Implementation of Knowledge Sharing and Group Cohesiveness to Improve Lecturer Performance through Satisfaction of Basic Psychological Needs and Intrinsic Motivation

Anik Herminingsih[1,*], Suprapto[1], and Lina Mahardiana[2]

[1] Faculty of Economics, Universitas Mercu Buana, Jakarta, Indonesia
[2] Faculty of Economics, Tadulako University, Palu, Indonesia
Email: anik_herminingsih@mercubuana.ac.id (A.H.)
*Corresponding author

***Abstract*—Improving the quality of higher education can be done, among other things, by increasing the performance of lecturers. The research used a quantitative causality approach and was carried out at universities in Indonesia by taking a sample of 181 university lecturers in management study programs. Data was obtained through a questionnaire distributed online using Google Forms. The data was processed using a Simultaneous Equation Model (SEM) with the AMOS program. The research results show that knowledge sharing has a positive and significant effect on intrinsic motivation. Likewise, cohesiveness has a positive and significant effect on intrinsic motivation. Furthermore, intrinsic motivation has a positive and significant effect on lecturer performance. Thus, intrinsic motivation mediates the influence of knowledge sharing and cohesiveness on lecturer performance. Knowledge sharing and cohesiveness have a positive and significant effect on basic psychological needs. However, fulfilling basic psychological needs has no effect on lecturer performance, meaning that basic psychological needs do not mediate the influence of knowledge sharing and cohesiveness on lecturer performance.**

***Keywords*—knowledge sharing, group cohesiveness, self-determination theory, lecturer performance**

I. Introduction

As in Ref. [1], the competitiveness of higher education institutions in Indonesia is still low compared to universities in the Asian region such as Singapore, Brunei, Malaysia, Thailand, and the Philippines. Based on the ranking from the Quacquarelli Symonds World University Rankings (QS WUR, 2020), which is a reference for the quality of international higher education institutions, no Indonesian higher education institution has yet entered the top 100 in the world. Based on the ranking released by the Academic Ranking of World Universities 2020 (ARWU 2020) from Shanghai Jia Tong University, there are no universities in Indonesia that are ranked in the top 100 of the world's best universities. The competitiveness of higher education is very important to get attention because research results by Chentukov *et al.* [2] show that the level of competitiveness of higher education is closely correlated with indicators such as the level of global innovation development, the level of knowledge intensity of GDP, and the level of socio-economic development lecturers are knowledge workers who have management over themselves and control over the growth and development of their intellectual capital. A lecturer as a knowledge worker has special characteristics, namely being more independent, tends to be more loyal to his work than his employer, has a high turnover rate, finds it difficult to monitor work processes and measure work performance, pursues self-actualization, has knowledge capital, and is vague. boundaries with leadership and defy administrative authority. The lecturer profession is based on the Law of the Republic of Indonesia article 9 paragraph 3. A lecturer has scientific autonomy, where scientific autonomy is conceptualized as the autonomy of academics in a branch of science and/or technology in discovering, developing, expressing, and/or maintaining the truth. scientific according to scientific principles, methods, and academic culture.

One of the determining factors for higher education competitiveness is the quality of higher education. Improving the quality of higher education can be done, among other things, by increasing the performance of lecturers. According to Kanya *et al.* [3], the quality of lecturers in Indonesia is still low, both in terms of competence, knowledge, and pedagogical expertise. Based on the Law of the Republic of Indonesia [4] about Teachers and Lecturers, it is stated that lecturers are professional educators and scientists with the main task of transforming, developing, and disseminating science, technology, and art through education, research, and community service. Lecturer performance is an important factor in efforts to ensure quality management of higher

Manuscript received July 6, 2024; revised August 7, 2024; accepted September 23, 2024; published November 21, 2024.

education. As stated by Nadeak [5], lecturers have high motivation and competence and are supported by good leadership, which will improve their performance. This is in accordance with the AMO theory of Mat *et al.* [6], which states that performance is determined by ability, motivation, and opportunity. Meanwhile, Aisyah [7] emphasizes the importance of culture and cohesiveness to improve lecturer performance.

