuni Hendrowati, STKIP Muhammadiyah Pringsewu Lampung. E-mail: yunisyajono@yahoo.co.id

According to [2], stated that 17-18 experiments in an organization shows a positive improvement after the work ethos. The research states that the work ethos provides better performance and a better satisfaction. This suggests the importance of the success of an organization that must be supported by the work ethos is high. The work ethos indeed needs to be owned by everyone so that the life of the organization can be safely, orderly and smoothly [8]. According [9], said the problem of discipline of the work is a problem that needs to be noted, for with the existence of discipline, can affect the effectiveness and efficiency in the achievement of the purpose of the organization.

Discipline is a function of the operative management of human resources is most important because the better discipline work will be the higher the achievements of work that can be achieved [10]. The success of the college in order to stay ahead and exist in various things need to have lecturers who consider discipline, work ethos is high, climate change organizations that support and good performance. Therefore, improving disciplines became an important part in the management of human resources, as an important factor in improving performance. The problems that arise is how efforts to improve employee discipline.

So also with the work ethos, in general work ethos of Indonesians are still tends to be low based on the result of observation, this can be seen in the case of inaccuracy time. Often the delay starts an event, delay in hours to work and delays in the schedule departure from transportation or delay the other delays caused indiscipline will time [1][3][4].

The method used in this research are *Structural Equation Modeling* (SEM) [11] with partial least square (PLS) [14] approach aimed at working climate modeling and moderation working discipline on the work ethos of workforce productivity lecturers [12].

METHODOLOGY

Data collection is done by using questionnaires and supported by observation. The population in this research is all students study program in mathematics education STKIP Muhammadiyah Pringsewu Lampung. The sample in this research are 30 students, taken probability sampling techniques simple random sampling, where all the elements that there be populated have the same opportunity for was taken away as the sample represents the population [13]. The latent variable that is used is a work climate (psychological, structural, social, bureaucratic), a work discipline (working time, discipline, working standards, supervisor), a work ethos (mercy, trust, calls, actualisation, worship) and a productivity of work (efficacy, effectiveness, efficiency). Confirmatory Factor Analysis used test the validity of a theoretical change [14]. The primary concept that is used in this case is the measurement validity and reliability. Sounding parameters and testing the hypothesis used partial least square and bootstraping [11][15]. The framework of the concept as follows.

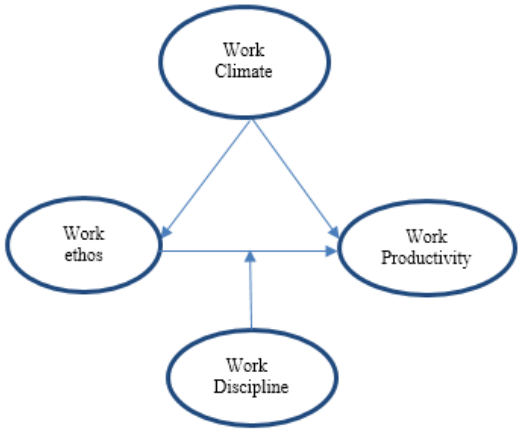

Figure 1.
Path Diagram Moderating Work Discipline against The Work Productivity through Work ethos [15]

Path Diagram on the Figure (1) above can be converted into structural model as follows [15]:

Work Ethos = γ_{11} Work Climate + δ_1
Work Productivity = γ_{21}Work Climate + γ_{22}Work Discipline + β_{13}Work Ethos
+ βγ Work Discipline* Work Ethos + δ_2

RESULTS AND DISCUSSION

The measurement of the model consists of a validity test and reliability test. The results are presented in detail in the following table.