Based on the characteristics of lecturers as knowledge workers who require competence in carrying out their duties, most of whom are driven by intrinsic motivation and have scientific autonomy, to improve lecturer performance, researchers will use a self-determination theory approach. Self-determination theory is a motivation theory developed by Edward L. Deci and Richard Ryan in 1985. This theory explains the importance of fulfilling basic psychological needs, namely competence, autonomy, and connectedness as the basic construct of a person's intrinsic motivation as stated by Ho *et al.* [8] and Zhan *et al.* [9].

II. Literature Review

This self-determination theory identifies 3 basic psychological needs which, if fulfilled, will grow and function optimally [10]. The three basic psychological needs are as follows:

(1) Competence: refers to the ability in which humans usually react according to the place or environment they are in.
(2) Attachment: the universal (general) desire to interact, relate to, and be loved by others.
(3) Autonomy: the universal drive for control over oneself that is not external.

Research by Herminingsih [11] with the implementation of self-determination theory on lecturer performance at Mercu Buana University finds that fulfilling basic psychological needs has a positive and significant effect on motivation which in turn influences lecturer performance. This shows the importance of fulfilling basic psychological needs, namely autonomy, relatedness, and competence in forming motivation and subsequently improving lecturer performance.

Knowledge sharing is one of the most fundamental activities in organizational operations. As in Ref. [12], knowledge sharing is defined as the exchange of task-related information, advice, and expertise to help others and collaborate with others to carry out daily tasks, solve problems, and develop new ideas. Ahmad and Karim [13] stated that at the individual level, sharing knowledge has three types of impacts. Sharing knowledge influences individual performance, learning, and creativity, as well as psychological effects. The significant effect of knowledge sharing on performance and competence is stated by Every and Ferdian [14], Akhavan *et al.* [15], and Triana and Rugaiyah [16]. Meanwhile, research by Jiang and Hu [17] stated that psychologically, sharing knowledge increases job satisfaction among employees, and sharing knowledge also increases employee life satisfaction because it fosters quality relationships, reduces work-related stress, and improves work-life conflict. It was stated by Yang [18] that effective knowledge exchange in colleges and universities must meet the following three conditions: First, there is knowledge enough and valuable that can be shared at colleges and universities. Basically supports the background section by providing evidence for the proposed hypothesis. Second, recipients of shared knowledge have a strong will to receive knowledge from other members, and have sufficient capacity to receive knowledge or information. Third, there are appropriate ways and appropriate environments for sharing knowledge at universities. Qisty [19] stated that one of the media used by Binus University's knowledge transfer activities is to build a document management portal called the Binus Portal.

Research on knowledge sharing and cohesiveness in Taiwan by Huang [20] found that knowledge sharing and group cohesiveness had a positive and significant effect on team performance. The definition of cohesiveness as in Ref. [21] is one of the five characteristics that influence group dynamics. It is also stated by Gachter *et al.* [22] that the cohesiveness of a group unites group members in a network of interpersonal relationships based on interaction, goals, interdependence, and member structure. As stated by Wuryaningrat [23], Vansteenkiste *et al.* [24], and Freudling [25], intrinsic motivation is an important factor that increases performance. The intrinsic motivation factors that increase lecturer performance are also stated by Retnowati *et al.* [26].

Based on the description above, the team will conduct research with the title: Implementation of Knowledge Sharing and Group Cohesiveness to improve Lecturer Performance through Satisfaction of Basic Psychological Needs and Intrinsic Motivation (Self Determination Theory Approach).

III. Materials and Methods

The research uses a survey method, and is explanatory research which aims to explain the influence between variables through hypothesis testing. Hypotheses are prepared based on theory and previous empirical research for the same field,

The research population was all lecturers at state and private universities from the economics and business faculties. The sample size was planned to reach 200 respondents, but the questionnaire returned was 181 respondents. However, the number 181 meets the criteria so it is good for data processing using AMOS.

Primary data was collected using a questionnaire, which was filled in by self-reporting by respondents. The questionnaire delivery technique is delivered using Google Form facilities to respondents, where this technique is better than other methods because it can reach respondents quickly and widely.

Data were used for model estimation using Structural Equations (SEM) using the AMOS program package. SEM is used because it allows researchers to test relationships between complex variables to obtain a comprehensive picture of the entire model.

IV. Result and Discussion

A. Descriptive Statistics

Descriptive statistical analysis was used to evaluate conditions related to research variables based on respondents' perceptions of filling out the questionnaire. Respondents' perceptions of the cohesiveness variable show a score below 3, namely 2.2928 for the first dimension, 2.3370 for the second dimension, and 2.3280 for the third dimension. This means that the highest score is the first dimension. Overall, the three dimensions of the cohesiveness variable have a value below 4, so it can be concluded that on average the respondents rated group cohesiveness as being in the low or less familiar category for the three dimensions.

Respondents' perceptions of the knowledge sharing variable consist of three dimensions, namely: 1) management process, 2) information technology, and 3) focus on knowledge sharing. Respondents' perceptions of the three dimensions have an average value of 3.8964 for the management process dimension, 3.9246 for information technology, and an average value of 3.8045 for the focus on knowledge sharing dimension. This means that the dimension that is most highly perceived by respondents is the information technology dimension. However, overall it has a value of less than 4, so the dimensions of the knowledge sharing variable still need to be improved.

Respondents' perceptions of the variable fulfilling basic psychological needs consist of three dimensions, namely: 1), autonomy, 2) relatedness, and 3) competence. Respondents' perceptions of the three dimensions have an average value of 3.8677 for the autonomy dimension, 3.8857 for respectedness, and an average value of 3.8100 for the competence dimension. This means that the dimension that is most highly perceived by respondents is the dimension of theatricality. However, overall it has a value of less than 4, so the dimensions of the variable for fulfilling basic psychological needs still need to be improved.

The next research variable is intrinsic motivation, which consists of three dimensions, namely: 1) intrinsic motivation to know, 2) intrinsic motivation to accomplish, and 3) intrinsic motivation to experience stimulation. Respondents' perceptions of the three dimensions have an average value of 3.9116 for the intrinsic motivation to know dimension, 3.7125 for the intrinsic motivation to accomplish dimension, and an average value of 3.8896 for the intrinsic motivation to experience stimulation dimension. This means that the dimension that is most highly perceived by respondents is the intrinsic motivation dimension to know. However, overall it has a value of less than 4, so the dimensions of the intrinsic motivation variable still need to be improved.

The next research variable is lecturer performance, which consists of four dimensions, namely: 1) teaching performance, 2) research performance, 3) service performance, and 4) lecturer capacity. Respondents' perceptions of the four dimensions are that teaching performance has an average value of 4.0428, 4.0083 for the research performance dimension, an average value of 4.0497 for the service performance dimension, and an average value of 4.0083 for the dimensions of lecturer capacity. This means that the dimension that is most highly perceived by respondents is the service performance dimension. However, overall the score is less than 5, so the dimensions of the lecturer performance variables still need to be improved.

B. Confirmatory Factor Analysis

Researchers can measure validity and reliability where the SEM validity technique used is convergent validity and discriminant validity where both of these validities are generated from the Structural Model. Convergent validity is measured by determining whether each estimated indicator validly measures the dimensions of the concept being measured. An indicator shows significant convergent validity if the coefficient of the indicator variable is greater than twice its standard error (C.R. > 2.SE). If each indicator has a critical ratio (C.R.) that is greater than twice its standard error, this indicates that the indicator validly measures what it is supposed to measure in the model.

The instrument is said to be valid if the factor loading value is > 0.5, as seen from the standardized regression weights. The results of the validity test show that all indicators of the research variables are valid, because the factor loading/estimate value is greater than the specified limit, namely > 0.5.