Table 1. Validity and Reliability Test of Indicators on Latent Variable

Variables	Indicators	Validity		*Composite Reliability (C-R)*
		Loading (λ)	T-Statistics	
Work climate (X)	Psychological (X1.1)	0.746	40.775	0.862
	Structural (X1.2)	0.709	42.787	
	Social (X1.3)	0.765	42.315	
	Bureaucratic (X1.4)	0.895	139.522	
Work Discipline (Z)	Working time (Z1.1)	0.838	81.875	0.925
	Discipline (Z1.2)	0.884	113.175	
	Working standards (Z1.3)	0.851	92.590	
	Supervisor (Z1.4)	0.904	197.373	
Work ethos (Y1)	Mercy (Y1.1)	0.637	37.173	0.858
	Trust (Y1.2)	0.624	29.343	
	Call (Y1.3)	0.808	72.056	
	Aactualisation (Y1.4)	0.826	96.615	
	Worship (Y1.5)	0.788	71.901	
Work Productivity (Y2)	Efficacy (Y2.1)	0.881	133.322	0.908
	Effectiveness (Y2.2)	0.858	144.678	
	Efficiency of (Y2.3)	0.889	186.522	

Table 1., shows the value of loading factor worth more than 0.5 and T-Statistics > 1.96 each indicator on the latent variables, work climate (X1), work discipline (X2), work ethos (Y1) and work productivity (Y2) then all said indicator is valid and significant in forming the latent variable. While for reliability Table 1, also shows that all the latent variable gives the value of Composite Reliability (C-R) above the value of the cut-off his 0.7 it can be said all the latent variable. The indicator a bureaucratic (89.5%) and social (76.5%) is the dominant indicator in the form the work climate (X), obedience to superiors (90.4%) and discipline (88.4%) is the dominant indicator in the form of discipline of work (Z). Actualization (82.6%) and call (80.8%) is the dominant indicator in the form the work ethos (Y1), while in work productivity, all indicators to contribute in over 80%.

After the validity and reliability test on all latent variables which valid and reliabel results, then continued in the analysis with the form of the path diagram of finances as follows.

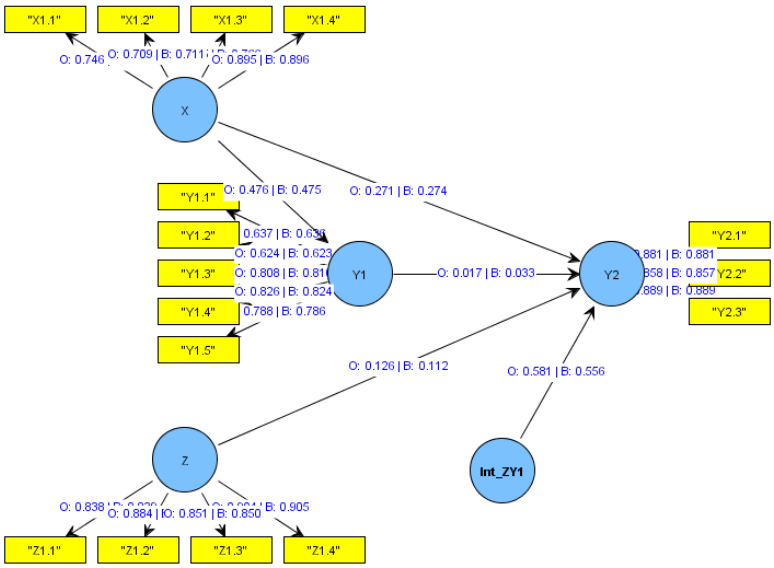

Figure 2. Moderarting discipline in the work ethos of workforce productivity

The test results of the full model can be seen from the values R-Square that illustrates the goodness of fit model. The value of R-Square that is recommended is greater than zero. The value of R-square presented in Table 2 below:

Table 2. Goodness of Fit Model Response Variable

Exogenous variable → Endogenous Variable	*R-Square*
Work Climate (X) → Work Ethos (Y1)	0.627
Work Climate (X), Work Discipline (Z), Work Ethos (Y1), Work Discipline with Work Ethos interaction (Int_ZY1) → workforce productivity (Y2)	0.793

Table 2 explains that the donation or the proportion working climate variables (X) in explaining the variations around the variables work ethos (Y1) of 0.618, further contributions or the proportion working Climate variables (X), discipline work (Z), work ethos (Y1), working discipline interaction with the work ethos (INT_ZY1) in explaining the variations around the productivity variable (Y2) of 0.727. All values R-square greater than zero means that the model of this research is already meet the goodness of Fit is required, while the value of $Q^2 = 0.896$, means moderating model working discipline on the work ethos of workforce productivity has high accuracy.