The results of this test show that the Variant Extract value for the 5 research variables each has a value greater than 0.7, so it can be concluded that the entire research instrument is reliable and can be used in this research.

C. Normality Test

The normality test was carried out using the z value (critical ratio or C.R. in AMOS 22.0) from the skewness and kurtosis values of the data distribution. The critical value is ±2.58 at a significant level of 0.01. The results of the Normality Test show that the assumption of data normality is met.

D. Good Fit Index test

Assessing goodness of fit is the main goal in SEM to find out to what extent the hypothesized model is "Fit" or matches the research data sample obtained. Testing with 6 goodness of fit criteria and cut off values for each research model criterion. Based on these 6 criteria, there are 5 goodness of fit conditions that are good, and there is 1 evaluation that is in a bad condition. Based on this, it is concluded that the analysis model is good so that further analysis can be carried out.

E. Hypothesis Testing Results

After testing the SEM steps, the next step is hypothesis testing. In this research, hypothesis testing uses regression weight or testing which aims to see the direct influence of exogenous variables on endogenous variables. The hypothesis can be accepted when the probability value is ≤ 0.05 and the C.R. value is ≥ 1.96 [27]. The results of hypothesis testing in this research using Amos version 22 can be seen in Table I.

TABLE I. HYPOTHESIS TESTING RESULTS

Variable Relationship			C.R. value	*p*-value
Motive	←	KS	9.300	***
Psycho	←	Cohesive	2.122	0.034
Motive	←	Cohesive	2.483	0.013
Psycho	←	KS	6.921	***
Performance	←	Cohesive	3.680	***
Performance	←	KS	0.731	0.465
Performance	←	Psycho	−0.487	0.626
Performance	←	Motive	1.955	0.051

Note: *** 0.000
Source: Research Data Processed (2024).

Hypothesis 1: Knowledge sharing has a positive and significant effect on intrinsic motivation.

The results of testing hypothesis 1 show a *p*-value that is smaller than 0.05, meaning hypothesis 1 is accepted. This means that knowledge sharing has a positive and significant effect on intrinsic motivation, supported by research data. It can be concluded that the higher the level of knowledge sharing carried out at a university, the higher the intrinsic motivation of the lecturers.

Hypothesis 2: Cohesiveness has a positive and significant effect on basic psychological needs.

The results of testing hypothesis 2 show a *p*-value that is smaller than 0.05, meaning hypothesis 2 is accepted. This means that cohesiveness has a positive and significant effect on basic psychological needs, supported by research data. It can be concluded that the higher the level of familiarity felt by lecturers, the higher the fulfillment of basic psychological needs for lecturers.

Hypothesis 3: Cohesiveness has a positive and significant effect on intrinsic motivation.

The results of testing hypothesis 3 show a *p*-value that is smaller than 0.05, meaning hypothesis 3 is accepted. This means that cohesiveness has a positive and significant effect on intrinsic motivation, supported by research data. It can be concluded that the higher the level of familiarity, the higher the intrinsic motivation felt by the lecturers.

Hypothesis 4: Knowledge sharing has a positive and significant effect on basic psychological needs.

The results of testing hypothesis 4 show a *p*-value that is smaller than 0.05, meaning hypothesis 4 is accepted. This means that knowledge sharing has a positive and significant effect on basic psychological needs, supported by research data.

Hypothesis 5: Cohesiveness has a positive and significant effect on lecturer performance.

The results of testing hypothesis 5 show a *p*-value that is smaller than 0.05, meaning hypothesis 5 is accepted. This means that cohesiveness has a positive and significant effect on lecturer performance, supported by research data.

Hypothesis 6: Knowledge sharing has a positive and significant effect on lecturer performance.

The results of testing hypothesis 6 show a *p*-value greater than 0.05 or 0.465, meaning hypothesis 6 is rejected. This means that knowledge sharing has a positive and significant effect on lecturer performance and is not supported by research data. It can be concluded that knowledge sharing at a higher education institution does not affect the better performance of lecturers.

Hypothesis 7: Fulfillment of basic psychological needs has a positive and significant effect on lecturer performance.

The results of testing hypothesis 7 show a *p*-value greater than 0.05 or 0.626, meaning hypothesis 7 is rejected. This means that fulfilling basic needs has a positive and significant effect on lecturer performance is not supported by research data.

Hypothesis 8: Intrinsic motivation has a positive and significant effect on lecturer performance.

The results of testing hypothesis 8 show a *p*-value that is smaller than 0.05, meaning hypothesis 8 is accepted. This means that intrinsic motivation has a positive and significant effect on lecturer performance, supported by research data. It can be concluded that the higher the intrinsic motivation, the higher the performance of the lecturers.

V. CONCLUSION

The research results show that knowledge sharing has a positive and significant effect on intrinsic motivation. Likewise, cohesiveness has a positive and significant effect on intrinsic motivation. Furthermore, intrinsic motivation has a positive and significant effect on lecturer performance. Thus, intrinsic motivation mediates the influence of knowledge sharing and cohesiveness on lecturer performance. Knowledge sharing has a positive and significant effect on basic psychological needs, likewise, cohesiveness has a positive and significant effect on basic psychological needs. However, fulfilling basic psychological needs has no effect on lecturer performance, meaning that basic psychological needs do not mediate the influence of knowledge sharing and cohesiveness on lecturer performance. The test results show that cohesiveness has a positive and significant direct effect on lecturer performance, while knowledge sharing has no direct effect on lecturer performance.

CONFLICT OF INTEREST

The authors declare no conflict of interest in this paper.

AUTHOR CONTRIBUTIONS

Herminingsih and Suprapto Astro analyzed the data; Mahardiana collected the research data; Herminingsih wrote the paper; all authors had approved the final version.

FUNDING

The authors wish to thank Universitas Mercu Buana for financially supporting this research.

ACKNOWLEDGMENT

The authors wish to thank the respondents and the institutions for their support to the research.

REFERENCES

[1] A. P. Pavel, "Global university rankings – A comparative analysis," *Procedia Economics and Finance*, vol. 26, no. 15, pp. 54–63, 2015. http://dx.doi.org/10.1016/S2212-5671(15)00838-2

[2] Y. Chentukov, V. Omelchenko, O. Zakharova, and T. Nikolenko, "Assessing the impact of higher education competitiveness on the level of socio-economic development of a country," *Probl. Perspect. Manag.*, vol. 19, no. 2, pp. 370–383, 2021.

[3] N. Kanya, A. B. Fathoni, and Z. Ramdani, "Factors affecting teacher performance," *Int. J. Eval. Res. Educ.*, vol. 10, no. 4, pp. 1462–1468, 2021.

[4] Law of the Republic of Indonesia, "Law concerning teachers and lecturers," *About Teachers and Lecturers*, vol. 2005, no. 14, pp. 1–50, 2005.

[5] B. Nadeak, *Description of the Performance of Private Higher Education Lecturers in Indonesia*, Bandung: Widina Bhakti Persada Bandung, 2020.

[6] N. H. N. Mat, M. W. Norhayati, H. S. Salleh, and Y. Yusof, "HRM and employee significant behavior: Explaining the black box through AMO theory," *Pertanika J. Soc. Sci. Humanit.*, vol. 29, no. 4, pp. 2569–2589, 2021.

[7] N. Aisyah, *Lecturer Performance Viewed from the Aspects of Cognitive Ability, Organizational Culture, Individual Characteristics, and Work Ethics*, Serang, Banten: CV. A. A. Rizky, 2019.

[8] A. P. C. Ho, P. C. Woods, A. A. Aziz, and N. M. Sin, "Lecturers as knowledge workers and the self-management of their intellectual capital growth and development from a teaching to a research-teaching fusion – A Malaysian case study," *Int. J. Learn. Intellect. Cap.*, vol. 10, no. 1, pp. 88–105, 2013.