Figure 2 can be interpreted each path coefficient. The path coefficient is the hypothesis in research that can be performed in the following structural equation:

$$Y1 = 0.476\ X, \qquad R^2 = 0.618$$
$$Y2 = 0.271\ X + 0.126\ Z + 0.017\ Y1 + 0.581\ Int\_ZY1, \qquad R^2 = 0.727$$

The results of the structural path coefficient (Inner Weight) along with the value of the full significance is shown in Table 3.

Table 3: Inner Weight Test on Work Productivity Model

Exogenous variable → Endogenous Variable	**Coefficient Orginal**	**The Bootstrap samples (B=150)**		
		Coefficient	**Standart Deviation**	**T - Statistics**
Work Climate (X) → Work ethos (Y1)	0.476	0.475	0.020	23.511
Work Climate (X) → Work productivity (Y2)	0.271	0.274	0.024	11.378
Work Discipline (Z) → Work productivity (Y2)	0.126	0.112	0.051	2.438
Work ethos (Y1) → Work productivity (Y2)	0.017	0.033	0.008	1.971
Interaction_ Work Discipline_Work Ethos (ZY1) → Work productivity (Y2)	0.581	0.556	0.167	3.466

Note: → : influential

Based on the Table 3, interpretation of each path coefficient is as follows:

- The climate of work (X1) have positive and significant impact on the work ethos (Y1). This can be seen from the path marked by the positive coefficient of 0.476 with T-Statistics value of 23.511 greater than t-table 1.96. Thus the Climate Change work (X1) directly impact on the work ethos (Y1) of 0.476, which means that every there is increasing Climate Change work (X1) then will increase the work ethos (Y1) of 0.476.
- The climate of work (X1) have positive and significant impact on the productivity of work (Y2). This can be seen from the path marked by the positive coefficient of 0.271 with T-Statistics value of 11.378 greater than t-table 1.96. Thus the Climate Change work (X1) directly impact on productivity of work (Y2) of 0.297, which means that every there is increasing Climate Change work (X1) then will increase the productivity of work (Y2) of 0.271.
- Working discipline (X2) have positive and significant impact on the productivity of work (Y2). This can be seen from the path marked by the positive coefficient of 0.126 with T- Statistics value of 2.438 greater than t-table 1.96. Thus the discipline of work (X2) directly impact on productivity of work (Y2) of 0.126, which means that every no improvement of the discipline of work (X2) then will increase the productivity of work (Y2) of 0.126.
- The work ethos (Y1) have positive and significant impact on the productivity of work (Y2). This can be seen from the path marked by the positive coefficient of 0.017 with T- Statistics value of 1.971 greater than t-table 1.96. Thus the work ethos (Y1) directly impact on productivity of work (Y2) of 0.017, which means that every there is increasing work ethos (Y1) then will increase the productivity of work (Y2) of 0.017.
- Working Discipline interaction with the work ethos (Y1) have positive and significant impact on the productivity of work (Y2). This can be seen from the path marked by the positive coefficient of 0.581 with T-Statistics value of 3.466 greater than t-table 1.96. Thus the work ethos (Y1) directly impact on productivity of work (Y2) of 0.017, which means that every no improvement of the discipline of work (Z) that moderate work ethos (Y1) then will increase the productivity of work (Y2) of 0.581.

It states that with discipline lecturers is obedience to superiors and discipline then target job completion as the actualisation of themselves and the call as a lecturer is reached which in turn affect the productivity of the work of the organization. Working discipline lecturer there in a unit that has moderated with work ethos will strengthen

the productivity of its work and has a high ability in completing tasks and responsibilities. Show that climate change is not important in influencing the work ethos directly and ultimately also affect workforce productivity.