[9] H. Zhan, T. Tang, and Y. Zhang, "The research on characteristics of knowledge workers and their motivating factors: A review and comparison study," *Am. J. Ind. Bus. Manag.*, vol. 3, no. 6, pp. 557–564, 2013.

[10] R. M. Ryan and E. L. Deci, "Self-Determination theory and the facilitation of intrinsic motivation, social development, and well-being," *Am. Psychol.*, vol. 55, no. 1, pp. 68–78, 2000.

[11] A. Herminingsih, "Improving lecturer teaching performance through transformational leadership and fulfilling basic psychological needs with work motivation mediation," *Maj Science Solutions*, vol. 15, no. 1, pp. 17–32, 2020.

[12] A. O. Satifa and A. Rusmana, "Knowledge sharing in the global empowerment steps community," *Informatio. J. Libr. Inf. Sci.*, vol. 3, no. 1, p. 47, 2023.

[13] F. Ahmad and M. Karim, "Impacts of knowledge sharing: A review and directions for future research," *J. Work. Learn.*, vol. 31, no. 3, pp. 207–230, 2019.

[14] A. R. E. Putri and A. R. Y. Ferdian, "The influence of motivation and knowledge sharing on employee performance at PT Telkom Prima Citra Certifia," *J. Manaj. Educators and Trainers*, vol. 4, pp. 124–130, 2020.

[15] P. Akhavan, S. Ghojavand, and R. Abdali, "Knowledge sharing and its impact on knowledge creation," *J. Inf. Knowl. Manag.*, vol. 11, no. 2, 2012.

[16] T. Triana and R. Rugaiyah, "Tacit knowledge sharing to improve teachers' performance," *J. Accountability of Educator Management*, vol. 11, no. 1, pp. 49–56, 2023. https://doi.org/10.21831/jamp.v11i1.56741

[17] Z. Jiang and X. Hu, "Knowledge sharing and life satisfaction: The roles of colleague relationships and gender," *Soc. Indic. Res.*, vol. 126, no. 1, pp. 379–394, 2016.

[18] X. Yang, "Study on knowledge sharing mechanisms of university teachers in information age," in *Proc. International Conference on Education Technology and Information Systems (ICETIS 2013)*, 2013, pp. 1701–1704.

[19] S. N. Qisty, "Implementation of knowledge sharing with the Binus Portal media in Bina Nusantara University," *Informatio. J. Libr. Inf. Sci.*, vol. 1, no. 2, p. 167, 2021.

[20] C.-C. Huang, "Knowledge sharing and group cohesiveness on performance: An empirical study of technology R&D teams in Taiwan," *Technovation*, vol. 29, no. 11, pp. 786–797, 2009.

[21] L. R. Love, "Group cohesion: The effect of diversity," *Glob. J. Manag. Mark.*, vol. 2, no. 1, pp. 77–86, 2018.

[22] S. Gachter, C. Starmer, and F. Tufano, "Measuring 'Group Cohesion' to reveal the power of social relationships in team production," *SSRN Electron J.*, 15512, 2022.

[23] N. F. F. Wuryaningrat, *Empirical Study of Knowledge Sharing and Innovation Capability*, first edition, Yogyakarta: CV Bintang Semesta Media, 2022.

[24] M. Vansteenkiste, R. M. Ryan, and B. Soenens, "Basic psychological needs theory: Advancements, critical themes, and future directions," *Motivation and Emotion*, vol. 44, pp. 1–31, 2020.

[25] M. Freudling, "Awareness of intrinsic motivation in leadership," *J. Appl. Leadersh. Manag.*, vol. 8, pp. 134–151, 2020. https://www.journal-alm.org/article/view/21409

[26] T. H. Retnowati, D. Mardapi, and B. Kartowagiran, "Lecturer performance evaluation model: Development of instruments to evaluate lecturer performance," *J. Researcher and Eval. Educator*, vol. 21, no. 2, pp. 206–214, 2019.

[27] I. Ghozali, *Multivariate Analysis Application with SPSS Program*, Semarang: Badan Penerbit UNDIP, 2017.