CONCLUSION

The results of the study showed with PLS approach that moderating working discipline on the work ethos of the productivity of work is a model that fit with high accuracy. The indicator on the work climate, working discipline, work ethos and workforce productivity is valid and reliable. The influence of the work ethos without any moderation effects to productivity has a small influence, but after no moderation effects working discipline gives the influence that is strengthening against the workforce productivity. Work climate formed by other bureaucratic dimension (89.5%) and social (76.5%), working discipline formed by the indicator of obedience to superiors (90.4%) and discipline (88.4%), work ethos formed by actualization indicator (82.6%) and call (80.8%). Workforce productivity is seen from the measurement obtained that working with academic ability and skills development (*efficacy*) (88.1%), who works with the principle of effectiveness (85.8%) and that work using the principles of efficient (88.9%) was influenced by the dominant factor namely working discipline interaction with the work ethos and climate change work.

REFERENCES

[1] Rinaldi, U., (2016). Dampak Disiplin, Etos Kerja dan Iklim Organisasi Terhadap Kinerja (Studi Kasus Pada PT Sentosa Pontianak). *Jurnal Eksos*, Agustus 2016, Th. XI, No. 1

[2] Jansen, S. (2002). *Etos Kerja 21 Etos Kerja Profesional di Era Digital Global*, Ed 1, Jakarta: Institut Darma Mahardika.

[3] Priyanto, S. (2009). *Cara Meningkatkan Etos Kerja dan Motivasi Kerja*, http://www.adln.lib.unair.ac.id.

[4] Setiadi, Bambang W.O, Dya S., (2017). The Work Productivity of Non-Military Nurses trough the Work Ethos in Navy Hospital Dr Ramelan Using Structural Equation Modeling. *J. Appl. Environ. Biol. Sci.*, 7(2)1-6, 2017. © 2017, TextRoad Publication.

[5] Steers and Porter .(1991). *Motivation an Work Behaviour, International Student.* Second Edition, Singapore: Mc Graw Hill

[6] Zimmamoto R. (1992). *Organisasi Theory (Integrating Structure and Behavior)*. Prentice Hall : New York, London.

[7] Marquis, B.L., & Houston, C.J. (2000). *Leadeship Roles and management Function in Nursing : Theory and Applications.* (3rd.ed). Philadelphia : Lipincott.

[8] Khan, K., Abbas, M., Gul, A., & Raja, U., (2013). Organizational Justice and Job Outcomes: Moderating Role of Islamic Work Ethics. *Journal of Business Ethics*. DOI 10.1007/s10551-013-1937-2.

[9] Tulus, (2004). *Peran Disiplin pada Perilaku dan Prestasi Siswa*, Jakarta : PT. Grasindo.

[10] Sukamto, E. (2005). Analisis Beban Kerja dan faktor-faktor yang berhubungan dengan Disiplin Kerja. Program Pasca Sarjana Keperawatan Universitas Indonesia: *Tesis* tidak dipublikasikan

[11] D. B. K. Wahjudono, L. Ellitan, B.W. Otok. (2013). Confirmatory Factor Analysis on Organization Reputation, Strategic Leadership, and Organization Culture as a Resources-Based View. *Journal Management Research* – 2013, **Vol**. 5, No. 2 – ISSN 1941 – 899X.

[12] Dya Sustrami, Bambang Widjanarko Otok, Hidayatus Sya'diyah. (2016). The Modeling Pedagogy Competency Using Structural Equation Modeling. *J. Basic. Appl. Sci. Res., 6(7)1-6, 2016.* TextRoad Publication**,** ISSN 2090-4304

[13] Levy, P.S., and Stanley, L. (1999). *Sampling of Populations: Methods and Applications*. Third Edition. John Wiley and Sons. Inc. New York

[14] DE Araujo, B. Christiananta, L. Ellitan, B.W. Otok. (2013). Conformatory Factor Analysis on Organization Leadership, Corporate Culture, Good Corporate Governance and Company Performance. *SAVAP Journal.*

[15] Poernomo, E., Rusdi N.H. Bambang W.O., (2015). Moderating Regional Tax Regulation on Service Quality to Taxpayers Compliance using Partial Least Square. *International Journal of Academic Research*. DOI: 10.7813/2075-4124.2015/7-4. Part B. Vol. 7. No. 4. July, 2015.